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# **AGRICULTURE, MODERN BIOTECHNOLOGY AND THE LAW**

AN EXAMINATION OF THE PROPERTY PARADIGM IN THE  
CONTEXT OF PLANT GENETIC RESOURCES

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## DECLARATION

I declare that the thesis for the degree of Doctor of Philosophy at the University of Cape Town hereby submitted, has not been previously submitted for a degree at this or any other university, that it is my work in design and execution, and that all the materials contained herein have been duly acknowledged.

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Debbie Collier

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Date

University Of Cape Town

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I would like to acknowledge the encouragement of members of the UCT Faculty of Law, in particular my successive Heads of Department, the late Professor Michael Larkin (to whom I dedicate this thesis) and Professor Rochelle le Roux. Both accommodated me most graciously, making it impossible for me to abandon my journey on those trying days. Administratively, I would not have survived without the assistance of Karin Badenhorst, Dilshaad Brey, and Faldielah Khan and the funding which I received from the National Research Foundation and the Faculty Research Committee.

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## **ABSTRACT**

Commercial interest and technological advancements (such as modern biotechnology) in plant research have led to the affirmation of sovereign and proprietary rights over plant genetic resources (PGRs). The result is an increasingly complex national regulatory system for rights in PGRs, shaped by a dense web of international law instruments regulating trade, intellectual property, food and agriculture, environmental, and human rights law.

The narrative of the international trade and intellectual property instruments, buttressed by the liberal rhetoric of property, is one of long-term, sustainable, economic and social development, although the strength of this argument is increasingly challenged. This thesis adds to the body of critical literature by exploring the socio-economic impact of the current regulatory regime on a vulnerable farming community growing genetically modified cotton in KwaZulu Natal, South Africa. The thesis questions whether greater limitations on proprietary rights in modern biotechnology would improve matters.

The outcome of the study (completed in 2009) of these vulnerable cotton farmers implicates the IP-protected technology in the destruction of many livelihoods and in the stifling of technology transfer to aid local innovation. The thesis acknowledges the negative role played by other external factors, such as low rain fall, but suggests that some seemingly external factors, such as poor agricultural policy, and falling world prices for cotton, are consequences of the prevailing regime. The thesis proposes that this regime overly prioritises private rights at too high a social cost. In order to rein in these rights the thesis argues, through the lens of the South African Constitution, for law and policy reform.

On a theoretical level, the property concept, including the notion of excludability, the idea of common and public property, sovereign rights, and the public trust doctrine are explored as mechanisms within the property paradigm to aid the case for limiting proprietary rights.

## A NOTE ON REFERENCING STYLE AND PUBLISHED WORKS

The style of referencing in the thesis footnotes and bibliography generally complies with the UCT Faculty of Law's *Research, writing, style and referencing guide*.

In the case of several select textbooks, for example François du Bois (ed) *Wille's principles of South African law* (2007) and Badenhorst, Pienaar and Mostert *Silberberg and Schoeman's the law of property* (2006), the first citation of the text within a chapter is given in full form and subsequent references refer to the title of the book (for example *Wille's principles of South African law* and *Silberberg and Schoeman*) and not the author. In the case of most other sources and textbooks, subsequent references generally refer to the author.

Reference is made in the thesis to two articles I have authored, and co-authored, which were published prior to submission of the thesis. These are Debbie Collier 'Access to and control over plant genetic resources for food and agriculture in South and southern Africa: how many wrongs before a right?' (2006) 7 *Minnesota Journal of Law, Science and Technology* 529-564, and Debbie Collier and Charles Moitui 'Africa's regulatory approach in biotechnology in agriculture: an opportunity to seize socio-economic concerns' (2009) 17 *RADIC* 29-56. Material contained in the thesis that has been drawn from these articles is referenced to this effect.

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## ABBREVIATIONS AND ACRONYMS

A	Appellate Division
AATF	African Agricultural Technology Foundation
Agrekon J	Agrekon Journal
Amer J Agr Econ	American Journal of Agricultural Economics
Am U Intl L Rev	American University International Law Review
Annu Rev Sociol	Annual Review of Sociology
ARIPO	African Regional Intellectual Property Organisation
AsgjISA	Accelerated and Shared Growth Initiative for South Africa
AU	African Union
BGD	Bophuthatswana General Division
BIP	Burrell's Intellectual Property Law Reports
BP	Burrell's Patent Law Reports
Bt	<i>Bacillus thuringiensis</i>
C	Cape Provincial Division
CAAPD	Comprehensive Africa Agriculture Development Programme
CAB	Conservation Advisory Board
CAC	Competition Appeal Court
Can J L & Jurisprudence	Canadian Journal of Law and Jurisprudence
CARA	Conservation of Agricultural Resources Act
Cardozo J Int'l & Comp L	Cardozo Journal of International and Comparative Law
CBD	Convention on Biological Diversity
CC	Constitutional Court
CEC	Committee for Environmental Coordination
CGIAR	Consultative Group on International Agricultural Research
CILSA	Comparative and International Law Journal of Southern Africa
CIPR	Commission on Intellectual Property Rights
CIPRO	Companies and Intellectual Property Office
COGEM	Commission on Genetic Modification
COP/MOP	Conference of the Parties serving as the meeting of the Parties to the Cartagena Protocol on Biosafety
CP	Court of the Commissioner of Patents
CPT	Chloroplast transit peptide
CSIR	Council for Scientific and Industrial Research
D	Durban and Coast Local Division
DAFF	Department of Agriculture, Forestry and Fisheries
DNA	Deoxyribonucleic acid
DTI	Department of Trade and Industry

Duke LJ	Duke Law Journal
DWEA	Department of Water and Environmental Affairs
EC	European Commission
ECA	Economic Commission for Africa
EDC	Eastern Districts Court
Ecology LQ	Ecology Law Quarterly
EPC	European Patent Convention
EPO	European Patent Office
EPSPS	5-enolpyruvylshikimate-3-phosphate synthase
ESR Review	Economic and Social Rights in South Africa Review
EU	European Union
Envtl	Environmental
FAO	Food and Agriculture Organization
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GE	Genetically engineered
GEAR	Growth, Employment and Redistribution policy
Gly <sup>R</sup>	Glyphosate-resistant
GM	Genetically modified
GMO	Genetically modified organism
Hofstra LR	Hofstra Law Review
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IFAD	International Fund for Agricultural Development
IISD	International Institute for Sustainable Development
Ind J Global Legal Stud	Indiana Journal of Global Legal Studies
ILEIA	Centre for Information on Low External Input and Sustainable Agriculture
ILM	International Legal Materials
Int J Biotechnology	International Journal of Biotechnology
Intl	International
IOWALR	Iowa Law Review
IP	Intellectual property
IPRs	Intellectual property rights
ISAAA	International Service for the Acquisition of Agri-biotech Applications
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
J	Journal
KZN	KwaZulu-Natal

L	Law
LCC	Land Claims Court
LJ	Law Journal
LMO	Living modified organism
MCC	Makhathini Cotton (Pty) Ltd
Mich St L Rev	Michigan State Law Review
MNC	Multinational Corporation
NAFU	National African Farmers Union of South Africa
NARCOC	National African Chamber of Commerce and Industries
Nat Biotechnol	Nature Biotechnology
NBI	National Botanical Institute
NEAF	National Environmental Advisory Forum
NEDLAC	National Economic Development and Labour Council
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act
NEPAD	The New Partnership for Africa's Development
NGO	Nongovernmental organisation
NO	<i>Nomine officio</i>
NYU	New York University
OAPI	The African Intellectual Property Organization
OAU	Organisation of African Unity
OECD	Organisation for Economic Cooperation and Development
OHCHR	Office of the High Commissioner for Human Rights
OJEPO	Official Journal of the European Patent Office
PAIA	Promotion of Access to Information Act
PAJA	Promotion of Administrative Justice Act
PER	Potchefstroom Electronic Law Journal
PGRs	Plant genetic resources
R&D	Research and development
RA	Rhodesia Appellate Division
RADIC	African Journal of International and Comparative Law
RECIEL	Review of European Community & International Environmental Law
RDP	Reconstruction and Development Programme
RR	Roundup Ready®
RSA	Republic of South Africa
SA	South Africa
SACU	Southern Africa Customs Union
SADC	Southern African Development Community
SAJHR	South African Journal on Human Rights
SALJ	South African Law Journal

SANBI	South African National Biodiversity Institute
SAPR/PL	SA Publikereg/Public Law
SARA	Sustainable Utilisation of Agricultural Resources Bill
SAYIL	South African Yearbook of International Law
SCA	Supreme Court of Appeal
SCC	Supreme Court of Canada
SCM	Agreement on Subsidies and Countervailing Measures
SKCA	The Court of Appeal for Saskatchewan
SPS	Agreement on the Application of Sanitary and Phytosanitary Measures
Stell LR	Stellenbosch Law Review
TBT	Agreement on Technical Barriers to Trade
THRHR	Tydskrif vir Hedendaagse Romeins-Hollandse Reg
TPD	Transvaal Provincial Division
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
TSAR	Tydskrif vir Suid-Afrikaanse Reg
TUL L Rev	Tulane Law Review
UBCL Rev	University of British Columbia Law Review
UC Davies L Rev	UC Davies Law Review
UCLA LR	University of California, Los Angeles Law Review
UCT	University of Cape Town
UDHR	Universal Declaration of Human Rights
UK	United Kingdom
UKHL	UK House of Lords
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa
UPOV	Union for the Protection of New Varieties of Plants, abbreviation used to refer to the International Convention for the Protection of New Varieties of Plants
US	United States
USA	United States of America
US-PTO	US Patent and Trademark Office
V & A	Victoria and Alfred
WHO	World Health Organisation
WIPO	World Intellectual Property Organisation
WIS	Wisconsin
WTO	World Trade Organisation

# CHAPTER 1

## INTRODUCTION

[South Africa] is a developing country with its own set of developmental challenges in which agriculture plays a central role. Therefore it is imperative to develop and implement a national policy on intellectual property rights that focuses on the sustainable use of agricultural biotechnology.<sup>1</sup>

### 1.1 Agriculture, modern biotechnology, and the law

#### 1.1.1 Introduction

Agriculture, which feeds an ever-growing population and provides livelihoods to many, is, in most African countries, a crucial yet underperforming sector.<sup>2</sup> In the South African context, statistics and reports generally indicate a decline in agricultural output and a largely disempowered farming sector, particularly among vulnerable members of that community.<sup>3</sup>

Modern biotechnology is held out as being key to meeting agricultural challenges,<sup>4</sup> yet its opponents argue that the technology 'will wreak environmental catastrophe, worsen poverty and hunger, and lead to a corporate takeover of traditional agriculture and the global food supply.'<sup>5</sup> With

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<sup>1</sup> Draft Biosafety policy for comments 2005, *Government Gazette* No 27913, Notice No 1576 of 2005.

<sup>2</sup> In sub-Saharan Africa, agriculture engages between 30 and 90 percent of the labour force and accounts for roughly between 30 and 80 percent of GDP. For individual country statistics see [www.cia.gov/library/publications/the-world-factbook/index.html](http://www.cia.gov/library/publications/the-world-factbook/index.html) [Accessed 2 February 2010]. On the importance of agriculture in South Africa and more generally see § 3.2.1. Agriculture, for the purpose of this thesis, means the production of food and other cash crops of plant origin.

<sup>3</sup> See chapter 3.

<sup>4</sup> See for example the statement by (then) US Trade Representative Robert Zoellick and Agriculture Secretary Ann Veneman dated May 13, 2003 titled 'US and cooperating countries file WTO case against EU moratorium on biotech foods and crops: EU's illegal, non-science based moratorium harmful to agriculture and the developing world'. For a more recent example see 'Biotechnology is key to fighting hunger, Clinton says' published on Bloomberg.com in October 2009.

<sup>5</sup> Food and Agriculture Organization of the United Nations 'The state of food and agriculture 2003-04: agricultural biotechnology: meeting the needs of the poor?' (2004) *FAO Agriculture Series No 35* Rome, 2004.

this 'global war of rhetoric'<sup>6</sup> being fought in the background, South Africa has emerged as one of the major users of modern biotechnology in agriculture.<sup>7</sup>

Increasingly, these products and processes of modern biotechnology are protected by intellectual property<sup>8</sup> (IP) rights, particularly patents.<sup>9</sup> Biotechnology patents include patents over life forms<sup>10</sup> and gene patents.<sup>11</sup> Strong harmonised IP protection, it is said, will ultimately<sup>12</sup> lead to a transfer of technology, innovation, foreign investment, and thus overall social benefit.<sup>13</sup> However, in the same way that modern biotechnology has its opponents and

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<sup>6</sup> Glenn Stone 'Biotechnology and suicide in India' (2002) 43:5 *Anthropology News*.

<sup>7</sup> Figure 3 in chapter 3 indicates the global extent of the cultivation of GM crops.

<sup>8</sup> Drahos describes intellectual property as a 'twentieth-century generic term used to refer to a group of legal regimes which began their existence independently of each other and at different times in different places.' Drahos *A philosophy of intellectual property* (1996) at 14. See generally Christopher May and Susan K Sell *Intellectual property rights: a critical history* (2006). The prevailing international IP regime protects copyright, trademarks, geographical indications, industrial designs, patents, layout-designs of integrated circuits, and undisclosed information.

<sup>9</sup> These patents, which sometimes form what is referred to as patent thickets around a particular technology, are increasingly concentrated in the hands of a small group of private firms, such as Bayer, Cargill, Dow, Monsanto, Novartis, Pioneer and Syngenta. In the context of GM cotton in South Africa, Monsanto is currently the only commercial supplier. On patent thickets and the impact of increased IP protection around PGRs generally see Zakir Thomas 'Agricultural biotechnology and proprietary rights: challenges and policy options' (2005) 8(6) *J of World Intellectual Property* 711-734.

<sup>10</sup> The US decision in *Diamond v Chakrabarty* 447 US 303 (1980) involving the patenting of a bacterium designed to consume oil, laid the foundations for this to occur. It was held that prohibition on the patenting of products of nature did not extend to 'living' products manufactured through human intervention. On the other hand the Supreme Court of Canada in *Harvard College v Canada (Commissioner of Patents)* 2002 SCC 76, drew the line at the patentability of 'life forms' (in this case the oncomice). See generally Edmund Sease 'From microbes, to corn seeds, to oysters, to mice: patentability of new life forms' (1988) 38 *Drake Law Review* 552-572. Members of TRIPs must, at least, allow the patenting of micro-organisms such as the oil-eating bacterium. (See § 5.5.4).

<sup>11</sup> Gene patents typically involve the patenting of gene sequences. In the UK for example, the Patent Regulations 2000 confirm that inventions involving biological material, including gene sequences, may be the subject of patent applications. Intellectual Property Office 'Examination guidelines for patent applications relating to biotechnological inventions in the Intellectual Property Office' (April 2009). See generally Williamson, Alan R 'Gene patents: socially acceptable monopolies or an unnecessary hindrance to research?' (2001) 17(11) *Trends in Genetics* 670-673 where he concludes, at 670, that 'on balance their effect is to retard, rather than to stimulate, both scientific and economic progress.'

<sup>12</sup> There is an acknowledgement of some social cost hence IP protection is a balancing act. 'It is precisely because patents interfere in the labour of others that they are a privilege. Their creation has to be consistent with the rights of others to labour'. Drahos (note 8) at 31.

<sup>13</sup> Many of the economic studies that have been conducted are based on theoretical models that consider economic growth and are not concerned with the impact of IP on social development. On the limitations of economic analysis see for example Fink and Maskus (eds) *Intellectual property and development: lessons from recent economic research* (2005), Stiglitz 'Towards a pro-development and balanced intellectual property regime' (2004) Keynote address at the Ministerial Conference on Intellectual Property for Least Developed Countries, World Intellectual Property Organisation (WIPO), Seoul, October 25, 2004 and Schneider, Patricia Higinio 'International trade, economic growth and intellectual property rights: a panel data study of developed and developing countries' (2005) 78 *J of Development Economics* 529-547.

sceptics, so too does IP, particularly when it creates exclusivity rights in respect of plant genetic resources,<sup>14</sup> and in the developing country context.<sup>15</sup>

Modern biotechnology in agriculture is often portrayed as being the gift of a Trojan horse.<sup>16</sup> Concerns about the technology are not only direct environmental and health concerns, but also the direct and indirect social costs of deploying the IP-protected technology.<sup>17</sup> Because biotechnology patents are typically underpinned by scientific knowledge they can be exploited, not only in the products marketplace, but also in respect of further scientific research.<sup>18</sup>

Between the two extreme ends of the debate is the voice which rejects a 'one-size-fits all' approach to both agricultural biotechnology and intellectual

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<sup>14</sup> See generally A Mushita and C Thompson 'Patenting biodiversity? Rejecting WTO/TRIPS in southern Africa' (2002) 2 *Global Environmental Politics* 65-82. On the developmental concerns of IP protection see the report of the UK Commission on Intellectual Property Rights 'Integrating intellectual property rights and development policy' (September 2002).

<sup>15</sup> We are told that: 'in developing countries patent systems do not perform their "accepted" function of stimulating invention but instead provide a legal means of ensuring that existing technology ... be purchased at high prices.' Original footnotes omitted. Dirk van Zyl *The social creation of a legal reality* (1981) PhD Thesis, University of Edinburgh at 254. See also Anna Dahlberg 'Are stronger intellectual property rights an obstacle or a condition for international technology transfer? An analysis of the effects of the TRIPS Agreement' in Mpsasi Singela (ed) *Human rights and intellectual property rights* (2007) 31-68 where she concludes that there is no conclusive evidence that stronger IPRs will either encourage or discourage technology transfer. Even in the developed world, there is concern about the impact of the prevailing patent regime. See for example Adam Jaffe and Josh Lerner *Innovation and its discontents: how our broken patent system is endangering innovation and progress, and what to do about it* (2004) on the US patent system.

<sup>16</sup> See for example Elfrieda Pschorn-Strauss and Rachel Wynberg 'The seeds of neo-colonialism: genetic engineering in food and farming' (2002) *GroundWork*, and Mariam Mayet 'The new green revolution in Africa: Trojan horse for GMOs?' (2007).

<sup>17</sup> See in this regard the European Group on Ethics in Science and new Technologies to the European Commission 'Ethics of modern developments in agriculture technologies Opinion No 24' (17 December 2008) and the COGEM Report 'Socio-economic aspects of GMOs: building blocks for an EU sustainability assessment of genetically modified crops' CGM/090929-01.

<sup>18</sup> This is referred to as the concept of dual knowledge in which a single 'discovery' may contribute to both scientific research and to a useful commercial application. Dual knowledge is often exploited in what is known as patent-paper pairs in which a publication is coupled with the patent. Empirical research shows a citation rate decline for such papers after formal IP rights have been granted, thus suggesting that IP rights may have a negative impact on the diffusion of scientific knowledge. Murray, Fiona and Stern, Scott 'Do formal intellectual property rights hinder the free flow of scientific knowledge? An empirical test of the anti-commons hypothesis' (2007) 63 *Journal of Economic Behaviour & Organization* 648-687. The pursuit of a dual knowledge strategy was enabled in the US by the Bayh-Dole Act of 1980 and is likely to become the practice in South Africa once the Intellectual Property Rights from Publicly Financed Research and Development Act 51 of 2008 becomes operational. Researchers in the developing world already face a host of barriers to effective research. See for example Forero-Pineda, Clemente and Jaramillo-Salazar, Hernan 'The access of researchers from developing countries to international science and technology' (2002) 54 *International Social Science Journal* 129-140.

property.<sup>19</sup> The argument is that approaches to agricultural biotechnology and IP must be balanced against the receiving community's needs and that the regulatory regime must be sufficiently flexible to accommodate situational public concerns.

On a practical and doctrinal level, the aim of this thesis is to evaluate whether or not the approach in South African law, policy, and practice around modern biotechnology and IP rights in agriculture achieves an acceptable balance between private rights and public welfare. On a more theoretical level, the thesis looks broadly at ownership and property issues, in particular in regard to plant genetic resources (PGRs), and considers approaches to property rights that will accommodate both public and private interests.

### *1.1.2 Introducing the case study*

The case study, set out in chapter 3, is the small-scale GM cotton industry in the Makhathini region in KwaZulu Natal, South Africa. The problems faced by small-scale farmers in the industry are complex and similar to those experienced throughout the developing world. The comparative position in India is described below.

The rain-dependent cotton growing farmers of Vidarbha are faced with declining profitability because of dumping in the global market by the US, low import tariffs, failure of the Monopoly Cotton Procurement Scheme and withdrawal of the state (resulting in declining public investment in agriculture, poor government agriculture extension services and the diminishing role of formal credit institutions). The farmer now depends on the input dealer for advice, leading to supplier-induced demand, and on informal sources of credit, which result in a greater interest burden. In short, the farmer is faced with yield, price, credit, income and weather uncertainties. The way out is to merge bold public policy initiatives with civil society engagement.<sup>20</sup>

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<sup>19</sup> From the IP perspective see for example Stiglitz (note 13), Fink and K Maskus (note 13) and the COGEM Report (note 17).

<sup>20</sup> Srijit Mishra 'Farmer's suicides in Maharashtra' *Economic and Political Weekly* (April 22, 2006) 1538-1545. The abstract suggests that the agrarian crisis 'has precipitated a spate of suicides in Maharashtra. The suicide mortality rate for farmers in the state has increased from 15 in 1995 to 57 in 2004'. Hundreds of cotton farmers have committed suicide since 1998, mostly by drinking pesticides. Stone (note 6).

Vulnerable agricultural communities are compromised by international trade rules and poorly conceived agricultural policy. Yet the supplier, the 'input dealer', is increasingly protected by the same trade regime. The underlying promise is that this is in everyone's development interests.<sup>21</sup>

The thesis proposition is that the reining in of private rights, through a property paradigm, should have the effect of increasing the space for governments to develop more appropriate and sustainable responses to their country's agricultural needs.

## 1.2 Broader thesis context

### 1.2.1 Putting plants into context

This thesis is premised on the notion that plant genetic resources are central to our survival and thus are of key public interest. Plants are the very essence of our health and vitality.<sup>22</sup> From our food security,<sup>23</sup> to our dignity,<sup>24</sup> much depends on plants and on our access to plant resources.

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<sup>21</sup> The impact of the international trade regime on economic growth itself remains contested. See for example Rodriguez and Rodrik 'Trade policy and economic growth: a skeptic's guide to cross-national evidence (April 1999) *National Bureau of Economic Research (NBER) Working Paper No W7081*.

<sup>22</sup> It is estimated that the primary health-care needs of about 80% percent of people living in developing countries are met through the use of traditional medicines, 85% percent of which are dependent on PGRs. A World Health Organisation (WHO) estimate cited in S Biber-Klemm and T Cottier (eds) *Rights to plant genetic resources and traditional knowledge: basic issues and perspectives* (2005) at 8. Plant genetic resources are the active ingredient in many pharmaceutical drugs. In a recent doctoral study in pharmacology it is reported that, in South Africa, over 3000 indigenous plant species are used for medicinal purposes. Mamello Sekhoacha 'Investigation of antimalarial activity of five South African medicinal plants and chemical identification of their active constituents' (2008) PhD Thesis, University of Cape Town.

<sup>23</sup> Debbie Collier and Charles Moitui 'Africa's regulatory approach to biotechnology in agriculture: an opportunity to seize socio-economic concerns' (2009) 17 *RADIC* 29 at 31 note 7 where it is indicated that food security is a 'state of affairs where all people at all times have access to and safe and nutritious food to maintain a healthy and active life.'

<sup>24</sup> Dignity is linked to cultural and traditional practices such as those in medicine and agriculture which often involves access to plant resources. On the complexities of the cultural value of plants see for example Rosemary J Coombe 'Intellectual property, human rights and sovereignty: new dilemmas in international law posed by the recognition of indigenous knowledge and the conversation of biodiversity' (1998) 6 *Indiana Journal of Global Legal Studies* 59-115. See also Remigius N Nwabueze *Biotechnology and the challenge of property* (2007) 233-95; and Biber-Klemm and Cottier (eds) *Rights to plant genetic resources and traditional knowledge: basic issues and perspectives* (2005).

A broad overview of the practices and the development of policy and law in regard to PGRs raises a sense of disquiet.<sup>25</sup> Over centuries, communities of farmers and agriculturalists have domesticated, and continually improved, crops from wild varieties. In the spirit of ‘common heritage’,<sup>26</sup> germplasm<sup>27</sup> from these crops has been taken from their centres of origin.<sup>28</sup> Additional improvements and adaptations have been made by the importers of the raw material.

After a rise in private sector interest in agricultural research, heightened by the revolutions in biotechnology, the twentieth century saw a more proprietary approach to PGRs being adopted,<sup>29</sup> leading to the CBD affirmation of sovereign rights over resources and the TRIPS requirements for patent or

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<sup>25</sup> Useful background reading in this regard include Keith Aoki ‘Weeds, seeds & deeds: recent skirmishes in the seed wars’ (2003) 11 *Cardozo J Int’l & Comp L* 247-331 and Keith Aoki and Kennedy Luvai ‘Reclaiming “common heritage” treatment in the international plant genetic resources regime complex’ (2007) *Mich St L Rev* 35 -69. See also Kal Raustiala and David G Victor ‘The regime complex for plant genetic resources’ (2004) 58 *International Organization* 277-309.

<sup>26</sup> Common heritage implies the availability to a community of resources held in common. The term (often associated with deep seabed resources) envisages that the common resources should not be subjected to excessive private rights. Biber-Klemm and Cottier (note 24) at 58. The idea of PGRs as common heritage is expressed in the FAO’s International Undertaking on Plant Genetic Resources, UN FAO, 22nd Session, para 285, UN Doc C/83/REP (1983) (FAO Undertaking), which ‘is based on the universally accepted principle that PGRs are a heritage of mankind and consequently should be available without restriction.’ (Article 1). The international regime regulating PGRs has subsequently become more complex after the negotiation of both the Convention on Biological Diversity, 1992, 31 *ILM* 818 (1992) (CBD), recognising sovereignty over PGRs, and the Agreement on Trade-Related Aspects of Intellectual Property Rights, 33 *ILM* 81 (1994) (TRIPS) requiring the recognition of proprietary rights in all fields of technology. See Keith Aoki and Kennedy Luvai ‘Reclaiming “common heritage” treatment in the international plant genetic resources regime complex’ (2007) *Mich St L Rev* 35 at 37. For a historical account of the concept of the common heritage of humankind, see Craig Forrest ‘Cultural heritage as the common heritage of humankind: a critical re-evaluation’ (2007) *XL CILSA* 124 at 125-127 (see in particular footnotes 5 and 6) and at 140-150. See also Ikechi Mgbeoji ‘Beyond rhetoric: state sovereignty, common concern, and the inapplicability of the common heritage concept to plant genetic resources’ (2003) 16 *Leiden Journal of International Law* 821-837 where the author disputes the applicability of the common heritage concept to PGRs.

<sup>27</sup> ‘[P]lant germplasm is a resource that reproduces itself, and a single ‘taking’ of germplasm could provide the material base upon which whole new sectors of production could be elaborated.’ Jack R Kloppenburg *First the seed: the political economy of plant biotechnology* (1988) at 154 cited in ‘Weeds, seeds & deeds’ (note 25) at 262.

<sup>28</sup> Mgbeoji questions the applicability of the common heritage concept during the colonial era, as the ‘transfer of germ plasm from the colony to the mother country was more or less perceived as “an internal affair” of the colonial empires’. Ikechi Mgbeoji ‘Beyond rhetoric: state sovereignty, common concern, and the inapplicability of the common heritage concept to plant genetic resources’ (2003) 16 *Leiden Journal of International Law* 821 at 823.

<sup>29</sup> The implications of the burgeoning regime for developing countries and for public sector research are discussed in Wright and Pardey ‘Changing IP regimes: implications for developing country agriculture’ (2006) 2 *Int J Technology and Globalisation* 93-114.

plant breeders' rights.<sup>30</sup> Plant innovation was first protected in South Africa in 1952 under the Patents Act.<sup>31</sup> This patent protection in respect of PGRs was repealed and replaced, in 1964, by the Plant Breeders' Rights Act.<sup>32</sup> Although plant varieties are still excluded from patentability, biotechnological innovations involving plants are not.

The move to a proprietary approach to PGRs has been referred to as a regime shift from a common heritage to a property rights system.<sup>33</sup> While the notion of sovereign rights may provide a mechanism for biodiverse countries to benefit from their resources<sup>34</sup> the result is nevertheless ironic:

... in the twenty-first century equatorial countries that have traditionally been regarded as the places where crop diversity originated are *now* net *borrowers* of germplasm from the gene/seed banks located in developed countries, such as the United States. Thus, at the point when a "common heritage" system facilitating free flow of germplasm across borders would benefit farmers and plant breeders within developing nations, "common heritage" has been abandoned and replaced with a system premised on germplasm as "sovereign property" or commodified intellectual property which diminishes access to germplasm.<sup>35</sup>

Concerns about the growing industrial approach to agriculture may be grouped under the three pillars of sustainable development, namely: economic development, social development, and the protection of the environment.<sup>36</sup> Environmentally there are concerns that the IP-protected products of modern biotechnology lead to monocultures and the loss of genetic diversity. There are also concerns about the potential impact on the

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<sup>30</sup> See Part II, 'A brief history of seed cultivation' in Aoki 'Weeds, seeds & deeds' (note 25) at 261-286.

<sup>31</sup> Act 37 of 1952 (now repealed). The Act provided for the grant of patents in respect of 'any new variety of plant, other than a tuber propagated plant which has been reproduced asexually'.

<sup>32</sup> Act 22 of 1964. This Act was subsequently repealed and replaced that the Plant Breeders' Rights Act 15 of 1976.

<sup>33</sup> Raustiala and Victor (note 25). For an interesting view on these developments see Joseph Vogel 'A proposal based on 'the tragedy of the commons': a museum of bioprospecting, intellectual property rights and the public domain' in Barbara Ann Hocking (ed) *The nexus of law and biology: new ethical debates* (2008).

<sup>34</sup> The CBD envisages bilateral agreements between countries of origin and private parties.

<sup>35</sup> Keith Aoki and Kennedy Luvai 'Reclaiming "common heritage" treatment in the international plant genetic resources regime complex' (2007) 35 *Mich St L Rev* at 37-8.

<sup>36</sup> See the discussion on sustainable development at § 5.4.1 below.

broader environment (soil, water supply, etc).<sup>37</sup> From a social and economic perspective, there are concerns about food security and safety, cultural heritage, freedom of choice, and economic welfare.<sup>38</sup>

These concerns are diverse and are often regulated in seemingly discreet areas of law which together spin an intricate web of rules, a complex regulatory regime, around PGRs.<sup>39</sup>

### 1.2.2 A complex regulatory regime

A proliferation of international organisations and instruments over the past few decades has given rise to 'an array of partially overlapping and non-hierarchical institutions governing a particular issue-area.'<sup>40</sup> These 'regime complexes' are in turn reflected in the provisions of domestic law.

In the context of PGRs, Raustiala and Victor identify at least five clusters of international legal regimes:

- The 1961 International Convention for the Protection of New Varieties of Plants (UPOV Convention);<sup>41</sup>
- The UN cluster on plant genetic resources (the 1983 FAO Undertaking<sup>42</sup> and the 2002 International Treaty on Plant Genetic Resources for Food and Agriculture<sup>43</sup> (ITPGRFA));

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<sup>37</sup> Aoki and Luvai (note 35) at 36; the European Group on Ethics in Science and new Technologies to the European Commission 'Ethics of modern developments in agriculture technologies' Opinion No 24 (17 December 2008) and the COGEM Report 'Socio-economic aspects of GMOs: building blocks for an EU sustainability assessment of genetically modified crops' CGM/090929-01.

<sup>38</sup> Ibid. See generally also Jeffery Smith *Seeds of Deception* (2003) and Lily Films *The future of food* (2004).

<sup>39</sup> See in this regard Kal Raustiala and David G Victor 'The regime complex for plant genetic resources' (2004) 58 *International Organization* 277-309 and Aoki and Luvai (note 35).

<sup>40</sup> Raustiala and Victor (note 39) at 279.

<sup>41</sup> International Convention for the Protection of New Varieties of Plants, Dec 1, 1961 (revised on Nov 10, 1972, Oct 23, 1978, and Mar 19, 1991).

<sup>42</sup> International Undertaking on Plant Genetic Resources, UN FAO, 22nd Session, para 285, UN Doc C/83/REP (1983).

<sup>43</sup> International Treaty on Plant Genetic Resources for Food and Agriculture, approved during the FAO Conference (31st Session resolution 3/2001) on 3 November 2001, entered into force 29 June 2004. Although the treaty entered into force on 29 June 2004, South Africa has not signed the treaty. The treaty, which only applies to the crops listed in the treaty, is discussed in more detail in chapter 5.

- The Consultative Group on International Agriculture Research (CGIAR), an international network of research centres and gene banks;<sup>44</sup>
- The World Trade Organisation (WTO) TRIPS Agreement,<sup>45</sup> and
- The 1992 UN Convention on Biological Diversity<sup>46</sup> (CBD).<sup>47</sup>

An additional cluster which might be added to this is the international human rights framework.<sup>48</sup>

This complex mix of common heritage (FAO / CGIAR clusters) and sovereign, private and community rights systems (WTO / UPOV / CBD clusters) which is seen in the international regimes is echoed in South Africa where a key principle in environmental law is that PGRs are part of the environment, which is the people's common heritage,<sup>49</sup> and where agricultural<sup>50</sup> and trade and industry<sup>51</sup> law recognises proprietary rights in PGRs.

The common heritage approach does not have universal force in international law, and has increasingly limited application to PGRs.<sup>52</sup> While domestic environmental law treats PGRs as common heritage (most likely intended to

<sup>44</sup> The CGIAR, which was initially concerned with the threat of famine, and remains concerned about the needs of developing countries, is described as 'a strategic partnership, whose 64 Members support 15 international Centres, working in collaboration with many hundreds of government and civil society organizations as well as private businesses around the world.'

[www.cgiar.org/who/index.html](http://www.cgiar.org/who/index.html) [Accessed 11 November 2009]. The CGIAR genebanks (there are 11 worldwide) maintain over 650,000 samples of plant genetic resources. The CGIAR is co-sponsored by the FAO, UNDP, the World Bank and IFAD.

<sup>45</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, 33 *ILM* 81 (1994) (TRIPS).

<sup>46</sup> Convention on Biological Diversity 1992, 31 *ILM* 818 (1992).

<sup>47</sup> Raustiala and Victor (note 39) at 283-4.

<sup>48</sup> In particular the rights set out in the International Covenant on Civil and Political Rights, adopted 16 December 1966, entered into force 23 March 1976, 6 *ILM* 368 (1967) (ICCPR) and the International Covenant on Economic, Social and Cultural Rights, adopted 16 December 1966, entered into force 3 January 1976, 6 *ILM* 360 (1967) (ICESCR). South Africa has signed but not ratified the ICESCR, and has signed and ratified the ICCPR. The SA government is however being urged to ratify the ICESCR. Press release 'Human rights groups call on South African government to immediately ratify socio-economic rights covenant' (2008) 9(2) *ESR Review* 26.

<sup>49</sup> Section 2(4)(o) of South Africa's National Environmental Management Act 107 of 1998.

<sup>50</sup> See for example the Plant Breeders' Rights Act 20 of 2005.

<sup>51</sup> Although the Patents Act 57 of 1978 excludes plant varieties from patentability, it has allowed the patenting of GM plants (see chapter 3).

<sup>52</sup> The FAO Undertaking, based on the principle that plant genetic resources are a heritage of mankind,' has largely been replaced with the ITPGRFA which, in line with the CBD, expresses the notion of sovereignty over PGRs. See generally also the view expressed by Mgbeoji (note 28).

mean the heritage of the 'people' of South Africa and not in the global sense), the negotiated trade and IP regimes require private property rights over knowledge and technological applications involving these PGRs. TRIPS requires patents to be available for product and process inventions in all forms of technology, and for the protection of plant varieties either by patents or by an effective *sui generis* system.<sup>53</sup>

There is a groundswell of support for the proposition that the current position unduly favours private interests<sup>54</sup> resulting in high socio-economic costs.<sup>55</sup> This is particularly so in the developing world where legal frameworks for intellectual property rights are mostly underdeveloped and where, in many communities, the idea that knowledge is capable of private ownership may be alien and 'culturally inappropriate'.<sup>56</sup> Mushita and Thompson explain:

[t]hat knowledge or ideas can be property is a cultural artefact of Anglo-Saxon law, for ontologically, knowledge is not conducive to single

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<sup>53</sup> Even in respect of the listed ITPGRFA 'common heritage' germplasm, in most cases 'any individual genes, advanced lines, cells, particular DNA sequences, and compounds derived from such germplasm may be the subject of intellectual property protection.' Keith Aoki and Kennedy Luvai 'Reclaiming "common heritage" treatment in the international plant genetic resources regime complex' (2007) 35 *Mich St L Rev* at 54.

<sup>54</sup> Peter Drahos and John Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) talk of the power of intellectual property rights and warn of the 'project' which they call information feudalism where the ownership of knowledge is concentrated in the hands of a few monopolistic corporations. They argue (at 2-3) that:  
'[t]he redistribution of property rights in the case of information feudalism involves a transfer of knowledge assets from the intellectual commons into private hands. These hands belong to media conglomerates and integrated life sciences corporations rather than individual scientists and authors. The effect of this ... is to raise levels of private monopolistic power to dangerous global heights, at a time when states, which have been weakened by the forces of globalization, have less capacity to protect their citizens from the consequences of the exercise of this power'.

<sup>55</sup> As the extract in § 1.1.2 illustrates; the economic consequences of increased proprietary rights in plant genetic resources can have major social impacts on vulnerable communities in developing country conditions. Monopolies on information increase the cost of the goods associated with the patent and also the cost of access to patented resources for the purposes of use and for further research in the public good. On the curtailment of the freedom to research imposed by the ownership of IP rights see for example Drahos and Braithwaite (note 54) at 3-4 where they discuss Myriad's proprietary rights over the BRCA1 and BRCA2 genes which are linked to breast and ovarian cancer and are thus necessary research tools in the fight against these forms of cancer.

<sup>56</sup> Debbie Collier 'Access to and control over plant genetic resources for food and agriculture in South and Southern Africa: how many wrongs before a right?' (2006) 7 *Minnesota Journal of Law, Science and Technology* 529 at 534 and the authorities cited therein. See also Kent Nnadozie et al (eds) *African perspectives on genetic resources: a handbook of laws, policies, and institutions* (2003) at 25-26.

ownership. Knowledge increases by sharing, with taking an idea and using it, transforming it, debating it.<sup>57</sup>

One of the difficulties however in balancing public and private interests in PGRs arises from the 'regime complex' which results in numerous diverse government departments, in one way or another, being able to assert some aspect of control over PGRs.<sup>58</sup> This is exacerbated by the lack of an active, overarching or umbrella body that is able to bring together these department and the various stakeholders, including industry and civil society, for effective joint decision-making, which in the South African context is required by the Constitutional notion of co-operative governance.<sup>59</sup>

The problem is that the 'multiplicity of interests and fora, and the existence of several debates or negotiations taking place simultaneously, can tax the resources of even the largest governments and can lead to poorly coordinated, inconsistent, and even contrary policies.'<sup>60</sup> The problem of a fragmented institutional framework<sup>61</sup> is not unique to the South African context.<sup>62</sup>

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<sup>57</sup> A Mushita and C Thompson 'Patenting biodiversity? Rejecting WTO/TRIPS in southern Africa' (2002) 2 *Global Environmental Politics* 65 at 66. As Dutfield points out, there are indigenous systems for the protection of knowledge that 'make patents seem like blunt inflexible instruments by comparison.' G Dutfield 'The public and private domains: intellectual property rights in traditional knowledge' (2000) 21 *Science Communication* 274 at 281. He goes on to suggest that the incompatibility between the Western concepts and indigenous concepts may be overplayed.

<sup>58</sup> The various government departments in SA whose laws and policies may impact on PGRs include the Department of Agriculture, Forestry and Fisheries (formerly the Department of Agriculture), the Department of Water and Environmental Affairs (formerly the Department of Environmental Affairs and Tourism), the Department of Trade and Industry, the Department of Science and Technology, and the Department of Rural Development and Land Reform. Government Departments, in addition to the above, that should be informed stakeholders in decision-making on rights in PGRs include the Department of Economic Development and the Department of Social Development.

<sup>59</sup> In terms of chapter 3 of the Constitution of the Republic of South Africa Act 108 of 1996, organs of government should not encroach on the functions of one another, and they should co-operate in good faith which requires consultation on matters of common interest and co-ordination of actions and legislation.

<sup>60</sup> Michel Petit et al *Why governments can't make policy: the case of plant genetic resources in the international arena* (2000) at 6.

<sup>61</sup> On fragmentation in the context of environmental law, see LJ Kotzé 'Improving unsustainable environmental governance in South Africa: the case for holistic governance' (2006) 1 *PER* 1-44.

<sup>62</sup> See Petit et al (note 60). Petit et al, at 38, identify the typical government institutions that regulate PGRs as being the ministries of agriculture, the environment, trade and commerce, and to a lesser extent, foreign affairs, law and finance. Other actors identified include the research community, the private sector, NGOs, and civil society.

Rights in PGRs, in the South African context, derive predominantly from legislation under the auspices of three departments: the Department of Agriculture, Forestry and Fisheries (DAFF), the Department of Water and Environmental Affairs (DWEA), and the Department of Trade and Industry (DTI). These departments and the legislation which they administer are briefly introduced in the section below.

#### *1.2.2.1 Department of Agriculture, Forestry and Fisheries*

The Conservation of Agricultural Resources Act<sup>63</sup> (CARA) currently provides for the 'sustainable utilisation of natural agricultural resources'.<sup>64</sup> The focus of the Act is the conservation of soil, water sources and vegetation and its provisions seek to combat weeds and invader plants. The Act provides for conservation committees to be established in respect of any area,<sup>65</sup> and establishes a Conservation Advisory Board (CAB) for the purposes of advising on control measures and matters arising from the Act.<sup>66</sup>

In 2003, a draft Sustainable Utilisation of Agricultural Resources Bill<sup>67</sup> (SARA) emerged under the auspices of the Department which, if enacted, would repeal the Conservation of Agricultural Resources Act (CARA) and abolish the Conservation Advisory Board and Conservation Committees. SARA specifically recognises that apartheid law deprived many people of access to agricultural land, thus skewing patterns of utilisation of agricultural land in South Africa. SARA thus recognises the link between land ownership and an equitable agricultural sector and seeks to address this while ensuring the

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<sup>63</sup> Act 43 of 1983.

<sup>64</sup> Natural agricultural resources are defined in the Act as 'the soil and the water sources and vegetation occurring on agricultural land, excluding weeds and invader plants'.

<sup>65</sup> Section 15 regulates the establishment of conservation committees.

<sup>66</sup> Section 16 regulates the Conservation Advisory Board, which membership is to consist of two officers from the Department of Agriculture, an officer of the Department of Environmental Affairs, a representative from any conservation committee that may have been established, and one person nominated by the South African Agricultural Union (now called Agri SA). The Advisory Board is required to advise the Minister on: '(a) the desirability of prescribing specific control measures with regard to a particular area; (b) the desirability of establishing a specified scheme, and the provisions of any such scheme; and (c) and other matter arising from the application of this Act or a scheme, or which it may deem necessary in order to achieve the objects of this Act or which the Minister may refer to it for advice.' (s 17(2)).

<sup>67</sup> An electronic copy of the Bill is available at [www.nda.agric.za/docs/Legislation/sustainable.htm](http://www.nda.agric.za/docs/Legislation/sustainable.htm) [Accessed 9 July 2009].

sustainable utilisation of natural agricultural resources. The Bill provides for the establishment of local and provincial land care committees.

In addition to the above legislation which ultimately seeks to ensure the sustainable utilisation of agricultural resources, the department administers, among many others, three pieces of legislation that are involved in establishing the parameters for rights that may be obtained by private bodies in respect of PGRs: namely, the Plant Breeders' Rights Act,<sup>68</sup> the Plant Improvement Act,<sup>69</sup> and the Genetically Modified Organisms Act.<sup>70</sup>

The Plant Breeders' Rights Act, compliant with South Africa's obligations under the International Convention for the Protection of New Varieties of Plants (UPOV),<sup>71</sup> provides a system for the registration of plant breeders' rights in respect of varieties of certain kinds of plants. The Act, which is discussed more extensively elsewhere in the thesis,<sup>72</sup> provides for the designation of a registrar, responsible for implementing the provisions of the Act.

The Plant Improvement Act prescribes certain conditions for the import/export and sale of certain plants or propagating material, and provides for the recognition of certain varieties of plants and for a system of certification of plants and propagating material to ensure the quality and usefulness thereof. A registrar of plant improvement carries out the duties established by the Act.

The Genetically Modified Organisms Act (GMO Act), discussed in detail in chapter 5, regulates the use of genetically modified organisms, including its use in agricultural applications such as GM crops. Although drafted prior to the Cartagena Protocol on Biosafety,<sup>73</sup> the GMO Act has subsequently been amended to align to Act with the provisions of the Protocol.<sup>74</sup> The Act

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<sup>68</sup> Act 15 of 1976.

<sup>69</sup> Act 53 of 1976.

<sup>70</sup> Act 15 of 1997.

<sup>71</sup> See § 5.5.4.1.

<sup>72</sup> See in particular § 5.5.4.3.

<sup>73</sup> Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2000, 39 *ILM* 1027 (2000).

<sup>74</sup> Genetically Modified Organisms Amendment Act 23 of 2006.

establishes, in addition to a registrar, an Executive Council of GMOs<sup>75</sup> and an Advisory Committee,<sup>76</sup> which are mandated specifically to focus on issues relating to genetic engineering.

While the dispensation for agriculture provides for numerous committees, these are not inclusive of all stakeholders in the debates about PGRs. This is true also of the legislation administered by the Department of Water and Environmental Affairs.

### 1.2.2.2 Department of Water and Environmental Affairs

The National Environmental Management Act<sup>77</sup> (NEMA) is the overarching environmental law which is underpinned by a number of environmental management principles.<sup>78</sup> NEMA indicates that '[t]he environment is held in public trust<sup>[79]</sup> for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.'<sup>80</sup>

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<sup>75</sup> Members of the Executive Council include members from the Department of Agriculture, the Department of Arts, Culture, Science and Technology, the Department of Environmental Affairs and Tourism, the Department of Health, the Department of Labour, and the Department of Trade and Industry (s 3).

<sup>76</sup> The Advisory Committee consists of not more than ten persons, knowledgeable in genetic engineering, appointed by the Minister.

<sup>77</sup> Act 107 of 1998.

<sup>78</sup> These principles are in s 2 of NEMA. NEMA is discussed in more detail in the context of sustainable development (a NEMA principle in s 2(3)) in § 5.4.1.

<sup>79</sup> The public trust doctrine 'draws upon the Roman Law idea of common properties (*res communis*) and on certain provisions of Magna Carta. It deals with ... constraints on alienation by the sovereign and with an affirmative protective duty of government – a fiduciary obligation – in dealing with certain properties held publicly.' (footnotes omitted) Joseph L Sax 'Liberating the Public Trust Doctrine from its Historical Shackles' (1980) 14 *University of California, Davis Law Review* at 185. Sax is generally regarded as the father of the modern conception of the public trust doctrine. His seminal article 'The public trust doctrine in natural resource law: effective judicial intervention' (1970) 68 *Michigan Law Review* 471-566 is oft-cited. Other sources and views on the public trust doctrine include, among many others, Richard J Lazarus 'Changing conceptions of property and sovereignty in natural resources: questioning the public trust doctrine' (1986) 71 *Iowa Law Review* 631-716; Carol Rose 'The comedy of the commons: custom, commerce, and inherently public property' (1986) 53 *University of Chicago Law Review* 711-781; Carol Rose 'Joseph Sax and the idea of the public trust' (1998-1999) 25 *Ecology LQ* 351-362; Richard Delgado 'Our better natures: a revisionist view of Joseph Sax's public trust theory of environmental protection, and some dark thoughts on the possibility of law reform' (1991) 44 *Vanderbilt Law Review* 1209-1227; James Huffman 'Fish out of water: The public trust doctrine in a constitutional democracy' (1989) 19 *Environmental Law* 527-572; and James Huffman 'Avoiding the takings clause through the myth of public rights: the public trust and reserved rights doctrines at work' (1987) 3 *J Land Use & Envtl L* 171-212.

<sup>80</sup> Section 2(4)(o).

In turn, the 'environment' is defined in s 1 of the NEMA as:

- the surroundings within which humans exist and that are made up of -
- (i) the land, water and atmosphere of the earth;
  - (ii) micro-organisms, plant and animal life;
  - (iii) any part or combination of (i) and (ii) and the inter-relationships among and between them; and
  - (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being...

In other words, South African environmental law specifically provides that the state is required to administer, as trustee, on behalf of South Africa's people, all aspects of plant life (not specifically limited to indigenous plants) including the physical and cultural properties of plants in a manner that serves the public interest.<sup>81</sup> The public trust doctrine restrains the state from alienating the resource held in trust and places a fiduciary duty on the state in its dealings with the resource.<sup>82</sup>

NEMA's chapter 2 establishes two institutions, the National Environmental Advisory Forum (NEAF) and the Committee for Environmental Coordination (CEC). The role of NEAF is to inform and advise the relevant Minister on matters concerning environmental management which must be conducted in accordance with certain principles.<sup>83</sup>

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<sup>81</sup> The public trust doctrine has been introduced in South Africa in NEMA and also in the context of water and mineral resources. See Jan Glazewski *Environmental law in South Africa* (2005) at 17, 428; E Van der Schyff 'Who "owns" the country's mineral resources? The possible incorporation of the public trust doctrine through the Mineral and Petroleum Resources Development Act' (2008) 4 *TSAR* 757-778; and E Van der Schyff and G Viljoen 'Water and the public trust doctrine – a South African perspective' (2008) 2 4 *The Journal for Transdisciplinary Research in Southern Africa* 339-354.

<sup>82</sup> Sax 'Liberating the public trust doctrine' (note 79) at 185.

<sup>83</sup> These principles are set out in chapter 1 and include the fulfilment and prioritisation of the Constitution's socio-economic rights; the notion of sustainable development (see § 5.4.1); the public trust doctrine; and the principle that the costs of remedying pollution must be paid for by those responsible for harming the environment. The Forum is required to consist of between 12 and 15 members who hold office for 2 years and who represent stakeholders from organised labour, organised business, NGOs, and community based organisations (CBOs). An annual report on the work of the Forum must be presented to Parliament and the documentation is required to be open to the public.

The role of CEC is to 'promote the integration and coordination of environmental functions by the relevant organs of state'<sup>84</sup> and its functions include 'endeavouring to ensure compliance with the principle set out in section 2(2)<sup>[85]</sup> by ... requiring reports from its members and advising government on law reform.'<sup>86</sup>

In addition to NEMA, the Department of Water and Environmental Affairs administers the National Environmental Management: Biodiversity Act<sup>87</sup> (NEMBA). NEMBA confirms the state's trusteeship of biological diversity<sup>88</sup> and regulates the conservation and sustainable use of indigenous biological resources. NEMBA and its regulations make provision for the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources, which will apply in certain scenarios involving rights in indigenous PGRs. NEMBA establishes the South African National Biodiversity Institute (SANBI) to monitor and report on biodiversity issues.

Further legislation administered by the Department includes the Environment Conservation Act,<sup>89</sup> which is gradually being repealed and replaced by NEMA. The Environment Conservation Act provides for the identification and control of activities, including the removal of natural resources, land use and agricultural processes, which may have a detrimental effect on the environment.<sup>90</sup> The control of these activities will, in future, fall under NEMA.

The third government department whose legislation impacts on rights in PGRs is the Department of Trade and Industry.

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<sup>84</sup> Section 7(2).

<sup>85</sup> Section 2(2) states that '[e]nvironmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.'

<sup>86</sup> Section 7(3)(g). Members of the Committee include, among others, the Directors General from the Departments of Environmental Affairs and Tourism (chairperson); Water Affairs and Forestry; Minerals and Energy; Land Affairs; Constitutional Development; Housing; Agriculture; Health; Labour; and Arts, Culture, Science and Technology (s 8). Notably absent from the list is the Director General from the DTI, although there is provision for any other Director General to be co-opted onto the committee. The Committee is required to present an annual report and its documentation should be available on request.

<sup>87</sup> Act 10 of 2004.

<sup>88</sup> Section 3.

<sup>89</sup> Act 73 of 1989.

<sup>90</sup> Part V.

### 1.2.2.3 Department of Trade and Industry (DTI)

Relevant legislation administered by the Department of Trade and Industry includes legislation in the fields of consumer protection, competition and certain aspects of intellectual property law.

In so far as intellectual property law is concerned, the DTI administers the Patents Act<sup>91</sup> which excludes from patentability 'any variety of animal or plant or any essentially biological process for the production of animals or plants.'<sup>92</sup> These exclusions do not preclude the patenting of micro-organisms and processes which are not essentially biological, provided the requirements for patentability are met.<sup>93</sup> In South Africa, claims over genetically engineered plants are routinely registered in the patents office.<sup>94</sup>

In addition, the DTI administers consumer protection and competition law which curtail the extent to which monopoly rights may be exploited to the detriment of the consumer. The recently enacted Consumer Protection Act<sup>95</sup> and the Competition Act<sup>96</sup> are discussed in chapter 4.

The three government departments discussed above have an interest in connected aspects of PGRs and their engagement, together with other interested stakeholders, on these issues is required and should align with the principles of co-operative governance.<sup>97</sup> Proposals for an overarching co-operative body and the principles to guide that body are set out in the concluding chapter, in response to the thesis question.

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<sup>91</sup> Act 57 of 1978.

<sup>92</sup> Section 25(4)(b).

<sup>93</sup> See § 3.2.5. See also Kidd and Mayet 'Access to genetic resources in South Africa in Kent Nnadozie et al (eds) *African perspectives on genetic resources: a handbook of laws, policies, and institutions* (2003) at 240.

<sup>94</sup> See § 3.2.5.

<sup>95</sup> Act 68 of 2008 discussed in § 4.4.4.

<sup>96</sup> Act 89 of 1998 discussed in § 4.4.2.

<sup>97</sup> The legislative framework for co-operative governance can be found in chapter 3 (co-operative governance) of the Constitution of the Republic of South Africa, 1996 and in the Intergovernmental Relations Framework Act 13 of 2005. See also chapter 3 of NEMA. For a useful account of the challenges facing cooperative intergovernmental relations in South Africa see Tryna Edwards 'Cooperative governance in South Africa, with specific reference to the challenges of intergovernmental relations' (2008) 27 *Politeia* 65-85.

### 1.3 Thesis question, method and structure

#### 1.3.1 Broader research question and its relevance

The broader question guiding the direction of the thesis is:

How should South African law regulate property rights in plant genetic resources?

As previously indicated, the aim of the thesis is to evaluate whether or not the approach in South African law, policy and practice around modern biotechnology and IP rights adequately balances public and private interests.

More theoretically, the thesis examines ownership and property issues, particularly in regard to PGRs, with a focus on approaches to property that accommodates both public and private interests.

The case study is used as a mechanism to test the claims generally made in the thesis, and more specifically that:

- The current practice (which includes strong IP rights) around modern biotechnology products in agriculture is unsustainable;
- This has contributed towards the weakening of the agricultural sector; and
- By reining in private rights, some space will be created for improving the sustainability of the agricultural sector.

The current law and practice in IP and agricultural biotechnology are not the only problems impacting on sustainable agriculture.<sup>98</sup> Adjusting private rights will therefore have limited effect if not coupled with other reform efforts, including reform in land redistribution, education and skills transfer, for example.

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<sup>98</sup> See § 3.2.

The thesis approach is pragmatic and its proposals are located within the boundaries of the current global system for rights in PGRs, notwithstanding the cogency of fundamental challenges to the current global regime for IP.<sup>99</sup>

The potential for property rights problems or disputes in respect of PGRs exists in a number of areas. These include food security and sustainable livelihoods. Other examples, some frequently reported on in the media in South Africa, include the use of PGRs or plant-related traditional knowledge in pharmaceutical<sup>100</sup> or cosmetic and lifestyle<sup>101</sup> products; the commercial use, including the access to (and benefit sharing in), and the sale, of indigenous plant material;<sup>102</sup> and the use of genetically modified crops for food and animal feed.<sup>103</sup>

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<sup>99</sup> See Barratt *The battle for policy space: strategic advantages of a human rights approach in international intellectual property negotiations* (2008) PhD Thesis, University of Cape Town at 14. Stiglitz (note 19) and other economists argue that IP should not have been included in the trade agenda.

<sup>100</sup> The importance of PGRs in the pharmaceutical industry is evident in the following recent University of Cape Town Degrees of Doctor of Philosophy in pharmacology: Carmen Abriette Lategan 'The investigation of *Siphonochilus aethiopicus* and *Aloe ferox* for anti-plasmodial activity' (2008) PhD Thesis, University of Cape Town, which investigates the anti-malarial activity of two medicinal plants *Siphonochilus aethiopicus* and *Aloe ferox* which are reported to be used by traditional healers to treat malaria, and Mamello Sekhoacha 'Investigation of antimalarial activity of five South African medicinal plants and chemical identification of their active constituents' (2008) PhD Thesis, University of Cape Town, which indicates that over 3000 indigenous plant species are used for medicinal purposes in South Africa.

<sup>101</sup> See for example: 'Hoodia "diet plant" under threat from illegal exports' *Cape Times*, Friday, November 24, 2006, where it is reported that: 'HOODIA, the southern African plant which the San have used as an appetite suppressant and thirst quencher for thousands of years, is under threat after being hammered so hard by people ... trying to make a quick buck that it may become extinct within two years. ... [T]he Northern Cape, Namibia and Botswana were [therefore] not allowing any of their Hoodia to be exported. ... In 1997 the CSIR patented Hoodia's active appetite suppressant ingredient, P57, and in 1998 signed a licence agreement with the British company Phytopharm to develop and commercialise it. This was done without the San's involvement, although it was the San's knowledge that led to the CSIR's research. The San were also excluded from the lucrative commercialisation deals. The San took up the issue and the CSIR later agreed to give 6% of the royalties to the SA San Council.'

See also 'Dieters flock to buy fake miracle pills' *Sunday Times*, 12 March, 2006 and 'San reap no benefits as companies flout law and sell fake or illegal Hoodia products' *Cape Times*, Monday, March 13, 2006 to the effect that 'All commercially traded Hoodia products today contain illegally acquired resources and traditional knowledge.'

<sup>102</sup> Consider for example the Research and Licence Agreement (the 'Ball Agreement') entered into between the National Botanical Institute (NBI) in Kirstenbosch, South Africa and the Ball Horticultural Company, USA. The Ball Agreement is essentially a bioprospecting agreement in the horticulture and floriculture sector. Henne and Fakir 'NBI-Ball Agreement: A new phase in bioprospecting?' (1999) 39 *Biotechnology and Development Monitor* 18-21.

<sup>103</sup> See for example 'GM crops in Africa will not end hunger – study' *Cape Times*, Wednesday, January 11, 2006 to the effect that '... [t]he 100-page report *Who benefits from GM crops? Monsanto and its corporate driven genetically modified crop revolution* concludes that the increase in GM crops in a limited number of countries has largely been the result of the aggressive

Broadly, the legal and policy issues which may arise in respect of property rights in PGRs include:

- The right of access to PGRs, and more specifically the extraction and use of, and the distribution of the benefits from, local biodiversity and traditional knowledge by multinational corporations and foreigners;<sup>104</sup>
- The patenting of PGRs and its impact on the diffusion of knowledge, on access to medicines and food, and on development generally;
- Liability for non-licensed cultivation of GM crops and the contamination of conventional or organic crops with GM crops; and
- Disputes around the utilisation of agricultural resources for the production of bio-fuels.

The way in which PGRs are regulated has important consequences, whether for food security or the health of the agricultural, or other, sector or for the well-being of a particular community. The task of regulating these resources is a complex balancing act requiring the regulator to consider applicable international and domestic (both statutory and common) law. Depending on the particular issue being considered, this could include provisions in the fields of international trade law, environmental law (including biodiversity law and, where an organism has been modified, biosafety law), intellectual property law, property law, contract law, delict law, constitutional law and other related areas. Many aspects of these diverse areas of law are canvassed in this

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strategies of the biotech industry, rather than the consequence of benefits derived from using GM technology.’ The report refers to the GM sweet potato in Kenya which was presented as a key GM crop to help African agriculture. It is reported that by the end of January 2004, and more than US \$10 million later, the results of the trials revealed that the non-GM sweet potatoes had yielded significantly more than the GM variety. The political aspects of GM crops are explored in ‘Pro and anti-GMO groups state case in parliament’ *Cape Times*, Wednesday, January 18, 2006. See also ‘Genetically modified foods a growing concern’ *Cape Times*, Tuesday, August 22, 2006 and ‘Opposition to GM cassava field trials in South Africa “Plans won’t benefit poor”’ *Cape Times*, Monday, 25 September, 2006.

<sup>104</sup> In the rhetoric of the North/South divide, the term biopiracy is often used. See for example the work of a ‘biopirate hunter’ in a report by Jay McGown *Out of Africa: mysteries of access and benefit sharing* (2006). In the context of animal resources see MM Scholtz and J Mamabolo ‘A developing country perspective on recent developments in animal breeders and intellectual property rights’ (2006) (SASAS Congress 2006 : Supplement 1, Vol 36, Issue 5) *South African Journal of Animal Science* 22-25.

thesis, although the focus narrows to an analysis of the law and policy applicable to genetically modified cotton in South Africa, the context of which is discussed in chapter 3. Although the focus is on the cotton industry, the thesis will suggest a flexible theoretical framework and principles for law reform that may be useful for adjudicators and legislators regardless of whether their focus is the agricultural, horticultural, pharmaceutical, cosmetics, food and beverages, or any other, sector that utilises PGRs.

### 1.3.2 Method of research

The thesis is primarily the product of a desk-top study and much of the research conducted involved the gathering and the textual/contextual analysis of applicable primary and secondary legal material. Publications in economic and social sciences were also consulted. The thesis has further been informed by discussions with, amongst others, Cotton South Africa (Cotton SA), the Agricultural Research Council (ARC), NGOs who work in the field, a small-scale cotton farmer, a supplier of cottonseed,<sup>105</sup> biotechnology patent agents, and academic economists.<sup>106</sup>

The thesis draws on aspects of a number of disciplines and areas of the law,<sup>107</sup> and requires a multidisciplinary approach.<sup>108</sup> In keeping with the focus of the thesis, the scope of the research is limited to the following objectives:

1. To clarify how property rights in PGRs (specifically in modern biotechnology for agriculture) are regulated (the *descriptive* objective);

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<sup>105</sup> Wenkem SA (Pty) Ltd at Pongola: Wenkem is the only supplier of cotton seed in the Makhathini Flats.

<sup>106</sup> From the Department of Agricultural Economics, Extension and Rural Development at the University of Pretoria and from the University of KwaZulu-Natal, Durban.

<sup>107</sup> The thesis considers the discipline of law, and how the law responds to the biological sciences, the social sciences and agricultural economics.

<sup>108</sup> The term multidisciplinary research is used broadly here to convey research that is also trans- or interdisciplinary in meaning. Janssen and Goldsworthy explain that the need for a multidisciplinary approach arises '[s]ince problems are not disciplinary abstractions but real-life phenomena with many dimensions to them, many problems cannot be addressed adequately through a monodisciplinary approach. All too often, sticking to a single discipline may turn research into an abstract formality (Blume, 1990), and therefore into an obsolete tool for development. ... For most problems a multidisciplinary approach is the only effective way to conduct the research.' William Janssen and Peter Goldsworthy 'Multidisciplinary research for natural resource management: conceptual and practical implications' (1996) 51 *Agricultural Systems* 259 at 260-261.

2. To assess the socio-economic impact of this regulatory regime by way of a case study (the *implications* objective); and
3. To explore and suggest possibilities for reform that will allow greater inclusion of the public interest (the *reform* objective).

These objectives form a common thread through the chapters as described in the section below.

### 1.3.3 Structure of thesis

The various chapter headings, their objectives, and a brief description of each chapter follows:

#### *Chapter 1 Introduction*

Chapter 1 introduces the thesis question ('How should South African law regulate property rights in plant genetic resources?'), the context in which the question arises, and the manner in which addressing the question will be approached.

#### *Chapter 2 Property in theory: an evolving concept*

Chapter 2 explores the notion of property and considers the theoretical underpinnings of the current regulatory regime (part of the *descriptive* objective). The chapter examines some modern and nuanced ways of thinking about property (part of the *reform* objective).

#### *Chapter 3 Property in practice: a case study of PGRs*

Chapter 3 focuses on the current experience in the agricultural sector (specifically GM cotton) and considers the implications for sustainable agriculture of the current regulatory regime (part of the *implications* objective).

#### *Chapter 4 Legal framework (1): the Monsanto Agreement*

Chapter 4 considers the contractual relationship between Monsanto and farmers in the context of GM cotton seed and the regulatory framework for this relationship, as well as the relationship between Monsanto and farmers that are not party to the agreement (part of the *descriptive* objective).

#### *Chapter 5 Legal framework (2): the State's regulatory powers*

Chapter 5 explores the complexities of the international and domestic regulatory regime for PGRs (part of the *descriptive* objective).

#### *Chapter 6 Findings*

Chapter 6 draws further conclusions on the impact of the current regulatory framework and whether or not it strikes a balance between

public and private interests (part of the *implications* objective). It assesses the potential value of reining in private rights.

#### *Chapter 7 Recommendations and thesis conclusion*

Finally, chapter 7 merges theoretical suggestions with practical solutions on how to think about and how to regulate property rights in PGRs in a manner that is better able to accommodate public interest (part of the *reform* objective).

The thesis outcomes may be useful in the development of policy, law, and jurisprudence in respect of property and IP rights in PGRs and of modern biotechnology in agriculture. The thesis contributes to a relatively new body of literature on the developmental aspects of intellectual property in the South African context.<sup>109</sup>

The language of *property* is used as the medium in which to explore the regulatory structure around PGRs.

#### **1.4 Using the language of *property* as an instrument of reform**

The language of property, and property law, provides a useful tool to explore the relationships formed in respect of PGRs. The constitutionally-derived notions of the limitation of rights<sup>110</sup> and the lawful deprivation of property<sup>111</sup> provide a means for government to restrict property related entitlements.

Some background to property and IP in the South African context is set out below.

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<sup>109</sup> Such as Tana Pistorius 'The impact of intellectual property law and policy on sustainable development' (2007) 32 *South African Yearbook of International Law* 376-395; MM Scholtz and J Mamabolo 'A developing country perspective on recent developments in animal breeders and intellectual property rights' (2006) (SASAS Congress 2006 : Supplement 1, Vol 36, Issue 5) *South African Journal of Animal Science* 22-25; C Bramley and JF Kirsten 'Exploring the economic rationale for protecting geographical indicators in agriculture' (2007) 46 1 *Agrekon* 69-93; Y Daya and N Vink 'Protecting traditional ethno-botanical knowledge in South Africa through the intellectual property regime' (2006) 45:3 *Agrekon* 319-338; and Otsile Ntsoane 'African indigenous knowledge - an academic and socio-cultural exploration for indigenisation' (2005) 4:1 *Indilinga: African Journal of Indigenous Knowledge Systems* 89-109. See also the recent WIPO publication titled *The economics of intellectual property in South Africa* (2009).

<sup>110</sup> See s 36 in annexure A.

<sup>111</sup> See s 25 in annexure A.

#### 1.4.1 Brief overview of property and IP law in South Africa

South Africa is a mixed legal system reflecting aspects of both the European civil law<sup>112</sup> and the English common law<sup>113</sup> traditions.<sup>114</sup> The civil law component derives from Dutch occupation of the Cape of Good Hope, from around 1652, which resulted in the introduction of Roman-Dutch law<sup>115</sup> to the Cape; and the common law component from the subsequent defeat of the Dutch settlers by the British. The British, in 1806, decided that Roman-Dutch law would remain in force at the Cape, but imposed English procedural law.<sup>116</sup> Although Roman-Dutch law formed the basis of substantive law principles, new statutes and new legal developments were unavoidably influenced by English law. Judges and advocates were often also trained in the English tradition.

The legal system in place at the Cape was later followed in the British colony in Natal and many aspects of this system influenced developments in the two Boer Republics, the Zuid-Afrikaansche Republiek (the Transvaal) and the Oranjevrijstaat (the Orange Free State).<sup>117</sup> The British, victorious in the Anglo-Boer War,<sup>118</sup> ultimately took control of all of these territories and in 1910 the Union of South Africa, with four provinces,<sup>119</sup> was established. The resulting legal system was a hybrid system of English common law and civilian Roman-Dutch principles, and a plural system, for the British supplemented the

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<sup>112</sup> 'Civil law' in this instance, referring to European legal systems (most of which are now codified) influenced by commentators on Roman law.

<sup>113</sup> 'Common law', on the other hand, is with reference to those legal systems (such as the English and North American systems) based on custom, where law is derived through decisions of the court, and where the influence of Roman law has been minimal. See Lourens Marthinus Du Plessis *An introduction to law* 3ed (1999) at 19.

<sup>114</sup> On South African law generally see Lourens Marthinus Du Plessis *An introduction to law* 3ed (1999); HR Hahlo and Ellison Kahn *The South African legal system and its background* (1968) and *The Union of South Africa: the development of its laws and constitution* (1960); Basil Edwards *Introduction to South African law and legal theory* 2ed (1995); and Reinhard Zimmermann and Daniel Visser *Southern Cross: civil law and common law in South Africa* (1996). For a general overview and guidance see Amanda Barratt and Pamela Snyman *Researching South African Law* (2005) available online at [www.nyulawglobal.org/globalex/South\\_Africa.htm](http://www.nyulawglobal.org/globalex/South_Africa.htm).

<sup>115</sup> The work of Dutch jurists such as Hugo De Groot (1583-1645), Johannes Voet (1647-1713) and Simon van Leeuwen (1626-1682) have influenced the law in South Africa. See generally the jurists at Du Plessis (note 114) at 40-48. Roman-Dutch law was supplemented and extended by applicable legislation (*placaaten*). Du Plessis (note 114) at 49-50.

<sup>116</sup> Du Plessis (note 114) at 51.

<sup>117</sup> Barratt and Snyman (note 114).

<sup>118</sup> 1899-1902.

<sup>119</sup> The Cape, Natal, Transvaal and the Orange Free State.

common law system with indigenous law that would regulate many aspects of the lives of the original occupants of the colony.<sup>120</sup> This system, supplemented by a growing body of statute law, is to a large extent still intact today, provided that where there is conflict with the Constitution,<sup>121</sup> the offending law must give way.<sup>122</sup>

The private law of property in South Africa, which is discussed in more detail in chapter 4, is based predominately on the Roman-Dutch civil law tradition, whereas intellectual property law is predominantly protected by statute (originally based on the English statutory model).<sup>123</sup> The discussion on intellectual property, for the purpose of this thesis, will focus on patents and on plant variety protection.

Intellectual property law was predominantly introduced into state law in southern Africa as a means to extend the protection afforded to the colonial proprietors of intellectual property.<sup>124</sup> For example, in Botswana the now-repealed Patents and Designs Protection Act<sup>125</sup> was enacted to 'provide for the protection in Botswana of inventions the subject of patents subsisting in the United Kingdom or in the Republic of South Africa.'<sup>126</sup> This is true, to some extent, of early IP law in South Africa.<sup>127</sup>

As discussed above, until 1910 South Africa consisted of four separate colonies: each with its own laws regulating patents. The earliest Patents Act<sup>128</sup> in South Africa, modelled on the English Patent Act,<sup>129</sup> was passed by

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<sup>120</sup> Du Plessis (note 114) at 69-70.

<sup>121</sup> Constitution of the Republic of South Africa Act 108 of 1996 (the Constitution).

<sup>122</sup> Section 2 of the Constitution.

<sup>123</sup> For an interesting discussion on the origin of patents, see Ikechi Mgbeoji 'The juridical origins of the international patent system: towards a historiography of the role of patents in industrialization' (2003) 5 *Journal of the History of International Law* 403-422.

<sup>124</sup> Debbie Collier 'Access to and control over plant genetic resources for food and agriculture in South and Southern Africa: how many wrongs before a right?' (2006) 7 *Minnesota Journal of Law, Science and Technology* 530 at 549.

<sup>125</sup> Chapter 68:02, The Laws of Botswana, Revised Edition 1997. The Patents and Designs Protection Act has been replaced by the Industrial Property Act 14 of 1996.

<sup>126</sup> Preamble of the Patents and Designs Protection Act of 1955.

<sup>127</sup> For a comprehensive study of the history of South African patent law see JR Steyn *The significance in South African patent law of the claims in a patent specification* (1974) LLD Thesis, UNISA, cited in TD Burrell *Burrell's South African Patent and Design Law* 3ed (1999).

<sup>128</sup> Act 17 of 1860.

<sup>129</sup> The Patent Law Amendment Act 1852 was then in force in England.

parliament of the Cape of Good Hope in 1860.<sup>130</sup> This was closely followed by the first Natal statute on patents, Law 4 of 1870.<sup>131</sup> Patent law in the Orange Free State<sup>132</sup> and the Transvaal<sup>133</sup> changed shape after the Anglo-Boer War ended.<sup>134</sup>

The Union of South Africa was proclaimed on 31 May 1910, and in 1916 the industrial property laws of the four British colonies were consolidated and amended by the Patents, Designs, Trade Marks and Copyright Act,<sup>135</sup> modelled, to a large extent, on the British Patents Act of 1907.<sup>136</sup>

In 1947, South Africa acceded to the Paris Convention for the Protection of Industrial Property of 20 March 1883 (the Paris Convention)<sup>137</sup> which provides that member countries must afford to nationals from other member countries the same protection as it affords to its own nationals and that the filing of an application for intellectual property protection in one member country gives a right of priority to the date of that filing in respect of corresponding applications filed in other member countries.<sup>138</sup>

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<sup>130</sup> Burrell (note 127) at 1.6.

<sup>131</sup> In both pieces of legislation the meaning of the term 'invention' was the same as the English patent law and was thus limited to the 'manner of manufacture'. Burrell (note 127) at para 1.7. This terminology is important for it determines *what* is patentable; in other words, what is protected property.

<sup>132</sup> Patent Law in the Orange Free State was to be found in the *Law Book*, chapter CXII. Burrell (note 127) at para 1.8.

<sup>133</sup> Law 6 of 1887 of the Zuid-Afrikaansche Republiek. Burrell (note 127) at para 1.9.

<sup>134</sup> The Boer-War ended with the Peace Treaty of Vereeniging of 31 May 1902. In 1902 the definition of invention was amended, by the Transvaal Proclamation 22 of 1902, to mean 'any new and useful art process machine manufacture or composition of matter or any new and useful improvement thereof capable of being used or applied in trade or industry.' Prior to that, in both colonies, the meaning of 'invention,' could be derived from the provision that '[a]ny person who makes a new industrial invention, capable of being exploited as a subject of trade or industry, shall have the exclusive right to exploit such invention to his own advantage for such a term and under such conditions as shall hereinafter be determined.' Section 1 of both applicable pieces of legislation. Burrell (note 127) at para 1.9.

<sup>135</sup> Act 9 of 1916.

<sup>136</sup> The definition of 'invention' contained in the Transvaal Proclamation 22 of 1902 was followed in Act 9 of 1916. Burrell (note 127) at para 1.11.1.

<sup>137</sup> Prior to then, the Convention was revised at Brussels on 14 December 1900, at Washington on 2 June 1911, at The Hague on 6 November 1925 and at London on 2 June 1934. South Africa has since adopted the revisions to the Paris Convention effected at Lisbon on 31 October 1958 and at Stockholm on 14 July 1967 (which entered into force on 26 April 1970).

<sup>138</sup> Burrell (note 127) at para 1.11.2.

The Paris Convention endorsed the principle that plant products could be protected as industrial property.<sup>139</sup>

In 1952, the patent provisions of Act 9 of 1916 were repealed and replaced by the Patents Act 37 of 1952 (now also repealed) which was, to a large degree, based on the British Patents Act of 1949.<sup>140</sup> Soon after this,<sup>141</sup> the Union of South Africa became the Republic of South Africa, and some years later the Patents Act of 1952 was repealed by the Patents Act 57 of 1978, an Act which is still operational today.

The current Patents Act<sup>142</sup> was amended in 1997<sup>143</sup> to comply with the obligation to align domestic law with the provisions of the WTO TRIPS agreement<sup>144</sup> which establishes minimum standards for domestic protection of intellectual property. In particular, patents must be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application.<sup>145</sup> The TRIPS agreement is discussed in greater detail in chapter 5. The Patents Act was again amended in 2005<sup>146</sup> to require an applicant for a patent to furnish information relating to any role played by an indigenous biological resource, a genetic resource or traditional knowledge or use in an invention.<sup>147</sup>

The most important recent development in property law in South Africa has been the introduction of a Constitutional property clause<sup>148</sup> and the idea that

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<sup>139</sup> Margaret Llewelyn and Mike Adcock (eds) *European plant intellectual property* (2006) at 10. The Paris Convention does not expand on how plant products may be protected. It simply states in Article 1(3) that '[i]ndustrial property shall be understood in the broadest sense and shall apply not only to industry and commerce proper, but likewise to agricultural and extractive industries and to all manufactured or natural products, for example, wines, grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flowers, and flour.'

<sup>140</sup> Burrell (note 127) at para 1.12.

<sup>141</sup> On 31 May 1961.

<sup>142</sup> Act 57 of 1978.

<sup>143</sup> Intellectual Property Laws Amendment Act 38 of 1997.

<sup>144</sup> The TRIPS agreement was negotiated at the end of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1994 and is binding on all WTO members.

<sup>145</sup> Article 27 TRIPS.

<sup>146</sup> Patents Amendment Act 20 of 2005.

<sup>147</sup> In this regard see also the Policy Framework for Indigenous Knowledge (IK) through the Intellectual Property (IP) System drafted by the Department of Trade and Industry.

<sup>148</sup> Section 25. Relevant provisions of the Bill of Rights are set out in annexure A.

law or conduct inconsistent with the Constitution is invalid.<sup>149</sup> The impact of this development on property law in South Africa is explored in chapters 2 and 4.<sup>150</sup>

Notwithstanding significant developments introduced by way of legislation, Roman and Roman-Dutch law principles remain a core component of the property rights scaffolding.

#### 1.4.2 Roman law classifications

Roman law distinguished between things which are capable of being privately owned (*res in commercium*) and things which fall out of commerce (*res extra commercium*), such as common things (*res omnium communes*)<sup>151</sup> and public things (*res publicae*),<sup>152</sup> which are not susceptible to private ownership. Things which are capable of being privately owned are *res privatae* (which are things already owned) and *res nullius*, which are things not privately owned but which are ultimately capable of private ownership.<sup>153</sup>

Chapter 2 considers attempts to modernise the typology<sup>154</sup> and argues that the value of the classification is the clarity with which it can be said that there are things that cannot be privately owned.

In the South African context, property law, as a discreet legal discipline, is predominantly concerned with things that can be privately owned (*res privatae*). Using the theory of subjective rights (explored more fully in chapter

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<sup>149</sup> Section 2 of the Constitution.

<sup>150</sup> See in particular § 2.5 and § 4.3.3.

<sup>151</sup> Examples of things considered to be common in Roman law include 'the air, running water, the sea and sea-shore'. In South African law the sea and the sea-shore are vested in the state president and are classified as public things. Badenhorst, Pienaar and Mostert *Silberberg and Schoeman's the law of property* (2006) at 25-6 ('*Silberberg and Schoeman*'). Roman-Dutch law appears to have recognised only the air and the open sea as *res omnium communes*.

<sup>152</sup> Public things vest in a community and are intended for public use. This includes things like public roads, perennial rivers, and harbours. *Silberberg and Schoeman* (note 151) at 26-7.

<sup>153</sup> *Silberberg and Schoeman* (note 151) at 25-9.

<sup>154</sup> In David M Berry 'Beyond public and private: reconceptualising collective ownership' (2006) 1 *EastBound* at 151-172.

4) property law is defined as the 'system of rules that regulate the legal relationships of legal subjects with regard to a specific legal object.'<sup>155</sup>

Property rights in the narrow private law sense typically refer to real rights (ownership)<sup>156</sup> and limited real rights such as servitudes. A more extensive (and constitutional) meaning of property includes other patrimonial rights such as personal rights and immaterial property rights.<sup>157</sup> Added to this are claims for specific resources or performance against the state that derive from statute.<sup>158</sup> The prevailing view is that personality rights do not constitute property rights.<sup>159</sup>

The impact of the Constitution has been to fast-track the evolution of the concept of property. The Constitution, in particular its bill of rights,<sup>160</sup> presents challenges to the traditional theoretical approaches to property. Reflecting on theory is therefore an integral part of this thesis.

#### 1.4.3 Theoretical approaches to property

The theoretical components of this thesis engage with 'the reflective discourse about the justification, distribution, function and meaning of property rules and practices in society.'<sup>161</sup> A better understanding of theory provides a useful backdrop to the thesis proposals on regulating property rights in PGRs.

Western theories on property have influenced developments in South Africa. Although vestiges of the property as a natural, inalienable, right can be found

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<sup>155</sup> François du Bois (ed) *Wille's principles of South African law* (2007) at 406 ('Wille's principles of South African law'). The subjective theory of rights which requires a thing contrasts with the prevailing 'bundle of rights' approach in Western jurisprudence.

<sup>156</sup> Ownership is generally viewed as the most extensive of the real rights which a person may have in respect of property. Ownership embraces the power to use (*ius utendi*), to enjoy the fruits (*ius fruendi*) and to consume property (*ius abutendi*), and also the power to possess (*ius possidendi*), to dispose of (*ius disponendi*), to reclaim property from anyone who unlawfully withholds it (*ius vindicandi*) and to resist any unlawful invasion of property (*ius negandi*). *Wille* (note 155) at 470.

<sup>157</sup> *Silberberg and Schoeman* (note 151) at 9-10.

<sup>158</sup> *Silberberg and Schoeman* (note 151) at 11. Rights against the state include licenses, permits and quotas as well as land and water-use rights.

<sup>159</sup> *Silberberg and Schoeman* (note 151) at 9. Neethling, Potgieter and Visser *Neethling's law of personality* (2004) have classified personality rights as the right to body and life; the right to physical liberty; the right to good name (reputation); the right to dignity; the right to feelings; the right to privacy; and the right to identity.

<sup>160</sup> Chapter 2 of the Constitution.

<sup>161</sup> A J van der Walt in GE Van Maanen et al (eds) *Property law on the threshold of the 21<sup>st</sup> century* (1996) at 671.

in our law,<sup>162</sup> recent developments have led to a greater focus on the discourses which allow recourse to the social, economic and political context of conflicting property rights. Closest to the natural rights approach, is the discourse of proportionality, embedded in utilitarian theory, which justifies interference with private property rights if it is economically expedient and efficient to do so. A third, more transformative, discourse that is evolving espouses a more critical form of analysis, also context-sensitive, but in a manner that is free of utilitarian restraints.

Aspects of these three approaches (natural rights, utilitarian, and transformative) are discussed in chapter 2. To assist movement beyond the traditional framework, concepts such as the moral excludability of property,<sup>163</sup> the distributive side of property,<sup>164</sup> and the dialogue of democratic accountability are explored.<sup>165</sup>

## 1.5 Concluding remarks

Social, environmental and economic concerns have been expressed about modern biotechnology and IP in agriculture. Modern biotechnology has raised concerns about monocultures and threats to biodiversity, while the 'propertisation'<sup>166</sup> of PGRs, and of knowledge about PGRs, has the ability to create monopolies, drive up prices and lock up information that would otherwise be freely available for use by all.<sup>167</sup> Food security, biodiversity and

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<sup>162</sup> See A J van der Walt 'Ownership and eviction: Constitutional rights in private law' (2005) 9 *Edinburgh Law Review* 32-64 in the context of eviction and, more generally, AJ van der Walt 'Property theory and the transformation of property law' in Elizabeth Cooke (ed) *Modern studies in property law* (2005) 661-380.

<sup>163</sup> See Kevin Gray 'Property in thin air' (1991) 50 *Cambridge Law Journal* 252-307.

<sup>164</sup> See Frank Michelman 'Possession v distribution in the constitutional idea of property' (1978) 72 *IOWALR* 1319-1350.

<sup>165</sup> See Jennifer Nedelsky 'Should property be constitutionalized? A relational and comparative approach' in GE Van Maanen et al (eds) (note 161) at 417-432 in § 5.

<sup>166</sup> The term 'propertisation' is used to describe the process in which rights are acquired which enable the exclusion of others from intellectual goods and from resources which would otherwise have been considered to be in the commons. See for example the use of the term by Richard A Posner 'Intellectual property: the law and economics approach' (2005) 19 *Journal of Economic Perspectives* at 57 and by Kevin Gray 'Property in thin air' (1991) 50 *Cambridge Law Journal* 252 at 268.

<sup>167</sup> Barratt talks about the 'inherent social costs of the patent system' as being: the high (unaffordable to many) cost associated with patented goods; the lack of incentive to research and develop into products for which there is no attractive markets, such as products required by poor people, for example, research and development into tuberculosis or malaria treatments; and the increased cost of research as a result of the patenting of essential research tools such as gene sequences, proteins

sustainable livelihoods are some of the key considerations in regulating rights in PGRs.<sup>168</sup>

A degree of legal flexibility is therefore required to accommodate these concerns, making the 'one-size-fits-all' harmonisation of laws project a dubious one.<sup>169</sup> Greater flexibility would also accommodate ethical concerns about the pervasive award of IP rights in all aspects of life.<sup>170</sup>

Developments involving PGRs must be sustainable and ethically sound.<sup>171</sup> This requires a balancing of competing interests within the property paradigm, the theoretical dimensions of which are explored in chapter 2.

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and enzymes. Amanda Barratt *The battle for policy space: strategic advantages of a human rights approach in international intellectual property negotiations* (2008) PhD Thesis, University of Cape Town at 29-34.

<sup>168</sup> See for example the European Group on Ethics in Science and new Technologies to the European Commission 'Ethics of modern developments in agriculture technologies' Opinion No 24 (17 December 2008).

<sup>169</sup> A Mushita and C Thompson 'Patenting biodiversity? Rejecting WTO/TRIPS in southern Africa' (2002) 2 *Global Environmental Politics* at 65. See also Joseph Stiglitz *Making globalisation work* (2007) at 119 and generally Drahos and Braithwaite (note 54).

<sup>170</sup> For a theological perspective on the ethical concerns of patenting in the field of agricultural biotechnology see Christoph Baumgartner 'Exclusion by inclusion? On difficulties with regard to an effective ethical assessment of patenting in the field of agricultural bio-technology' (2006) 19 *Journal of Agricultural and Environmental Ethics* 521-539.

<sup>171</sup> Opinion No 24 (note 168) at 69-71 extrapolates ethical goals for responsible action in agriculture (food security and sustainability) from the European Charter of Fundamental Rights from the underlying values of respect for human dignity and justice. Human dignity, as it has also been viewed in the South African context is seen as the foundation of other fundamental rights. See for example Cheadle, Davis and Haysom 'Chapter 5: Dignity' in *South African constitutional law: the bill of rights* (2007) LexisNexis at para 5.1-5.2. This aligns with the Preamble to the 1948 Universal Declaration of Human Rights: '[w]hereas recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world.'

## CHAPTER 2

### PROPERTY IN THEORY: AN EVOLVING CONCEPT

In the end the 'property' notion in all its conceptual fragility, is but a shadow of the individual and collective response to a world of limited resources and attenuated altruism.<sup>1</sup>

#### 2.1 Introduction

Property, in all its complexity, provides a useful tool to explore, and critically comment on, the legal nature of the relationships between the state, vulnerable communities and private entities with regard to PGRs. Property has both doctrinal and theoretical dimensions, and the aim of chapter 2 is to consider some theoretical dimensions of property, which should ultimately inform property doctrine. The doctrinal dimensions of the property regime for PGRs are discussed in chapters 4 and 5.

Anglo-American theories on property have been influential in the South African context.<sup>2</sup> These theories typically maintain that strong, individualised rights to private property are in the best interests of society.<sup>3</sup> This lays the foundation for a 'more-is-better' argument, and an argument for the privatisation of public resources.<sup>4</sup> While the value of a just property institution is undeniable, the danger in the prevailing approach is that it elevates the status of property and the individual beyond the concerns of the common weal.

This chapter considers the notion of property and various approaches to property that have developed over time and which have influenced the South

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<sup>1</sup> Kevin Gray 'Property in thin air' (1991) 50 *Cambridge Law Journal* 296 at 307.

<sup>2</sup> See the discussion in Theunis R Roux *Constitutional property rights review in South Africa: a 'civil society' model* (1997) PhD Thesis, University of Cambridge.

<sup>3</sup> See Roux (note 2). See generally also Drahos with Braithwaite *Information feudalism: who owns the knowledge economy?* (2002). On the need for strong private property rights and for a view on how adopting Western conceptions of property will assist poor developing countries see also the views expressed by Robert Guest *The shackled continent* (2004).

<sup>4</sup> The classic expression in favour of privatising public resources is the 'tragedy of the commons' argument first posited by Hardin in 'The Tragedy of the commons' (1968) 162 *Science* 1243-1248. See the discussion at § 2.6.2.

African approach.<sup>5</sup> The chapter includes a discussion on the differences between physical (tangible) and intangible property and on the notion of excludability as a prerequisite for the propertisation<sup>6</sup> of a resource.

## 2.2 What is property?<sup>7</sup>

Property is a politically charged, complex, dynamic,<sup>8</sup> historically troubled,<sup>9</sup> and ever-evolving<sup>10</sup> notion that defies definition. More specifically, property is sometimes described as being the ownership<sup>11</sup> of a thing<sup>12</sup> or an object,<sup>13</sup> or

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<sup>5</sup> The historical development of the law of property is particularly important, as Visser explains: '[s]ince the Middle Ages the civil law concept of private ownership has, at each stage, been affected – perhaps more so than many other concepts – by social, economic, political and cultural factors.' Footnotes omitted. Visser 'The 'Absoluteness of ownership: the South African common law in perspective' (1985) *Acta Juridica* at 39.

<sup>6</sup> The term 'propertisation' is considered in Chapter 1, note 166.

<sup>7</sup> The word 'property' derives from *propius*, a Latin word that conveys two meanings: '1. that which one owns and 2. a standard of behaviour or correct conduct that is 'proper'. Rosemary J Coombe and Andrew Herman 'Rhetorical virtues: property, speech, and the commons on the world-wide web' (2004) *Anthropological Quarterly* 559 at 561. Hence a link between property and propriety. See also for example Kevin Gray and Susan Francis Gray 'Private property and public propriety' in Janet McLean (ed) *Property and the constitution* (1999) at 11-39.

<sup>8</sup> Dynamic in the sense that property is a relative concept: what constitutes property today may well not be considered to be property tomorrow, and *vice versa*. Kevin Gray 'Property in thin air' (1991) 50 *Cambridge Law Journal* 252 at 296. Gray's explanation for the dynamic character of property is premised on the notion that property is that which is excludable (physically, legally and morally). Circumstances (physical, legal or moral) may change rendering resources that were excludable as non-excludable, or vice versa. Property that is non-excludable generally remains in the commons.

<sup>9</sup> While the contemporary question is whether the right to property is constitutionally protected (for the debate on whether or not property should be protected in the South African Bill of Rights see AJ van der Walt *Constitutional property law* (2005) at 2-3 and the sources referred to therein), and if so, what the content of that right should be, for many (communitarians) the right to property is in fact quite the opposite, being 'the main enemy of equality and freedom'. Ali Riza Coban *Protection of property rights within the European Convention on Human Rights* (2004) at 1-2. As Visser states, '[o]ne may suspect that the history of the formal juridical interpretation of a legal concept, which has been described both as the "word of discord, of lies and blood", and as a "holy and inviolable right", is unlikely to present a picture of continuous uniformity.' D P Visser 'The "absoluteness" of ownership: the South African common law in perspective' (1985) *Acta Juridica* at 39.

<sup>10</sup> In the South African context see for example DV Cowen *New patterns of landownership. The transformation of the concept of landownership as plena in re potestas* (1984) published by the Law Student's Council of the University of the Witwatersrand. More generally see CA Reich 'The new property' (1964) 73 *Yale Law Journal* 733-87 and Kenneth J Vandeveld 'The new property of the nineteenth century: the development of the modern concept of property' 29 *Buffalo Law Review* 325-67.

<sup>11</sup> In a seminal work on ownership, Honoré gives an account of the standard incidents of ownership common in legal systems that recognise private ownership, and the complexities relating to these incidents that can arise in particular cases. Honoré, A 'Ownership' in Guest, AG et al *Oxford Essays in Jurisprudence* (1961) at 107-147. Although Honoré acknowledges the right of unfettered use; the right to exclude; and the 'power of alienating and an immunity from expropriation' as the cardinal features of ownership' (at 113), he emphasises the limitations placed on the owner. Honoré (at 113) lists the standard incidents (the 'eleven leading incidents') of ownership as follows: 'the right to possess, the right to use, the right to manage, the right to the income of the

more technically, as being rights in an object, or without reference to the object, as being a bundle of rights,<sup>14</sup> or as legal,<sup>15</sup> social<sup>16</sup> or power<sup>17</sup> relations, and as an organising idea.<sup>18</sup>

Trespass rules play a role in defining property and in allocating wealth.<sup>19</sup> In Anglo-American jurisprudence, these rules are sometimes expressed through a bundle of rights model of property (the bundle being comprised of various entitlements).<sup>20</sup> This approach emphasises person-person relationships and is less concerned about the ‘thing’ or ‘object’ of property rights.<sup>21</sup> In South Africa the subjective rights theory,<sup>22</sup> embedded in our private law, specifies things as the object of a real right, thus suggesting a connection between property rights and things.

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thing, the right to the capital, the right to security, the rights or incidents of transmissibility and absence of term, the prohibition of harmful use, liability to execution, and the incident of residuary.’

<sup>12</sup> Typically, a thing ‘is an independent corporeal object (other than human beings) which is susceptible to legal control and which is valuable and useful to a person’. Badenhorst et al (eds) *Silberberg and Schoeman’s the law of property* (2006) (*‘Silberberg and Schoeman’*) at 23.

<sup>13</sup> An object is defined as ‘anything with regard to which a person can acquire and hold a right.’

<sup>14</sup> Things are an object. Van der Walt and Pienaar *Introduction to the law of property* (2006) at 8.

<sup>14</sup> The American realist ‘bundle of rights’ approach conceptualises property, not as a thing, but as a bundle of rights. Kevin Gray explains: ‘When I sell you a quantum of airspace the whole point is that – apart from molecules of thin air – there is absolutely *nothing* there. The key is, of course, that I have transferred to you not a thing but a “bundle of rights”, and it is the “bundle of rights” that comprises the property.’ Kevin Gray ‘Property in thin air’ (1991) 50 *Cambridge Law Journal* 252 at 259. The bundle of rights approach is often attributed to Hohfeld. Merrill and Smith explain that, ‘[a]lthough Hohfeld did not adopt the metaphor of a “bundle of rights,” his discussion of how fee simple ownership of land can be broken down into a complex of jural relations directly anticipates the adoption of the bundle-of-rights metaphor favored by the Legal Realists.’ (Footnotes omitted). Thomas W Merrill and Henry E Smith ‘The property/contract interface’ (2001) 10 (4) *Columbia Law Review* 773 at 783.

<sup>15</sup> *Silberberg and Schoeman* (note 12) at 1. See generally Wesley Newcomb Hohfeld *Fundamental legal conceptions: as applied in judicial reasoning* (1919).

<sup>16</sup> See JW Singer and JM Beerman ‘The social origins of property’ (1993) 6 *Can J L & Jurisprudence* 217-248.

<sup>17</sup> See for example Kevin Gray and Susan Francis Gray ‘Private property and public propriety’ in Janet McLean (ed) *Property and the constitution* (1999) and Kevin Gray ‘Property in thin air’ (1991) 50 *Cambridge LJ* 252 at 294 where Gray states that “[p]roperty” is the power-relation constituted by the state’s endorsement of private claims to regulate the access of strangers to the benefits of particular resources.’

<sup>18</sup> Harris *Property and justice* (1996) at 63. See also JE Penner *The idea of property in law* (1997) and Laura S Underkuffler *The idea of property: its meaning and power* (2003).

<sup>19</sup> Harris (note 18) at 13, 26.

<sup>20</sup> See Honoré (note 11) for the standard incidents of ownership.

<sup>21</sup> See for example JE Penner ‘The “bundle of rights” picture of property’ (1996) 43 *UCLA LR* 711 at 713-714.

<sup>22</sup> See § 4.3.1.

A description of a property right, consistent with the subjective rights theory, is that a property right is ‘a right to exclude others from things ... grounded by the interest we have in the use of things.’<sup>23</sup> This right of exclusion, one of the standard incidents of ownership, is a pivotal component of property.<sup>24</sup>

### 2.2.1 Gray’s model of excludability

Excludability<sup>25</sup> has been described as the very ‘propertiness’ of property.<sup>26</sup> Whether or not a resource is excludable will determine whether or not a resource may be propertised. As Gray explains:<sup>27</sup>

a resource can be propertised only if it is – to use ... [an] ugly but effective word – “excludable”. A resource is “excludable” only if it is feasible for a legal person to exercise regulatory control over the access of strangers to the various benefits inherent in the resource.<sup>28</sup>

Gray identifies non-excludable resources as being resources which cannot be privately owned on account of *physical*, *legal* or *moral* restraints. A resource is *physically* non-excludable when ‘it is not possible or reasonably practicable to exclude strangers from access to the benefits of a particular resource in its existing form.’<sup>29</sup> Gray uses the example of the light from a lighthouse: while it is physically possible to exclude others from (or control access to) the

<sup>23</sup> JE Penner *The idea of property in law* (2000) at 71. See also Stephen R Munzer *A theory of property* (1990) at 17.

<sup>24</sup> See for example Penner (note 23) at 71; and Carol Rose ‘The comedy of the commons: custom, commerce, and inherently public property’ (1986) 53:3 *The University of Chicago Law Review* at 711 where she cites William Blackstone’s definition of property (repeated in the text above) as ‘that sole and despotic dominion ... over the external things of the world, in total exclusion of the right of any other individual in the universe’ and *Loretto v Teleprompter Manhattan CATV Corp* 458 US 419, 435 (1982) to the effect that the right to exclude is the most valuable element of property.

<sup>25</sup> It has been argued that the use of the term ‘excludability’ is not ideal – it conjures up images of exclusion during apartheid and it ‘transforms property relations from the use of things into power over people.’ AJ Van der Walt ‘Unity and pluralism in property theory: a review of property theories and debates in recent literature (part 1)’ (1995) 1 *TSAR* at 15 at 31; AJ Van der Walt ‘Dancing with codes: protecting, developing and deconstructing property rights in a constitutional state’ 2001 *SALJ* 258 at 265 cited by Elmarie van der Schyff *The constitutionality of the Mineral and Petroleum Resources Development Act 28 of 2002* (2006) LLD Thesis, North-West University, Potchefstroom. It is nonetheless a useful and effective term that conveys an unambiguous meaning.

<sup>26</sup> Kevin Gray ‘Property in thin air’ (1991) 50 *Cambridge Law Journal* 252-307 and the discussion in AJ van der Walt ‘Unity and pluralism in property theory – a review of property theories and debates in recent literature: part I’ (1995) *TSAR* 15 at 30-31.

<sup>27</sup> Gray (note 26) at 256.

<sup>28</sup> Footnotes omitted. Gray (note 26) at 268.

<sup>29</sup> Gray (note 26) at 269.

lighthouse itself; it is impossible, while the light is switched on, to exclude others from access to the benefits of the light. It is therefore possible to have property in the lighthouse, but not possible to have property in the light.<sup>30</sup> Gray maintains that '[n]o one can claim "property" in a resource in relation to which it is physically unrealistic to control, consistently over prolonged periods, the access of strangers.'<sup>31</sup> In other words, physical excludability requires that the claimant be able to assert physical *control* over access. This raises the question whether it is realistic or practicable to assign intangible property rights such as patents in PGRs.

Because higher life forms can reproduce by themselves, the grant of a patent over a plant, seed or non-human animal covers not only the particular plant, seed or animal sold, but also all its progeny containing the patented invention for all generations until the expiry of the patent term.<sup>32</sup>

The concept of *legally* excluding a resource entails regulating others' access to the resource by appropriate legal means, such as a contractual arrangement or an IP law regime.<sup>33</sup> For example, propertising an invention by registering a patent or protecting (thus propertising) an event from being broadcast by way of contract. Where a party fails, or is unable, to make use of such available mechanisms, then the resource has not been propertised and is thus available for the use and exploitation by anyone.

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<sup>30</sup> By way of case illustration, and indeed central to his analysis, Gray relies on the High Court of Australia's highly influential decision in *Victoria Park Racing and Recreation Grounds Co Ltd v Taylor* (1937) 58 CLR 479. In the *Victoria Park Racing* case the defendant owned property opposite the plaintiff's racecourse. The defendant erected a platform on his property. From the platform it was possible to see the entire racecourse, as well as the display boards, and to hear any announcements made by the organisers. Taylor then arranged for the Commonwealth Broadcasting Corporation, an additional defendant, to broadcast live radio reports on the races. The plaintiff suffered a loss as a result of the broadcasts, which saw punters, who would have otherwise attended the races, rather listening from home, or other comfortable premises, and which inspired an illegal betting industry in Sydney. The plaintiff sought to put an end to the defendants' activities on the basis of copyright and nuisance law. The central issue 'was whether the defendants had taken anything that might be regarded as the plaintiff's "property".' Gray (note 26) at 266. The court was divided on the issue. While a minority was of the view that there had been a misappropriation ('of the profitable enjoyment of the plaintiff's land' Rich J at 501), the majority found that no cause of action existed, essentially, although not explicitly, on the basis that the particular resource under examination was non-excludable for physical, legal and moral reasons. See Gray (note 26) at 269.

<sup>31</sup> Footnotes omitted. Gray (note 26) at 270.

<sup>32</sup> The Canadian Biotechnology Advisory Committee, *Patenting of higher life forms and related issues*, (June 2002) cited at para 165 in *Monsanto Canada Inc v Schmeiser* 2004 SCC 34.

<sup>33</sup> Gray (note 26) at 273.

The third and final restraint on the excludability of property is the notion of public *morality*. As Gray explains:

... there are certain resources which are simply perceived to be so central or intrinsic to constructive human coexistence that it would be severely anti-social that these resources should be removed from the commons. To propertise resources of such social vitality is *contra bonos mores*: the resources in question are non-excludable because it is widely recognised that undesirable or intolerable consequences would flow from allowing any one person or group of persons to control access to the benefits which they confer.<sup>34</sup>

According to Gray, ‘...claims of “property” may sometimes be overridden by the need to attain or further more highly rated social goals ... [t]he goals to which “property” defers often relate to fundamental human freedoms.’<sup>35</sup> The deference of property to such fundamental human freedoms is increasingly visible in South African case law such as the *V & A Waterfront*,<sup>36</sup> the *Nhlabathi*,<sup>37</sup> and the *Qualidental Laboratories*<sup>38</sup> cases.

In the *V & A Waterfront* case the fundamental right to freedom of movement<sup>39</sup> precluded the court from restraining the respondents from entering the property in question, the V & A Waterfront complex in Cape Town.<sup>40</sup>

The *Nhlabathi* case, heard by the Land Claims Court, involved a cultural right embedded in statute, the Extension of Security of Tenure Act.<sup>41</sup> The court

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<sup>34</sup> Gray (note 26) at 280-1.

<sup>35</sup> Gray (note 26) at 281.

<sup>36</sup> *Victoria & Alfred Waterfront (Pty) Ltd and Another v Police Commissioner, Western Cape, and Others (Legal Resources Centre as Amicus Curiae)* 2004 (4) SA 444 (C).

<sup>37</sup> *Nhlabathi & Others v Fick* [2003] 2 All SA 323 (LCC).

<sup>38</sup> *Qualidental Laboratories (Pty) Ltd v Heritage Western Cape and Another* 2007 (4) SA 26 (C).

<sup>39</sup> It was also suggested by the Court (Desai J at para [448]) that, should the applicant also seek to prohibit begging at the Waterfront complex, this would in all likelihood not be entertained as such an order would fall foul of the respondent’s right to life, which encompasses a right to a livelihood.

<sup>40</sup> At most the court was prepared to restrain the respondents from ‘unlawfully causing harm to visitors and businesses situated at the Victoria & Alfred Waterfront...’ and from ‘unlawfully assaulting, intimidating or threatening any employee and/or official of the [Waterfront].’ (At para [452]).

<sup>41</sup> Act 62 of 1997. The Act mandates that an occupier has the right to bury deceased family members on the land where they live if there is an established practice permitting such burials. (See s 6(2)(dA) and the definition of established practice).

confirmed that the first applicant,<sup>42</sup> who, along with the deceased's family lived on the respondent's farm,<sup>43</sup> was entitled to bury the body of his late father on the respondent's farm, notwithstanding the respondent's protestations that the 'appropriation of ... [the deceased's] grave constitutes not only a deprivation of some of the landowner's property rights, but also an expropriation of those rights.'<sup>44</sup> The court reasoned, amongst other things<sup>45</sup> that, '[i]t is a religious or cultural imperative for many occupiers that their ancestors be buried close to where they live. The importance of that imperative would in most cases be sufficient reason to justify the deprivation of some incidents of ownership from the owner of the land'.<sup>46</sup>

In the *Qualidental Laboratories* case, the court was asked to assist the property owner, the applicant, resist the efforts of the respondents who had restrained the property owner, in terms of the provisions of the National Heritage Resources Act,<sup>47</sup> from demolishing a villa with heritage value. Davis J rejected the applicant's argument that the respondents' interpretation of the Act eroded the applicant's ownership rights, finding ultimately that '[ownership] entitlements can only be exercised in accordance with the social function of law and in the interests of the community'.<sup>48</sup>

In the case of patent law, moral excludability is often statutorily defined. For example, s 25(4)(a) of the Patents Act<sup>49</sup> provides that '[a] patent shall not be granted ... for an invention ... which would be generally expected to encourage offensive or immoral behaviour'. Where a patent has been granted, its exploitation should be curtailed by the same normative framework which Gray provides.

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<sup>42</sup> The first applicant was the eldest son born out of the marriage of the deceased. The second applicant was the deceased's widow and the third was also a child of the deceased. The deceased had been living with the applicants on the respondent's farm.

<sup>43</sup> In terms of the definition of an 'occupier' contained in the Extension of Security of Tenure Act.

<sup>44</sup> *Nhlabathi* (note 37) at para [32].

<sup>45</sup> Accepting that in some instances the rights of the owner would outweigh the right of an occupier to a grave.

<sup>46</sup> *Nhlabathi* (note 37) at para [31].

<sup>47</sup> Act 25 of 1999.

<sup>48</sup> *Qualidental Laboratories* (note 38) at 37. The decision was confirmed on appeal in *Qualidental Laboratories (Pty) Ltd v Heritage Western Cape and Another* 2008 (3) SA 160 (SCA).

<sup>49</sup> 57 of 1978.

Although Gray's notion of excludability is workable in respect of both physical and intellectual property, note should still be taken of the fundamental difference between physical and intellectual property.

### 2.3 Differences between physical and intellectual property

Unlike physical property, intellectual property (rights in knowledge or information, or so-called 'abstract objects')<sup>50</sup> cannot be exhausted by use. Physical property is inherently susceptible to being a scarce resource and it derives value from that. Thus, while physical objects may be described as scarce and rivalrous, knowledge and information are not:<sup>51</sup> for example two people cannot use the same hammer at the same time, whereas any number of persons may simultaneously use the knowledge of how to construct a cabinet at the same time.<sup>52</sup>

Intellectual property is knowledge and knowledge is inherently a public good: there is no cost in sharing that knowledge (it is not lost to the first holder) and it is indeed beneficial to do so, as knowledge grows development.<sup>53</sup> Although intellectual property is a public good and can be consumed without reduction,<sup>54</sup> there is an obvious economic reason for the holder of knowledge and information to want to curtail others' ability to simultaneously use such knowledge and information. Hence intellectual property law: to create an artificial scarcity in knowledge and information and allow for the holder of the intellectual property rights to extract a price for the use of the information and knowledge. This creates a potential for the holder of the IP to monopolise a market,<sup>55</sup> which can impede on others' negative liberties, such as the freedom

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<sup>50</sup> Drahos cites an algorithm and the formulae for penicillin and its derivatives as examples of abstract objects. Drahos *A philosophy of intellectual property* (1996) at 1.

<sup>51</sup> Christopher May and Susan K Sell *Intellectual property rights: a critical history* (2006) at 19.

<sup>52</sup> These examples are borrowed from May and Sell (note 51) at 6.

<sup>53</sup> Joseph E Stiglitz 'Towards a pro-development and balanced intellectual property regime' (2004) Keynote address at the Ministerial Conference on Intellectual Property for Least Developed Countries, World Intellectual Property Organisation (WIPO), Seoul, October 25, 2004.

<sup>54</sup> Richard Posner 'Do we have too many intellectual property rights?' (2006) 38 *Intellectual Property Law Review* 639 at 644.

<sup>55</sup> Posner (note 54) at 644.

of others to trade, and hence the extent of its protection must be kept in check.<sup>56</sup> This is achieved by way of limitations.

The first such limitation is the duration of the right: whereas property rights in tangible things generally endure in perpetuity, the granting of patents, for example, is for a limited duration only. In addition to the duration limitation, two further limitations on intellectual property are the so-called scope limitations and the notion of fair use.<sup>57</sup> Scope limitations in patent law include, for example, the requirements for novelty and inventiveness.<sup>58</sup> In addition, the notion of fair use is sometimes used to limit scope. Fair use refers to the range of acceptable 'infringements' of intellectual property rights – for example breach of copyright for personal research.<sup>59</sup>

While the propertisation of IP is broadly reflected on,<sup>60</sup> and sometimes lamented, it is mostly accepted as irreversible, and rather than argue its legitimacy as property, arguments are made for its limitation on the basis of the existing framework for property.<sup>61</sup> In keeping with Gray's notion of excludability, the framework for property should not breach the thresholds of justice.<sup>62</sup>

Those who reflect on the justifications for IP as property generally do so within the framework of the existing justifications for property, as the section below reflects.

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<sup>56</sup> Drahos (note 50) at 30. The underlying rationale for IP protection is not only to reward the holder of the right but rather that such protection should ultimately be of social benefit within the territory that has acknowledged and protected the rights. For example, the idea behind early English patents was that patents would encourage the transfer of technology and valuable trades to England, ultimately promoting the growth of human capital. Drahos (note 50) at 31.

<sup>57</sup> Posner (note 54) at 641.

<sup>58</sup> In the South African context see s 25 of the Patents Act 57 of 1978.

<sup>59</sup> In the South African context see s 12 of the Copyright Act 98 of 1978.

<sup>60</sup> For an overview of the competing perspectives on IP, see P Steidlmeier 'The moral legitimacy of intellectual property claims: American business and developing country perspectives' (1993) 12(2) *Journal of Business Ethics* 157-164.

<sup>61</sup> See for example Micheal A Carrier 'Cabining intellectual property through a property paradigm' (2004) 54 *Duke L J* 52-144.

<sup>62</sup> See Harris (note 18). According to Harris, a minimalist conception of justice has three elements: (1) natural equality (that no one is treated as an inferior human being); (2) autonomous choice (that everyone has choices over some range of actions); and bodily integrity (that unprovoked invasions of bodily integrity are prohibited). Harris at 171-176.

## 2.4 Justifying property: traditional frameworks

Approaches to property develop and evolve in response to pressing social, economic and cultural forces.<sup>63</sup> Underlying property developments in the South African context are the traditional Western justifications for and approaches to property.<sup>64</sup> The first of these may be categorised as the natural rights approach, exalting private property rights as inalienable pre-social rights. The second traditional approach from the West is a utilitarian (conventionalist)<sup>65</sup> approach, which sees property as a social or legal creation. In recent years concerns with inequality and the need for redress have adjusted the focus from the unbridled individual protection of property and a transformative approach to property has begun to evolve.<sup>66</sup> These three approaches are briefly discussed below.

### 2.4.1 A natural rights approach to property and intellectual property

Notwithstanding the differences between the natural rights and utilitarian approaches, Roux indicates that these are not necessarily mutually exclusive: 'they operate dialectically, often appearing in one and the same judgment, in opposing majority and minority judgments or in a line of cases in the waxing and waning of a particular doctrine over time.'<sup>67</sup> While the natural rights approach 'checks' for state interference with property and the conventional approach 'balances' interests, underlying both justifications for property is the notion that state interference with property should be viewed with caution, for the protection of property, which may reward labour and investment, ultimately

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<sup>63</sup> See for example Carole Rose 'Property as the keystone right?' (1995-1996) *Notre Dame Law Review* 71(3) 957-1015. See also Kenneth J Vandevelde 'The new property of the nineteenth century: the development of the modern concept of property' (1980) *Buffalo Law Review* 325-367 at 325 where he traces the transformation of the concept of property from the Revolutionary period to modern times.

<sup>64</sup> Much of this section on the traditional approaches to property was influenced by Roux's thesis (note 65). Roux labels the two dominating approaches in Anglo-American thought as the natural rights approach and the conventionalist approach and he advocates for the use of a third approach which he terms the civil society model. Other approaches identified by Roux include the civic virtue tradition and the personality theory of property.

<sup>65</sup> The term 'conventionalist' is used by Theunis R Roux *Constitutional property rights review in South Africa: a 'civil society' model* (1997) PhD Thesis, University of Cambridge.

<sup>66</sup> Such as Michelman's needs-based theory of minimum welfare explored in AJ van der Walt 'A South African reading of Frank Michelman's theory of social justice (2004) 19 *SAPR/PL* 253-307.

<sup>67</sup> Roux (note 65) at 44.

is for the greater social good – ‘people will trade instead of fight’;<sup>68</sup> and ‘the rising tide will lift all boats’.<sup>69</sup>

It is argued that a natural rights approach<sup>70</sup> is at the root of the modern civil law and common law traditions.<sup>71</sup> Its historical context is the struggle (for individual freedom) against the absolute powers of the monarchy and the feudal system of ownership. An approach embedded in the notion of natural law gives expression to the idea that certain rights – including the right to property – are inalienable natural rights, and are pre-social, abstract universal principles belonging to a higher law that is ‘naturally or automatically inscribed in the conscience of all thinking and feeling people.’<sup>72</sup> This approach is locked into the idea that ‘[p]roperty is the key to all other rights because it is prior to politics, and hence the basis upon which all other civil rights rest.’<sup>73</sup>

The approach, in the civil law tradition, owes much of its credence to the 1789 French Revolution against feudalism and the property practices of the monarchy, and the widely-adopted Napoleonic Code with its ‘bottom-up’<sup>74</sup> approach to property: the idea that property comes before governance; and government interference with property is treated with suspicion and should not be tolerated.<sup>75</sup>

Early theorists contributing to the Anglo-American common law natural rights tradition<sup>76</sup> include Lord Edward Coke,<sup>77</sup> John Locke,<sup>78</sup> and William

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<sup>68</sup> Rose, Carol M ‘The moral subject of property’ Discussion paper (2006) *Social Science Research Network* at 13.

<sup>69</sup> Ibid at 18.

<sup>70</sup> A classic expression of the natural law approach to property rights is contained in Article 43 of the 1937 Constitution of Ireland which provides that ‘[t]he State acknowledges that man, in virtue of his rational being, has the natural right, antecedent to positive law, to the private ownership of external goods.’

<sup>71</sup> Bernard H Siegan *Property rights: from Magna Carta to the fourteenth amendment* (2001) at 51.

<sup>72</sup> Christopher Roederer and Darrel Moellendorf *Jurisprudence* (2004) at 25.

<sup>73</sup> This is what Carole Rose calls the ‘priority argument’ in Carol M Rose ‘Property as the keystone right?’ (1995-1996) 71(3) *Notre Dame Law Review* 329 at 333.

<sup>74</sup> As Rose points out, although ‘narrated as a bottom-up story, first of property and then of governance ... in fact, the *history* of property regimes shows a strong streak of top-down features. From the top-down perspective, the central point of property and commerce is to build national strength and the ability to make war. And in that top-down story, property’s association with liberty is at most accidental.’ Rose (note 73) at 339.

<sup>75</sup> Rose (note 73) at 339.

<sup>76</sup> The Magna Carta (first issued in 1215) is often associated with advancing the natural rights approach. The Magna Carta set limits to the powers of the monarchy and thus laid the foundations for the strong protection of private property rights in common law. Siegan (note 71) at 7.

Blackstone.<sup>79</sup> While Blackstone famously described the right to property as 'that sole or despotic dominion which one man claims and exercises over the external things of the world, in total exclusion of the right of any other individual in the universe',<sup>80</sup> it is Locke's philosophical interventions on property (as labour-desert) and on the limited role of government (to secure individual rights) that are most often invoked to justify the liberal approach property.<sup>81</sup> Locke does however limit labour's gain to the point where there is 'enough and as good left in the common for others'.<sup>82</sup>

In the South African context, a similar 'absoluteness of property' approach was originally sustained, relying not on common law, but on the Roman and Roman-Dutch concept of ownership as *plena in re potestas*.<sup>83</sup> The correctness of this proposition has been challenged on the basis that limitations on ownership and the idea of split ownership were accepted

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<sup>77</sup> Lord Edward Coke (1552-1634) authored a four-volume commentary, embracing the 1225 Magna Carta, on English law titled the *Institutes of the Laws of England* (1600-1615). Siegan (note 71) at 12.

<sup>78</sup> See John Locke's theories (in particular Chapter V, Book II of the *Two treatises of government* (1690)) on the limited role of government and on property and labour embracing the notion that through labouring, one may acquire property, subject to the provisos that enough is left in the commons for others; and that only as much as one can use without it spoiling is taken from the commons. Drahos summarises Locke's core propositions as follows:

- 1 God has given the world to people in common.
- 2 Every person has a property in his own person.
- 3 A person's labour belongs to him.
- 4 Whenever a person mixes his labour with something in the commons he thereby makes it his property.
- 5 The right of property is conditional upon a person leaving in the commons enough and as good for the other commoners.
- 6 A person cannot take more out of the commons than they can use to advantage.

Drahos *A philosophy of intellectual property* (1996) at 43.

<sup>79</sup> William Blackstone (1723-1780) who authored the *Commentaries* (1765-1769) was regarded as a leading interpreter of English Law. Siegan (note 71) at 130. Kennedy's take on the *Commentaries* is that '[t]hey restate as "freedom" what we see as servitude'. Duncan Kennedy 'The structure of Blackstone's Commentaries' (1979) *Buffalo Law Review* 205 at 211.

<sup>80</sup> W Blackstone *Commentaries on the laws of England* (Chicago, University of Chicago Press, facsimile edn. 1979) II, p.2 cited by, inter alia, Kevin Gray and Susan Francis Gray 'Private property and public property' in McLean (ed) *Property and the constitution* (1999) at 12. Blackstone in fact goes on to qualify this statement and express unease about ownership claims. Rose, Carol M 'The moral subject of property' Discussion Paper (2006) *Social Science Research Network*. See also the discussion on Lock in Harris (note 18) at 30.

<sup>81</sup> Locke's writing should be located in its response as an alternative to a view that supports the divine right of the monarchy and their absolute power over the land. See further note 92 below.

<sup>82</sup> John Locke (Thomas I Cook (ed)) *Two treatises of government* (1964) at 134.

<sup>83</sup> See for example Denis V Cowen *New patterns of landownership: the transformation of the concept of ownership as plena in re potestas* (Paper read at the University of the Witwatersrand, Johannesburg, on Thursday 26 April 1984, under the auspices of the Law Students' Council of the University and the Trust Bank of Africa Limited, in the Trust Bank series of continuing legal education lectures.

concepts in Roman and Roman-Dutch law.<sup>84</sup> The source of the South African 'absoluteness' approach is rather accredited to received nineteenth-century Pandectism.<sup>85</sup> As Visser explains, '... the present position in South Africa was enormously strengthened by the fact that Pandectists were read as if they counted amongst our institutional writers. And in the process the notion of the fundamental unrestrictedness of ownership found its way into our law.'<sup>86</sup>

The pandectist concept of ownership, which links property rights to personal freedom and autonomy, was most likely influenced by the paradigm shift in philosophy attendant on the works of Immanuel Kant and reflected, in law, through Savigny<sup>87</sup> 'who is regarded as the creator of the modern civil-law system of private-law rights based on personal autonomy as formulated by Kant'.<sup>88</sup>

In so far as IP and the natural rights approach is concerned, Locke's labour theory<sup>89</sup> embracing the notion that making improvements through labouring should be rewarded, is often invoked and indeed appears well suited to justify intellectual property. Coupled with the notion of reward is the idea that such rights are a necessary incentive to encourage improvements,<sup>90</sup> a concept that finds expression in both Locke's labour's desert<sup>91</sup> argument and in the utilitarian economics approach, discussed below.

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<sup>84</sup> See D P Visser 'The "absoluteness" of ownership: the South African common law in perspective' (1985) *Acta Juridica* 39-52; and Van der Walt 'Ownership and Personal Freedom: Subjectivism in Bernhard Windscheid's theory of ownership' (1993) 56 *THRHR* 569-589.

<sup>85</sup> Visser (note 84) at 39. The pandectist concept of ownership and its influence in property law in South Africa is explored more extensively in Van der Walt (note 84).

<sup>86</sup> Visser (note 84) at 47. In support of his view, Visser points out that Savigny's definition of ownership (as the unrestricted and exclusive domain over an object) is quoted by Wessels J in *Johannesburg City Council v Rand Townships Registrar* 1910 TPD 1314; by Steyn CJ in *Regal v African Superslate (Pty) Ltd* 1963 (1) SA 102 (A); and by Spoelstra AJ in *Gien v Gien* 1979 (2) SA 1113 (T).

<sup>87</sup> Van der Walt (note 84) at 588. See also AJ van der Walt 'Unity and pluralism in property theory – a review of property theories and debates in recent literature: part I' (1995) *TSAR* 15 at 22-3.

<sup>88</sup> AJ van der Walt 'Unity and pluralism in property theory – a review of property theories and debates in recent literature: part I' (1995) *TSAR* 15 at 23.

<sup>89</sup> See note 78.

<sup>90</sup> This argument does not adequately explain impressive innovations and advances in science which have occurred in societies without intellectual property rights or a customary equivalent, such as occurred during the era of imperial China. Drahos (note 78) at 15.

<sup>91</sup> May and Sell (note 51) at 22.

In defending<sup>92</sup> a natural rights approach Locke makes the assumption that 'every Man has a *Property* in his own *Person*'<sup>93</sup> and asserts that through labouring (which entails mixing labour with property), one may acquire property.<sup>94</sup> Notwithstanding theoretical difficulties,<sup>95</sup> Locke's 'mixing metaphor' remains popular for justifying intellectual property, although it is unlikely that Locke had intellectual property in mind at the time of writing.<sup>96</sup>

An approach to property, from the German idealist tradition,<sup>97</sup> which is said to straddle the divide<sup>98</sup> between a natural rights (rights as pre-social) approach and a proportionality (rights as social) approach, is Hegel's<sup>99</sup> personality justification for property, linking the notion of property with the actualization of the self. As Radin explains, 'to achieve proper self-development – to be a *person* – an individual needs some control over resources in the external environment.'<sup>100</sup>

Applying the personality justification to intellectual property generates the result that 'different categories of intellectual property seem to lend themselves to different amounts of "personality." Poetry seems to lend itself to

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<sup>92</sup> Locke is rejecting Robert Filmer's *Patriarcha: or the natural power of kings* (1680) which supports the divine right of the monarchy and their absolute power over the land and thus he confronts the difficulty in overcoming the idea that God gave the earth to 'Mankind in common', hence eschewing individual ownership. Drahos (note 78) at 42.

<sup>93</sup> John Locke *Two treatises of government* (1690) Book II, 27 cited in Drahos (note 78) at 42.

<sup>94</sup> See note 78.

<sup>95</sup> Coval, Smith and Coval point out that Locke does not provide a theory of justification (beyond the idea of ownership of one's body) but merely provides a theory of extension of ownership through the mixing metaphor and even that is unsatisfactory, which Nozick (in *Anarchy, State and Utopia* (1974)) demonstrates by showing the absurdities that may flow from the metaphor. Nozick uses the (silly) example of pouring a can of one's tomato soup into the ocean. On Locke's account, according to Nozick, one would own that part of the ocean throughout which the marked soup molecules have diffused. S Coval, JC Smith and Simon Coval 'The foundations of property and property law' (1986) 45 *Cambridge Law Journal* 457 at 465.

<sup>96</sup> Drahos (note 78) at 47.

<sup>97</sup> Hegel's property theory is embedded in the German Idealist tradition. The personality theory of property, with its origins in German idealism, has had less of an impact on the development of Anglo-American law than the natural rights approach. Roux (note 65) at 9-10. For commentary on Hegel's philosophical system as it relates to property, and intellectual property, see for example J Hughes 'The philosophy of intellectual property' (1988) 77 *Georgetown Law Journal* 287-366; MJ Radin 'Property and personhood' (1982) 34 *Stanford Law Review* 957-1015; chapter 4 'Hegel: the spirit of intellectual property' in Drahos (note 78); and May and Sell (note 51) at 20-21.

<sup>98</sup> Roux (note 65) at 10 (footnote 5).

<sup>99</sup> *Philosophy of right* (T Knox trans. 1942) is the standard English translation of Hegel's *Grundlinien der philosophie des rechts*. Radin (note 97) at 971.

<sup>100</sup> Radin (note 97) at 957. Coval, Smith and Coval approach it slightly differently by justify ownership on 'the necessity of rights of non-interference to the area of free action'. Coval, Smith and Coval (note 95) at 465.

personality better than trade secrets, symphonies better than microchip masks.’<sup>101</sup> Industrially applicable intellectual property, such as patent law, tends to express less personality. Thus, one view is that a labour theory is incomplete, and should be supported by a personality theory.<sup>102</sup>

On the foundations of a natural rights approach, laissez-faire libertarianism has developed, the pivotal notion of which is that ‘the right to private property is in some sense a bulwark of individual freedom against the abuse of state power’.<sup>103</sup> The role of government is to prevent outside interference with existing property rights; the legislature is thus effectively deprived of the ability to redistribute wealth, and the democratic process is stifled.<sup>104</sup> Thus, although the courts generally accept a move away from an ‘absoluteness’ approach,<sup>105</sup> the absoluteness terminology, particularly in its disfavour of state interference, remains in the theoretical background. A similar effect results from the application of a utilitarian approach.

#### 2.4.2 *A utilitarian approach to property and intellectual property*

A utilitarian or conventionalist<sup>106</sup> approach is the ontological opposite to a natural rights approach. Famously, Bentham denounces natural rights as ‘nonsense upon stilts’:<sup>107</sup> rights are legal creations, derived from laws, created by government, and, on entry into civil society, ‘[b]oth the propertied and propertyless agree to this arrangement out of self interest. ... [for] the decision

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<sup>101</sup> Hughes (note 97) at 339.

<sup>102</sup> Hughes (note 97) at 329.

<sup>103</sup> Roux (note 65) at 42.

<sup>104</sup> Roux (note 65) at 10.

<sup>105</sup> See for example *King v Dykes* 1971 (3) SA 540 (RA) where it was stated in the Rhodesian Appellate Division that:

‘[t]he idea which prevailed in the past that ownership of land conferred the right on the owner to use his land as he pleased is rapidly giving way in the modern world to the more responsible conception that an owner must not use his land in a way which may prejudice his neighbours or the community in which he lives, and that he holds his land in trust for future generations. Legislation dealing with such matters as town and country planning, the conservation of natural resources, and the prevention of pollution, and regulations designed to ensure that proper farming practices are followed, all bear eloquent testimony of the existence of this more civilised and enlightened attitude toward the rights conferred by ownership of land.’ (545G-H).

<sup>106</sup> This is the term used by Roux to express the approach espoused by, among others, Hume and Bentham.

<sup>107</sup> Bentham (1748-1832) ‘Anarchical fallacies’ in Jeremy Waldron (ed) *‘Nonsense upon stilts’: Bentham, Burke and Marx on the rights of man* (1987) 46 at 53 cited by Roux (note 65) at 24.

to secure settled expectations is not just an advantageous arrangement at the time of its making, but also, if maintained, a way of maximising overall welfare in the long run.<sup>108</sup>

As Demsetz explains, '[i]n the world of Robinson Crusoe property rights play no role. Property rights are an instrument of society and derive their significance from the fact that they help a man form those expectations which he can reasonably hold in his dealings with others. These expectations find expression in the laws, customs, and mores of a society.'<sup>109</sup>

The essence of utilitarianism, as promoted by Bentham and John Stuart Mill, is the positivist conception that legal rights are man-made and should 'maximize the *aggregate* balance of pleasure over pain.'<sup>110</sup> Utilitarianism is described as a theory of democracy which recognises that everyone's preferences should be considered in the determination of the social good; and that the majority preferences (the majority's pleasure), which is measured qualitatively, should be pursued at the expense of the minority (the minority's pain).<sup>111</sup>

Building on utilitarian theory, utilitarian economics recognises that material resources, among other things, are important in the pursuit of happiness but that such resources are scarce. Policy and law are thus required to be *efficient* with regard to the allocation of resources; and, in economic parlance, the institutions of property and contract provide such efficiency.<sup>112</sup> The approach is concerned with ... 'providing for the *economic* well being of society.'<sup>113</sup> Maximising society's wealth (defined as 'the sum of all tangible

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<sup>108</sup> Roux (note 65) at 42.

<sup>109</sup> Harold Demsetz 'Toward a theory of property rights' 1967 *American Economic Review* at 347.

<sup>110</sup> Roederer (note 72) at 190.

<sup>111</sup> Roederer (note 72) at 187-91.

<sup>112</sup> The idea is that respect and protection for the institutions of property and contract leads to economic efficiency. For a critique of the 'efficiency' argument see Duncan Kennedy and Frank Michelman 'Are property and contract efficient?' (1980) *Hofstra L Rev* 711-70.

<sup>113</sup> RL Heilbroner *The making of economic society* 3<sup>rd</sup> ed (1993) quoted in Hunter, Ingleby and Johnstone (eds) *Thinking about law: perspectives on the history, philosophy and sociology of law* (1995) at 62. (Emphasis added).

and intangible ... goods and services...')<sup>114</sup> (wealth maximization), even at the expense of a minority, is the guiding principle for legal choices. Economists operate on the assumptions that individuals behave in a rational manner to promote their self-interest<sup>115</sup> and that property and contract (free markets) are economically efficient institutions to achieve the collective interest.<sup>116</sup> Laws that impede on the institutions of contract and property create a barrier to economic efficiency.

Although intellectual property is inefficient (it hampers free competition in order to stimulate incentives),<sup>117</sup> it has a utilitarian justification as its ultimate gain is the maximisation of society's wealth. The problem lies in trying to balance incentives against the cost of exclusion and the movement concedes that 'no one knows whether the current scope of patent protection is optimal'.<sup>118</sup>

While the law and economics approach may be better geared to achieving balance than a natural rights approach, a legislature or judiciary adhering to this approach is still ultimately focused on maximising economic welfare, with the underlying assumption that, in the long run, strong property rights protection will promote the aggregate welfare.<sup>119</sup> Thus, notwithstanding its

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<sup>114</sup> Richard A Posner 'The Justice of Economics' *Economia delle scelte pubbliche*, (1987) 1 at 15, republished in Richard A Posner *The economic structure of the law* (Edited by Francesco Parisi) (2000) at 129.

<sup>115</sup> Critics of the prevailing economic theory argue that human rationality is a mistaken assumption as people are often guided by non-economic and 'irrational' motivations. Saliem Fakir 'Understanding humans is key to economics: crisis exposed the fallacy of rational behaviour' *Cape Times* December 15, 2009, citing, among others, George Akerlof and Robert Schilled *Animal spirits: how human psychology drives the economy and why it matters for global capitalism* (2009).

<sup>116</sup> Hunter (note 113) at 64. As mentioned above, Kennedy and Michelman (note 112) critique the efficiency argument.

<sup>117</sup> Joseph E Stiglitz 'Towards a pro-development and balanced intellectual property regime' (2004) Keynote address at the Ministerial Conference on Intellectual Property for Least Developed Countries, World Intellectual Property Organisation (WIPO), Seoul, October 25, 2004.

<sup>118</sup> Richard A Posner 'Intellectual property: the law and economics approach' (2005) 19 *Journal of Economic Perspectives* 57 at 69. Extended lengths of copyright protection, the use of contract by the owners, as well as alternative methods for covering the fixed costs of innovation (such as public financing rather than propertisation) are all issues that the law and economics movement is currently focused on Posner at 57.

<sup>119</sup> Roux (note 65) at 44. Responses to the inequality of unbridled utilitarianism include Rawl's *Theory of justice* (1999).

element of proportionality,<sup>120</sup> bounded as it is by the pursuit of wealth maximization by individuals seeking to promote their self-interest in free markets, utilitarian economics is unlikely to satisfy the level of transformation and equality prescribed by the South African Constitution.<sup>121</sup> The Constitution requires more than a mere utilitarian balancing of rights, as Sachs J has reiterated:

[I]n a society founded on human dignity, equality and freedom it cannot be presupposed that the greatest good for the many can be achieved at the cost of intolerable hardship for the few, particularly if by a reasonable application of judicial and administrative statecraft such human distress could be avoided.<sup>122</sup>

Such 'judicial and administrative statecraft' might be learnt from a study of modern developments and contemporary views on property. Roux, for example, has suggested, in the South African context, an indigenous constitutional solution in which civil society,<sup>123</sup> representing all its members' interests, would participate in the negotiation of social reform legislation.<sup>124</sup>

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<sup>120</sup> Roux (note 65) at 166 (note 16) cites Lourens du Plessis and JR de Ville 'Bill of rights interpretation in the South African context (1) diagnostic observations' (1993) 4 *Stellenbosch Law Review* 63-87; Du Plessis and De Ville 'Bill of rights interpretation in the South African context (2) prognostic observations' (1993) 4 *Stellenbosch Law Review* 199-218; and Du Plessis and De Ville 'Bill of rights interpretation in the South African context (3): comparative perspectives and future prospects' (1993) 4 *Stellenbosch Law Review* 346-393.

<sup>121</sup> AJ van der Walt 'Ownership and eviction: constitutional rights in private law' (2005) 9 *Edinburgh Law Review* 32 at 48 and see generally also AJ van der Walt 'Property theory and the transformation of property law' in Elizabeth Cooke (ed) *Modern studies in property law* (2005) 661-680.

<sup>122</sup> *Port Elizabeth Municipality v Various Occupiers* 2005 (1) SA 217 (CC) at para [29].

<sup>123</sup> Roux (note 65) discusses the natural rights and, what he calls, the conventionalist approaches and advocates rather a civil society model. The term 'civil society', and its relevance in the South African context, is discussed by Roux at 178-89. As an example of a civil society policy-formulation body, Roux, at 189, cites the National Economic Development and Labour Council (NEDLAC). At NEDLAC, Government comes together (in the spirit of 'social dialogue') with organised business, organised labour and organised community groupings on a national level to discuss and try to reach consensus on issues of social and economic policy. See [www.nedlac.org.za](http://www.nedlac.org.za). Other approaches identified by Roux include the personality theory of property (where he refers to the English Philosopher TH Green whose work was influenced by Hegel); and the civic virtue tradition (where he refers to the work of James Harrington, Margeret Radin and Carol Rose).

<sup>124</sup> According to Roux; '[t]he difference between the civil society model and the Checking [natural rights approach] and Balancing [utilitarian approach] Models amounts to the role which would be ascribed to the Constitutional Court in assessing where the line between compensatable and non-compensatable takings should fall. When operating either of the latter models, courts in the United States and Commonwealth Africa have tended to become preoccupied with a linguistic search for the essence of property. If the state invades this assumed essence, full compensation is paid, if not,

## 2.5 Transformation, property and the South African Constitution

### 2.5.1 Transformative ways of thinking about property

Traditionally property is viewed as a negative right requiring a public / private divide that ill-suits these approaches for the social reform task.<sup>125</sup> Tushnet explains that:

[t]he language of negative rights supports a sharp distinction between the threatening public sphere and the comforting private ones. ... [However] the predominance of negative rights creates an ideological barrier to the extension of positive rights in our culture.<sup>126</sup>

Criticism of the traditional, unitary, approaches to property has gained momentum over time with arguments for greater plurality in property thought to accommodate radical changes that have occurred in the social, economic and political context.<sup>127</sup> Some of the changes include the shift in ownership of resources predominantly by individuals and families to ownership by corporate entities (often MNCs),<sup>128</sup> the move toward dephysicalised property,<sup>129</sup>

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individuals affected by the legislation under review have no recourse to compensation at all. The dividing line between compensatable and non-compensatable takings is accordingly often very arbitrary, leading to injustice. In terms of the ... [civil society] model ... by contrast, the true cost of social reform policies would be assessed by organisations in civil society in the course of striking the relevant social compact. The model would thus produce both a fairer and more efficient result than either of the two Anglo-American models.' Roux (note 65) at 194. Footnotes omitted. Implementing this approach would require the property clause in the Constitution to be amended. Roux has drafted a civil society model clause at 195-196. He acknowledges however that '[o]nly a very courageous Parliament would adopt a property clause of this sort, representing as it does a clean break with comparative constitutional law.' (Roux at 200).

<sup>125</sup> Prioritising positive rights (such as socio-economic rights) requires a blurring of this distinction. Mark Tushnet 'An essay of rights' (1984) 62 *Texas Law Review* 1363 at 1392.

<sup>126</sup> Mark Tushnet (note 126) at 1392-3.

<sup>127</sup> This happened after World War II. AJ van der Walt 'Unity and pluralism in property theory – a review of property theories and debates in recent literature: part I' 1995 *TSAR* 15 at 24.

<sup>128</sup> Hence the idea of developing individual freedom and autonomy through property is outdated. Van der Walt (note 127) at 26. It should also be noted that in international human rights law, a distinction is made between a natural person and a legal entity in so far as the protection of aspects of intellectual property as human rights is concerned. The point is made that '[u]nder the existing international treaty protection regimes, legal entities are included among the holders of intellectual property rights. However ... their entitlements, because of their different nature, are not protected at the level of human rights.' (Footnotes omitted). Committee on Economic, Social and Cultural Rights 'General Comment No 17' (2005) E/C 12/GC/17 12 January 2006 para 7, which refers to the Committee on Economic, Social and Cultural Rights, twenty-seventh session (2001) 'Human Rights and Intellectual Property' Statement by the Committee on Economic, Social and Cultural Rights, 29 November 2001, E/C 12/2001/15 at para 6.

<sup>129</sup> Important contributions in this regard include Reich 'The new property' (1964) *Yale Law Journal* 733-787 and Vandervelde 'The new property of the nineteenth century: the development of the modern concept of property' (1980) *Buffalo Law Review* 325.

including welfare rights,<sup>130</sup> the increasingly entrenched framework for socio-economic rights,<sup>131</sup> and the post-colonial context of many developing countries.

For critical theorists, the fundamental contradiction in the democratic state<sup>132</sup> ('that relations with others are both necessary to and incompatible with our freedom')<sup>133</sup> results in an overly protective approach to property as a negative right which perpetuates the imbalance (the *status quo*) favouring those who already have power and access to resources.<sup>134</sup> To protect individual liberties, a decisive divide between the private and public domains is maintained, the boundary is property, and the protection of private rights will mostly prevail in the face of public demand. The rhetoric is one of 'tolerating inroads' rather than 'democratic accountability'.<sup>135</sup>

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<sup>130</sup> Van der Walt (note 127) at 24-25. These developments, for some, signify the fragmentation, disintegration and the collapse of the institutions of property and should be checked. Grey 'The disintegration of property' in Pennock and Chapman *Property* (NOMOS XXII) (1980) 69-85 and Brudner 'The unity of property law' (1991) *Canadian Journal of Law and Jurisprudence* 3-66 cited by Van der Walt (note 127).

<sup>131</sup> From an international perspective, see for example, within the UN structure, documentation from the Office of the High Commissioner for Human Rights (OHCHR), the Human Rights Council (a body of the General Assembly), the Human Rights Committee and the Committee on Economic, Social and Cultural Rights. The Human Rights Committee monitors ICCPR compliance of member states; and the Committee on Economic, Social and Cultural Rights monitors ICESCR compliance of member states. These committees publish authoritative 'General Comments' on their interpretations of the substantive content of the human rights provisions in the respective treaties. In addition, the Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights (the Limburg Principles) UN doc E/CN/4/1987/17, Annex and (1987) 9 *Human Rights Quarterly* 122-135 and the Maastricht Guidelines on Violations of Economic Social and Cultural Rights, (1998) 20 *Human Rights Quarterly* 691-704 add significant weight to the jurisprudence of human rights. Relevant provisions in human rights law are discussed in chapter 5.

<sup>132</sup> Tushnet explains that '[i]n our culture, the fear of being crushed by others so dominates the desire for sociality that our body of rights consists largely of negative ones.' Tushnet (note 126) at 1392.

<sup>133</sup> Duncan Kennedy 'The structure of Blackstone's Commentaries' (1979) *Buffalo Law Review* 205 at 213. In other words our need for incorporation, and our fear of domination. Kennedy at 354. See also FI Michelman 'Possession vs distribution in the constitutional idea of property' (1987) 72 *Iowa Law Review* 1319-1350. Liberalist thinking overcomes the contradiction through its belief in rights and the mechanisms (such as abstract categorisation, formalism or balancing) to mediate or deny the contradiction. Van der Walt (note 127) at 37-38. See also Jennifer Nedelsky 'Should property be constitutionalized? A relational and comparative approach' in GE van Maanen and AJ van der Walt (eds) *Property on the threshold of the 21<sup>st</sup> century* (1996) 417 at 428 where she talks of the prevailing concern about the threat of the collective (democracy) to the individual.

<sup>134</sup> This is particularly true in contexts such as South Africa where apartheid racialised the divide between a minority who were empowered by the imposed social and legal system, and a majority who were stripped of any means of empowerment.

<sup>135</sup> On the 'dialogue of democratic accountability' see Nedelsky (note 133) at 428-32.

On a liberal construction, rights and interests need to be ‘balanced’ and often individual rights trump collective need. Tushnet discusses the difficulty of balancing, which requires a reduction of rights to measurable values, in the absence of a substantive theory of rights<sup>136</sup> and the ‘extremely complex consequences that reach far beyond the narrow setting of most cases.’<sup>137</sup> The case study in chapter 3 illustrates such consequences.

In the critical line of thinking,<sup>138</sup> the tension between democracy and security and stability is ‘recast in ways that do not require mythologizing either rights or the mechanisms that enforce them’.<sup>139</sup> In some arguments, the framework is inverted ‘to see the public sphere as comforting and the private one as threatening.’<sup>140</sup>

Nedelsky’s approach conceptualises rights as relationships and suggests that the liberal notion of ‘rights as trumps’ and rights as being limits to democracy should be replaced by a dialogue of democratic accountability. Property should be accountable to equality, dignity and autonomy and not the reverse.

This approach shifts the focus from protection against others to structuring relationships so that they foster autonomy. Some of the most basic presuppositions about autonomy shift: dependence is no longer the antithesis of autonomy, but a precondition in the relationships ... which provide the security, education, nurturing, and support that make the development of autonomy possible. ... The whole conception of the relation between the individual and the collective shifts: we recognize that the collective is a source of autonomy as well as a threat to it.<sup>141</sup>

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<sup>136</sup> There is however much activity in the development of a human rights framework, both at an international (see note 131) and a national level. See the discussion on human rights in chapter 5.

<sup>137</sup> Tushnet (note 126) at 1372.

<sup>138</sup> The critical theory line of thinking has continued in the work of pragmatists and poststructuralists such as Radin, Michelman, Underkuffler and Nedelsky. Van der Walt (note 127) at 39-40. See generally Radin and Michelman ‘Pragmatism and poststructuralist legal practice’ (1993) *University of Pennsylvania Law Review* 1019.

<sup>139</sup> Nedelsky (note 133) at 431.

<sup>140</sup> Tushnet (note 126) at 1392.

<sup>141</sup> Nedelsky (note 133) at 429.

Viewing rights as relationships (see also the African idea of Ubuntu below)<sup>142</sup> opens up the possibility for a dialogue of democratic accountability, which requires ‘a mechanism, an institutionalized process, of articulating basic values – particularly those that are not derivative from democracy – which is itself consistent with democracy. And we need ways of continually asking whether our institutions of democratic decision-making are generating outcomes consistent with those values’.<sup>143</sup>

This approach, which requires meaningful engagement with civil society on issues of property and property’s impact on basic values, is reflected in the Constitutional Court decision in *Occupiers of 51 Olivia Road, Berea Township, and 197 Main Street, Johannesburg v City of Johannesburg and Others*<sup>144</sup> where the court rejected the argument that it is impractical to expect meaningful engagement in the case of around 67 000 people living in the inner city of Johannesburg in unsafe and unhealthy buildings in relation to whom ejection orders would have to be issued. The Constitutional Court was of the view that ejection orders should not be granted in the absence of meaningful engagement.

Another useful theoretical tool that might assist in the South African context is Michelman’s conceptualisation of property in a distributory rather than a possessive sense.<sup>145</sup> The prevailing conception of property is possessive:<sup>146</sup> property is the mechanism for constraining democracy – it is the paradigm demarcating the sphere of private rights – and thus the rhetoric is one of tolerating regulatory inroads and of compensation for regulatory takings.

Michelman points out a possible consequence of such an approach being that ‘in certain, general circumstances, prominently including the large-scale

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<sup>142</sup> Ubuntu encapsulates the notion of interdependence; that ‘a person is a person through other persons’, which should give some idea as to how relationships should be conducted. Dr Patrick ‘The gift of Ubuntu is a beacon for our times’ *Cape Times* March 30, 2009. See also § 2.5.3.

<sup>143</sup> Nedelsky (note 133) at 430.

<sup>144</sup> 2008 (3) SA 208 (CC). On the issue of meaningful engagement, the Court refers to its previous decisions in *Government of the Republic of South Africa and Others v Grootboom and Others* 2001 (1) SA 46 (CC) and *Port Elizabeth Municipality v Various Occupiers* 2005 (1) SA 217 (CC).

<sup>145</sup> FI Michelman ‘Possession vs distribution in the constitutional idea of property’ (1987) 72 *Iowa Law Review* 1319-1350.

<sup>146</sup> Michelman illustrates that the distributive side of property was there at the origin and in the historic vision of the US Constitution but that it has been recessive in legal discourse.

capitalistic, industrial organisation that had come to prevail in American society, a regime of highly abstract, firmly anti-distributive property rights *might* ... itself constitute undemocratic relationships of power and subjection.<sup>147</sup> Michelman's response to this purely exclusionary strategy is to invoke an inclusionary strategy (which he suggests is combinable with an exclusionary strategy) embracing a distributive norm for property that enables the distribution of 'whatever property in whatever form is considered minimally prerequisite to political competence.'<sup>148</sup> The recent Constitutional Court decision in *Residents, Joe Slovo Community, Western Cape v Thubelisha Homes and Others*<sup>149</sup> demonstrates both a possessive and distributive sense of property. In this case, although the applicants were unlawful occupiers which the respondents (which included the Minister of Housing) were lawfully entitled to evict, the order of the court required that alternative accommodation must be offered to the people evicted, and that meaningful engagement of the timing of the evictions must take place. The respondents could thus not exercise their possessive rights (right of eviction) without attending to the distributive rights (adequate housing) of the applicants.

A useful and practical method for adjudicating conflict between public interest and private rights is suggested by Underkuffler.<sup>150</sup> Underkuffler conceptualises both a common and an operative conception of property where there are competing demands for the property. When the values underlying the competing demands are different, individual protection (the common conception) remains intact. To unleash the operative conception the core values underlying the public claims must be similar to those of the competing individual. Underkuffler's method is analysed further in chapter 7.

In thinking transformatively about intellectual property<sup>151</sup> specifically, consideration should be given to the nature of that which is being owned and

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<sup>147</sup> Michelman (note 145) at 1335.

<sup>148</sup> Michelman (note 145) at 1330.

<sup>149</sup> [2009] ZACC 16.

<sup>150</sup> Laura S Underkuffler *The idea of property: its meaning and power* (2003).

<sup>151</sup> The current trends toward patenting almost anything have been described as being libertarian in nature: the central idea being that one's labour must be rewarded. See Gold 'The reach of patent law and institutional competence' (2004) 1 *University of Ottawa Law and Technology Journal* 263-284.

how these rights of possession are being exercised.<sup>152</sup> Using a critical approach, Drahos and Braithwaite argue for a democratic property rights approach which requires that the following conditions be met:

- (1) all relevant interests must be represented in the negotiation of the property rights;
- (2) all involved in the negotiation must have full information about the consequences of various possible outcomes; and
- (3) one party must not coerce the others.<sup>153</sup>

These conditions of representation, information and non-domination are paid lip service in the current global intellectual property regime dominated as it is by industry pressure.<sup>154</sup> Policy design, in the neoliberal conception, broadly takes place “from above”, avoiding compromise with interest groups and using democratic institutions to legitimate a preset reform agenda.<sup>155</sup> A different policy design is envisaged by the Constitution.<sup>156</sup>

### 2.5.2 *The South African Constitution*

There was much debate in South Africa about whether or not property should be included in the Constitution. Ultimately a compromise property clause (reached through ‘consensus by fatigue’),<sup>157</sup> that is not unambiguously negative in nature, was agreed to.<sup>158</sup> The core provisions of s 25 of the final Constitution provide that:

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<sup>152</sup> Rosemary J Coombe ‘Critical cultural legal studies’ (1998) *Yale Journal of Law & the Humanities* 463 at 470.

<sup>153</sup> Drahos with Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) at 190.

<sup>154</sup> *Ibid.*

<sup>155</sup> Bruce G Carruthers and Laura Ariovich ‘The sociology of property rights’ (2004) *Annu Rev Sociol* 23-46 at 37 (references omitted).

<sup>156</sup> See also § 7.3.7 on public participation.

<sup>157</sup> AJ van der Walt in Janet McLean (ed) *Property and the constitution* (1999) at 112, note 18 where he cites M Chaskalson ‘Stumbling towards section 28: negotiations over the protection of property rights in the interim Constitution’ (1995) 11 *SAJHR* 222-240.

<sup>158</sup> ‘The desire to exclude property rights from a bill of rights comes from a legitimate apprehension that property rights will operate to upset many desirable types of legislation aimed at achieving social stability in South Africa during the next decade.’ John Murphy ‘The ambiguous nature of property rights’ (1993) 18 (2) *Journal for Juridical Science* 35 at 38. On the arguments around a Constitutional right to property in the South African context, and on the differences between s 28 of the interim Constitution and s 25 of the final Constitution see, *inter alia*, Matthew Chaskalson ‘The problem with property: thoughts on the constitutional protection of property in the United States and the Commonwealth’ (1993) 9 *SAJHR* 388-411; Carole Lewis ‘The right to private property in a new political dispensation in South Africa’ (1992) 8 *SAJHR* 389-430; and see

- (1) No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property.
- (2) Property may be expropriated only in terms of law of general application -
  - (a) for a public purpose or in the public interest; and
  - (b) subject to compensation ...
- ...
- (4) For the purposes of this section -
  - (a) the public interest includes the nation's commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources; and
  - (b) property is not limited to land.
- ...
- (8) No provision of this section may impede the state from taking legislative and other measures to achieve land, water and related reform, in order to redress the results of past racial discrimination, provided that any departure from the provisions of this section is in accordance with the provisions of section 36(1).

The prevailing view is that the inclusion of a property clause places the law of property within the reformist framework of the Constitution.<sup>159</sup> Property rights rank alongside a range of other protected rights and, in the event of a conflict of rights, property rights must be interpreted in a manner (or recognised to an extent) that does not create an obstacle to social reform.<sup>160</sup>

Section 25 specifically indicates that property is not limited to land<sup>161</sup> and provides that deprivation (without compensation) and expropriation (with compensation) of property may only occur by law of general application.<sup>162</sup> Deprivation may not be arbitrary and expropriation must be for a public

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generally AJ van der Walt *Constitutional property law* (2005) 1-3 and in particular the sources cited at 2 (notes 5 – 9).

<sup>159</sup> François du Bois (ed) *Wille's principles of South African law* (2007) at 406.

<sup>160</sup> Murphy (note 158) at 35.

<sup>161</sup> Section 25(4)(b).

<sup>162</sup> For a discussion on deprivation and expropriation of property in the South African context see § 4.3.3 below.

purpose or in the public interest. Public interest includes reform to bring about equitable access to South Africa's natural resources.<sup>163</sup>

The impact of the Constitution on private law institutions is one of the most complicated and controversial debates being addressed in legal theory in South Africa today.<sup>164</sup> The notion of 'transformative constitutionalism'<sup>165</sup> is, for many,<sup>166</sup> central to that debate.

Although there is a tension between arguments for retaining the stability and integrity of existing law,<sup>167</sup> and the need for a paradigm shift<sup>168</sup> to achieve the social reform imperatives of the constitution, there is at least widespread recognition that the social function of property is 'significantly more emphasised than in the immediate past.'<sup>169</sup> As Davis J, in the Cape High

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<sup>163</sup> Section 25(4)(a).

<sup>164</sup> AJ Van der Walt 'Transformative constitutionalism and the development of South African property law (part 1)' (2005) 4 *TSAR* at 655.

<sup>165</sup> In a seminal article, Klare uses the term transformative constitutionalism to describe 'a long-term project of constitutional enactment, interpretation, and enforcement committed ... to transforming a country's political and social institutions and power relationships in a democratic, participatory, and egalitarian direction.' Klare 'Legal culture and transformative constitutionalism' 1998 *SAJHR* 146 at 150.

<sup>166</sup> See for example AJ Van der Walt 'Transformative constitutionalism and the development of South African property law (part 1) (2005) 4 *TSAR* 655-689 and AJ Van der Walt 'Transformative constitutionalism and the development of South African property law (part 2) (2006) 1 *TSAR* 1 – 31. Van der Walt (part 1; note 5) lists, among many others, the following South African publications inspired by Klare's idea of transformative constitutionalism: Botha 'Metaphoric reasoning and transformative constitutionalism' 2002 *TSAR* 616-627; 2003 *TSAR* 20-36; Moseneke 'The fourth Bram Fischer memorial lecture: transformative adjudication' 2002 *SAJHR* 309-319; and Botha 'Freedom and constraint in constitutional adjudication' 2004 *SAJHR* 249-283. See also Marius Pieterse 'What do we mean when we talk about transformative constitutionalism?' (2005) 20 *SAPR/PL* 155.

<sup>167</sup> Proponents of a more conservative approach advocate change by 'interstitial' (case-by-case) development. Van der Walt 'Transformative constitutionalism and the development of South African property law (part 1)' (2005) 4 *TSAR* at 659. In favour of this approach, Van der Walt cites: Van Aswegen 'Policy considerations in the law of delict' 1993 *THRHR* 171-196; Lubbe 'Taking fundamental rights seriously: the bill of rights and its implications for the development of contract law' 2004 *SALJ* 395-423 and, for a critique of the interstitial approach, Botha 'Freedom and constraint in constitutional adjudication' (note 166).

<sup>168</sup> There is acceptance from the Constitutional Court for the need for a paradigm shift generally attendant on the Constitution:

'In some countries the Constitution only formalizes, in a legal instrument, a historical consensus of values and aspirations evolved incrementally from a stable and unbroken past to accommodate the needs of the future. The South African Constitution is different: it retains from the past only what is defensible and represents a decisive break from and ringing rejection of, that part of the past which is disgracefully racist, authoritarian, insular and repressive, and a vigorous identification of and commitment to a democratic, universalistic, caring and aspirationally egalitarian ethos expressly articulated in the Constitution. The contrast between the past and what it repudiates and the future to which it seeks to commit the nation is stark and dramatic.' *S v Makwanyane* 1995 (3) SA 391 (CC) para [262].

<sup>169</sup> *Wille's principles of South African law* (note 159) at 406.

Court, argues in *Qualidental Laboratories (Pty) Ltd v Heritage Western Cape and Another*.<sup>170</sup>

... ownership in South Africa can no longer be characterised as an absolute and individualistic right without any qualification attached thereto. Absolute ownership effectively means that the owner can do 'what he (or she) wants' within the bounds of law; that is to say, he or she has an absolute and unlimited control over the property by using it as he or she sees fit. This individualistic concept of ownership is ostensibly found in the fact that the owner's right is enforceable against the whole world and therefore includes exclusive entitlements in respect of the disposition and enjoyment of such property.

However, in our constitutional democracy an increased emphasis has been placed upon the characteristic of ownership that *entitlements can only be exercised in accordance with the social function of law and in the interests of the community*. Inherent responsibilities of ownership towards the community in the exercise of entitlements have been increasingly emphasised. A balance must be struck between the protection of ownership and the exercise of entitlements of the owner regarding third parties on the one hand, and the obligations of the owner to the community on the other.<sup>171</sup>

Although the concepts of balancing and proportionality are routinely employed by the courts,<sup>172</sup> and are indeed required by the Constitution's limitation of rights clause,<sup>173</sup> the Constitutional notion of proportionality and balancing, unlike the utilitarian notion, is not restrained by the principle of wealth maximisation. In the South African context, the right to property is considered alongside the gamut of other protected rights,<sup>174</sup> for example:

the constitutional right to environment is on a par with the rights to freedom of trade, occupation, profession and property entrenched in ss 22 and 25 of the Constitution. In any dealings with the physical

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<sup>170</sup> 2007 (4) SA 26 (C).

<sup>171</sup> Ibid at 37. (Emphasis added).

<sup>172</sup> See also, for example, in *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others* 2007 (6) SA 4 (CC), para [93], it is said that:

'[o]ur Constitution ... requires those who enforce and implement the Constitution to find a balance between potentially conflicting principles. It is founded on the notion of proportionality which enables this balance to be achieved.'

<sup>173</sup> Section 36, the limitation of rights clause, is set out in annexure A.

<sup>174</sup> See the Bill of Rights, extracts of which are set out in annexure A.

expressions of property, land and freedom to trade, the environmental rights requirements should be part and parcel of the factors to be considered without any *a priori* grading of the rights. It will require a balancing of rights where competing interests and norms are concerned.<sup>175</sup>

It has also been said that South Africa's 'constitutional property right is nothing like a classical liberal property right. Plainly, they contemplate that the state may engage in a significant measure of wealth redistribution, which contradicts the classical liberal understanding of rights.'<sup>176</sup>

What this means in practice, in particular in so far as private disputes are concerned, is not entirely clear. Over time, and in an attempt to reconcile the constitution and common law, three discourses have emerged on how to adjudicate on the impact of the Constitution on the existing principles of common law.<sup>177</sup> The first is a 'weak application' argument in which it is argued that by simply removing apartheid laws, the private law system, with its own value system and internal logic, would produce the results required by the Constitution.<sup>178</sup> With this approach, changes to the common law would be interstitial and certainty and stability would be maintained.<sup>179</sup> A criticism of the approach is that it is likely to entrench the existing order and resist change.<sup>180</sup> The second, a 'stronger application' argument, requires a more direct effect on private law by developing private law through the mechanism of horizontal application of the fundamental rights in the constitution.<sup>181</sup> A direct horizontality approach under the interim Constitution<sup>182</sup> was explored by the courts and rejected, in *Du Plessis v De Klerk*,<sup>183</sup> in favour of an indirect

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<sup>175</sup> *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs* 2004 (5) SA 124 (W) at page 143.

<sup>176</sup> Gregory Alexander 'The potential of the right to property in achieving social transformation in South Africa' (2007) (8) 2 *ESR Review* 2-9 at 8.

<sup>177</sup> Van der Walt (note 164).

<sup>178</sup> Van der Walt (note 164) at 660.

<sup>179</sup> Van der Walt (note 164) at 669.

<sup>180</sup> Van der Walt (note 164) at 669. This criticism is supported by a consideration of the effect of, *inter alia*, the Supreme Court of Appeal decisions in *Brisley v Drotosky* (2002) 4 SA 1 (SCA) and *Afrox Health Care Bpk v Strydom* (2002) 6 SA 21 (SCA) in respect of contract law. In this regard see also Gerhard Lubbe 'Taking fundamental rights seriously: the Bill of Rights and its implications for the development of contract law' 2004 *SALJ* 395-423.

<sup>181</sup> Van der Walt (note 164) at 661.

<sup>182</sup> Section 7 of Act 200 of 1993.

<sup>183</sup> (1996) (3) SA 850 (CC).

approach.<sup>184</sup> The final Constitution is more instructive that the fundamental rights provisions do apply horizontally.<sup>185</sup> How to implement this in practice has been the subject of much debate in and outside the courtroom. In some cases the horizontality approach has led to conservative decisions, with judges generally unhappy to alter the *status quo* unless there is clear direction from the legislature.<sup>186</sup> More progressive outcomes are likely to emanate from the third approach, which uses the discourse of the state's duty to protect fundamental rights.<sup>187</sup> A duty to protect approach<sup>188</sup> allows for decision-making that closes the gap between the common law, where the state's obligations to protect are fewer and the Constitution which imposes a duty upon the state to protect fundamental rights.<sup>189</sup>

Where the granting and deployment of intellectual property rights impacts on human rights, whether civil and political or socio-economic, of members of a particular community, the discourse of the state's duty to protect these human rights should be invoked, requiring the state to take appropriate measures.<sup>190</sup>

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<sup>184</sup> The majority judgement was handed down by Kentridge AJ who was influenced by the Canadian and German approach, and confirms his position as follows:

- '(a) Constitutional rights under chapter 3 [Fundamental rights] may be invoked against an organ of government but not by one private litigant against another.
- (b) In private litigation any litigant may nonetheless contend that a statute (or executive act) relied on by the other party is invalid as being inconsistent with the limitations placed on the Legislature and Executive under chapter 3.
- (c) As chapter 3 applies to common law, governmental acts or omissions in reliance on the common law may be attacked by a private litigant as being inconsistent with chapter 3 in any dispute with an organ of government.' (Footnotes omitted.) (At 879 A-C).

<sup>185</sup> Section 8 of the Constitution, set out in annexure A.

<sup>186</sup> For example the *Brisley* (note 180) and *Afrox* (note 180) cases.

<sup>187</sup> Van der Walt (note 164) at 667.

<sup>188</sup> See the decisions in *Pharmaceutical Manufacturers Association of SA; In Re: Ex Parte Application of President of the RSA* (2000) 2 SA 674 (CC); *Carmichele v Minister of Safety and Security (Centre for Applied Legal Studies Intervening)* (2001) 4 SA 938 (CC); and *Modder East Squatters v Modderklop Boerdery (Pty) Ltd; President of the Republic of South Africa v Modderklip Boerdery (Pty) Ltd* (2004) 8 BCLR 821 (SCA), cited by Van der Walt (note 164) at 680. See also *Occupiers of 51 Olivia Road, Berea Township, and 197 Main Street, Johannesburg v City of Johannesburg and Others* 2008 (3) SA 208 (CC).

<sup>189</sup> In *Pharmaceutical Manufacturers supra* it is said at para 44 that: [t]here are not two systems of law, each dealing with the same subject-matter, each having similar requirements, each operating in its own field with its own highest Court. There is only one system of law. It is shaped by the Constitution which is the supreme law, and all law, including the common law, derives its force from the Constitution and is subject to constitutional control.' Chaskalson JP indicates, in para [45] that 'there is no bright line between public and private law'.

<sup>190</sup> For a discussion on a human rights approach to intellectual property see Peter K Yu 'Reconceptualizing intellectual property interests in a human rights framework' (2007) *UC Davies L Rev* 1039-1150. See generally also Amanda Barratt *The battle for policy space: strategic advantages of a human rights approach in international intellectual property negotiations* (2008) PhD Thesis, University of Cape Town and the sources cited therein.

The state's duty to protect approach is underpinned by provisions in domestic<sup>191</sup> and international law<sup>192</sup> which require states to *respect, protect and fulfil* fundamental human rights.<sup>193</sup>

While the shift toward the idea of the state's duty to protect, which includes 'duties to prevent abuse of rights by third parties, including non-State actors,'<sup>194</sup> is encouraging, it should not rule out the possibility that in some case the internal logic of private law can appropriately accommodate the underlying values of the Constitution.<sup>195</sup>

The state's duty to protect discourse is buttressed by the notion of Ubuntu.

### 2.5.3 African jurisprudence and property in African customary law

Ubuntu, like Western jurisprudence, values the notion of human dignity. However, Ubuntu is about interdependence and it recognises both individual and community dignity and demands from us that we take care of and responsibility for others.<sup>196</sup> The strong focus on individualism, the hallmark of

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<sup>191</sup> Section 7(2) of the Constitution. See annexure A.

<sup>192</sup> Important sources of international law relating to the state's duties in this regard are the International Covenant on Civil and Political Rights (ICCPR), adopted Dec 16, 1966, entered into force 23 Mar 1976, 6 *ILM* 368 (1967), and the International Covenant on Economic, Social and Cultural Rights (ICESCR), adopted Dec 16, 1966, entered into force 3 Jan 1979, 6 *ILM* 360 (1967), the latter of which has yet to be ratified in South Africa. Although South Africa has not ratified the ICESCR, a comprehensive range of socio-economic rights are included as justiciable rights in the Bill of Rights. In this regard see for example DM Davis 'Adjudicating the socio-economic rights in the South African Constitution: towards 'deference lite'?' (2006) 22 *SAJHR* 301-327; Sandra Liebenberg and Beth Goldblatt 'The interrelationship between equality and socio-economic rights under South African's transformative Constitution' (2007) 23 *SAJHR* 335-361; and Sandra Liebenberg 'The application of socio-economic rights to private law' (2008) 3 *TSAR* 464-480. The human rights framework incorporating these treaties is discussed in chapter 5.

<sup>193</sup> Although both the Universal Declaration of Human Rights UN Doc A/810 at 71 (1948) (Article 27) and the International Covenant on Economic, Social and Cultural Rights 6 *ILM* 368 (1967) (Article 15) contain provisions that balance the right to protection of intellectual property with the right to participate in cultural life and to share in scientific advancement, only certain aspects of IP are protected. See also Rosemary J Coombe 'Intellectual property, human rights & sovereignty: new dilemmas in international law imposed by the recognition of indigenous knowledge and the conversation of biodiversity' (1998) 6 *Indiana Journal of Global Legal Studies* 59 at 65 where she indicates that 'State parties must report measures to prevent the use of scientific and technical progress for purposes that are contrary to the enjoyment of human rights.' (Footnotes omitted).

<sup>194</sup> Rosemary J Coombe 'Intellectual property, human rights and sovereignty: new dilemmas in international law posed by the recognition of indigenous knowledge and the conversation of biodiversity' (1998) 6 *Indiana Journal of Global Legal Studies* 59 at 68.

<sup>195</sup> Van der Walt (note 164) at 683-4.

<sup>196</sup> Narnia Bohler-Muller 'Beyond legal metanarratives: the interrelationship between storytelling, *ubuntu* and care' (2007) 1 *Stell LR* 133 at 143.

dominant Western jurisprudence, is surpassed by an approach in which individual interests are important only from within a group context.

The spirit of *ubuntu*, part of the deep cultural heritage of the majority of the population, suffuses the whole constitutional order. It combines individual rights with a communitarian philosophy. It is a unifying motif of the Bill of Rights, which is nothing if not a structured, institutionalised and operational declaration in our evolving society of the need for human interdependence, respect and concern.<sup>197</sup>

[U]buntu thinking ... is crucial to the fundamental purpose of the South African constitution, which is to develop an interpretation of the Bill of Rights that goes way beyond the limited notion of such a bill as only a defence against state intrusion and based on negative freedoms.<sup>198</sup>

Like Ubuntu, property in African customary law, which has Constitutional recognition,<sup>199</sup> places emphasis on the community and not the individual.<sup>200</sup> Chanock<sup>201</sup> reminds us of the Western censure of its colonial subjects in their attitude about communal tenure,<sup>202</sup> and documents the move, as a result of colonial intervention, from a system of rules based on respect of kinship in favour of one which espouses individualisation (from status to contract). Bennett also talks about how the authors who documented African custom imposed Western ideas of legal order: customary relationships typically based

<sup>197</sup> Sachs J in *Port Elizabeth Municipality v Various Occupiers* 2005 (1) SA 217 (CC) at par [37]

<sup>198</sup> Drucilla Cornell 'A call for a nuanced constitutional jurisprudence: ubuntu, dignity, and reconciliation' (2004) 19 *SAPR/PL* 666 at 675.

<sup>199</sup> Section 211(3) of the Constitution requires the courts to 'apply customary law when that law is applicable, subject to the Constitution and any legislation that specifically deals with customary law.'

<sup>200</sup> According to an FAO land tenure study, the 'three cardinal principles' of the relationship between individuals, the community and land are that:

(a) There shall be no private ownership of land. The land occupied by a tribal community shall belong to that community and cannot be alienated without its consent.

(b) Every individual shall have security of tenure.

(c) No member of the community shall be without land.

'Communal Land Tenure', an FAO land-tenure study, prepared by Sir Gerald Clawson, 1950, cited in M Yudelman *Africans on the land* (1964) at 14.

<sup>201</sup> Chanock cautions against the ability of colonial agents to fully grasp and document rules of custom. Martin Chanock, 'A peculiar sharpness. An essay on property in the history of customary law in colonial Africa' (2007) *The Journal of African History* 65-88. See also TW Bennett *Customary law in South Africa* (2004) at 5-6 where he talks about the difficulties of reducing oral custom to writing and the problems of language (custom reduced to writing was mostly recorded in European languages).

<sup>202</sup> Which Chanock argues, in its formulation was an 'invention' of the colonial state. Communal tenure was viewed as lacking in advancement. Chanock (note 200) at 70.

on family and community obligations were moulded into the 'rights and duties' dialect of the West.<sup>203</sup>

The communal nature of indigenous ownership was brought to the fore in the *Richtersveld*<sup>204</sup> and the *Ndebele-Ndzundza*<sup>205</sup> cases. The *Richtersveld* case involved a claim for restitution of land by the Richtersveld Community in terms of the Restitution of Land Rights Act.<sup>206</sup> The Constitutional Court was asked by the appellant to reconsider the Supreme Court of Appeal's finding that the community 'held a "customary law interest" in the ... land *which was akin to ownership* and that this right included the ownership of minerals and precious stones.'<sup>207</sup> (Emphasis added). The Court determined that it must refer to indigenous law to ascertain the nature and the content of the rights in the land previously held by the Community: and that the principles of indigenous law need not be viewed through the 'common-law lens'<sup>208</sup> as the Constitution<sup>209</sup> 'acknowledges the originality and distinctiveness of indigenous law as an independent source of norms within the legal system.'<sup>210</sup> The applicability of indigenous law is subject only to the principles of the Constitution and other applicable statutory provisions. In this particular case the Constitutional Court echoed the Supreme Court of Appeal's finding that, under indigenous Nama law, land was communally owned by the community, and its members had a right to occupy and use the land. As the Supreme Court of Appeal explains:

[o]ne of the components of the culture of the Richtersveld people was the customary rules relating to their entitlement to and use and occupation of this land. The primary rule was that the land belonged to the Richtersveld community as a whole and that all its people were

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<sup>203</sup> Bennett (note 200) at 6.

<sup>204</sup> *Alexkor Ltd and Another v The Richtersveld Community and Others* 2004 (5) SA 460 (CC). For discussion on the decision see, among others, K Lehmann 'Indigenous Rights and the Right to Culture' 2004 *SAJHR* 86-118 and Hanri Mostert and Peter Fitzpatrick 'Law against Law: Indigenous Rights and the *Richtersveld* cases' (2004)(2) *Law, Social Justice & Global Development Journal* available at [http://www2.warwick.ac.uk/fac/soc/law/elj/lgd/2004\\_2/mostertfitzpatrick](http://www2.warwick.ac.uk/fac/soc/law/elj/lgd/2004_2/mostertfitzpatrick). [Accessed 18 December 2008].

<sup>205</sup> *Prinsloo and Another v Ndebele-Ndzundza Community and Others* 2005 (6) SA 144 (SCA).

<sup>206</sup> Act 22 of 1994. The Act provides for the restitution of rights in land to persons or communities dispossessed of such rights as a result of past racially discriminatory laws or practices.

<sup>207</sup> Para [42].

<sup>208</sup> Para [51].

<sup>209</sup> Section 211(3) of the Constitution.

<sup>210</sup> Para [51].

entitled to the reasonable occupation and use of all land held in common by them and its resources. All members of the community had a sense of legitimate access to the land to the exclusion of all other people. Non-members had no such rights and had to obtain permission to use the land for which they sometimes had to pay. There are a number of telling examples. A non-member using communal grazing without permission would be fined 'a couple of head of cattle'; the Reverend Hein, who settled in the Richtersveld in 1844, recorded in his diary three years later a protest by the community that Captain Paul (Bierkaptein) Links had, without the consent of the 'raad', let ('verpacht') some of its best grazing land at the Gariep River Mouth; and the trader McDougal established himself at the mouth of the Gariep River in 1847 only after obtaining the permission of Captain Links on behalf of the community and agreeing to pay for the privilege. The captain and his 'raad' enforced the rules relating to the use of the communal land and gave permission to newcomers to join the community or to use the land.<sup>211</sup>

The court concluded that the Richtersveld Community was the indigenous law owner of the land and was entitled to restitution of the right.

Similarly in the *Ndebele-Ndzundza* case, in terms of the Restitution of Land Rights Act, the Supreme Court of Appeal upheld the decision in the Land Claims Court to recognise community ownership of land in view of the Court's factual conclusions that:<sup>212</sup>

- (a) The claimants' predecessors constituted a group of people who lived on and worked the farm for a continuous period of nearly 50 years from before the end of the 19th century until their relocation in the late 1930s.
- (b) They lived under the authority of a chief designated by the traditional tribal hierarchy: In the late 19th century and first two decades of the 20th century, under Chief Madzidzi, and, for the next 20 years, under his son and successor, Chief Japtha Mahlangu.
- (c) They held the land as a group and in common with each other.
- (d) They occupied the farm exclusively and without immediate supervision or direct control from the white landowners.

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<sup>211</sup> Para [18] of the SCA Judgement, also quoted in para [58] of the CC Judgment.

<sup>212</sup> At para [29].

- (e) They did so in accordance with the ancient customs and traditions of the Ndebele-Ndzundza people.

Likewise, in so far as knowledge and information is concerned, for many communities in Africa the concept of individual ownership of property gives way to a collective approach toward ideas and knowledge.<sup>213</sup> The prevailing IP regime transplanted to many post-colonial African societies may conflict with the host country's value systems.<sup>214</sup> This might partly explain why in many African countries activity in industrial property offices remains low.<sup>215</sup>

Although inequalities existed under kinship rules, these, according to Chanock, were arguably less pronounced than under the Western alternative. It would be unfortunate if the ideology of respect and the centrality of community underlying customary law does not find a way to influence developing jurisprudence.

A final, but important, aspect of property that needs to be addressed in this chapter is the theoretical framework for explaining resources that are found not excludable.

## 2.6 If it's not (private) property, what is it?

Trespass rules establish a (private) property spectrum ranging from full-blooded ownership, where a person has an extensive range of use-privileges and powers of control, to a position of lesser privileges and power, which Harris calls, 'mere' property.<sup>216</sup> Whether or not a person can acquire any

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<sup>213</sup> Kent Nnadozie et al (eds) *African perspectives on genetic resources* (2003) at 25-27. This idea is sometimes expressed as 'standing on the shoulders of giants'. The idea that 'intellectual property builds on intellectual property' to some extent concedes this point. Richard A Posner 'Do we have too many intellectual property rights?' (2006) 38 *Intellectual Property Law Review* 639-651 at 646.

<sup>214</sup> See for example Kabudi PJ 'Protection of intellectual property rights of indigenous knowledge in Tanzania: legal constraints and challenges' (2004) 3 *Indilinga Afrncan Journal of Indigenous Knowledge System* 33-44.

<sup>215</sup> See for example the statistical tables in World Intellectual Property Organization (WIPO) 'World patent report: a statistical review' (2008) at 62-69. In so far as technology patent filing in South Africa is concerned, the UN Development Program and US Patent Office statistics reflect that in 2001, in South Africa (which, compared to many other African countries, has a fairly sophisticated intellectual property regime) 2.5 technology patents per one million people were registered, compared with twenty-five in Australia and 779 in South Korea. Alla Katsnelson 'South Africa Fights Low Patent Rate' *Nature.Com* 14 October, 2004.

<sup>216</sup> Harris (note 18) at 28-32.

privileges and powers within the property spectrum over a resource will depend on whether or not the resource is capable of physical, legal and moral excludability.<sup>217</sup> Outside of the private property spectrum, one finds State or public property, which Harris describes as quasi-ownership interests and, in addition to this, the commons or common property.<sup>218</sup> These resonate with the Roman law concepts of *res omnium communes* and *res publicae*.

While the ancient principle that some things cannot be privately owned is an important one, the details of the Roman law concepts have remained largely underdeveloped and appear of limited practical significance.<sup>219</sup> There is however a suggestion that the classification be revisited.<sup>220</sup>

### 2.6.1 Revisiting the Roman / Roman-Dutch law categories<sup>221</sup>

Roman law distinguished between things capable of private ownership (*res in commercium*)<sup>222</sup> and things which fall out of commerce (*res extra commercium*) consisting of *res divini iuris* and *res humani iuris*.<sup>223</sup>

The three classes of things (*res sacrae*, *res religiosae*, *res sanctae*) classified as *divini iuris* have been declared 'obsolete classifications'.<sup>224</sup> *Res humani iuris* includes common things (*res omnium communes*) and public things (*res publicae*). *Res communes* have been construed as 'resources belonging to

<sup>217</sup> Kevin Gray 'Property in thin air' (1991) 50 (2) *Cambridge Law Journal* 252 at 269.

<sup>218</sup> Harris also refers to 'protected non-property holdings' to refer to resources that fall outside of the property domain altogether. Harris uses the example of the strict regulatory structure for human embryos in the UK. Harris (note 18) at 111.

<sup>219</sup> *Silberberg and Schoeman* (note 12) at 25-29. See also the discussion at 717-720 on the extensive reform of water law and its impact on the common law.

<sup>220</sup> See for example David M Berry 'Beyond public and private: reconceptualising collective ownership' (2006) 1 *EastBound* 151-172 and Andrew Herman "'The network we all dream of": manifest dreams of connectivity and communication or, social imaginaries of the wireless commons,' November 2008, distributed to the Stellenbosch Advanced Property Law Reading Group and subsequently published as a chapter in Barbara Crow, Michael Longford, and Kim Sawchuck (eds) *The wireless spectrum: the politics, practices and poetics of mobile communication* (2008).

<sup>221</sup> Van der Schyff gives a comprehensive account of the development in Roman and Roman-Dutch law of *res omnium communes*, *res publicae* and related concepts. Elmarie van der Schyff *The constitutionality of the Mineral and Petroleum Resources Development Act 28 of 2002* (2006) LLD Thesis, North-West University at 84-106.

<sup>222</sup> Things which are capable of being privately owned are *res privatae* (which are things already owned) and *res nullius*, which are things not privately owned but which are ultimately capable of private ownership. Silberberg and Schoeman (note 12) at 25-9.

<sup>223</sup> DH van Zyl *History and principles of Roman private law* (1983) at 128.

<sup>224</sup> A prior edition of *Wille's principles of South African law*: Dale Hutchinson (Gen Ed) *Wille's principles of South African law* (1991) at 250.

humanity as a whole,<sup>225</sup> supervised by the state, whereas public property (*res publicae*), which consists of the 'regalia of the sovereign'<sup>226</sup> were treated as resources that belong to the state, the *populus*.<sup>227</sup>

Common things belong to no-one and are available for use by all, subject to governance that manages the resource to avoid depletion or destruction.<sup>228</sup> Roman-Dutch law appears to have recognised only the air and the open sea as *res omnium communes*.<sup>229</sup>

*Res publicae* are things which cannot be privately owned and are referred to as either belonging to an entire civil community or as the property of the state.<sup>230</sup> Public things consist of resources for public use. This includes things like public roads, perennial rivers, and harbours.<sup>231</sup> For example in South Africa the sea and the sea-shore are vested in the State president and are classified as public things.<sup>232</sup>

The distinction between common and public property is said to be of limited significance.<sup>233</sup> One should bear in mind however that, while in principle it is possible to acquire private ownership of a specific portion of a common thing by appropriation,<sup>234</sup> it is not possible to do so with regard to public things which vest in the state.<sup>235</sup> Interference with the use of *res publicae* or *res communes* could, on the basis of an infringement of a personality right,<sup>236</sup> give rise to a remedy based on the *actio iniuriarum*.<sup>237</sup>

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<sup>225</sup> JAC Thomas *Textbook of Roman law* (1976) at 129.

<sup>226</sup> *Ibid.*

<sup>227</sup> JAC Thomas (note 225) at 129. Traditionally, examples of the former included air and running water and the latter the sea, public rivers and the seashore and also public installations such as roads, bridges, and national parts. *Wille's principles of South African law* (note 159) at 417.

<sup>228</sup> Herman (note 220).

<sup>229</sup> Van der Schyff (note 221) at 98.

<sup>230</sup> *Silberberg and Schoeman* (note 12) at 26. See also Van der Schyff (note 221) at 98.

<sup>231</sup> *Silberberg and Schoeman* (note 12) at 26-7.

<sup>232</sup> *Silberberg and Schoeman* (note 12) at 25-6.

<sup>233</sup> *Silberberg and Schoeman* (note 12) at 29.

<sup>234</sup> *Silberberg and Schoeman* (note 12) at 25. The authors give the example of air compressed in a gas cylinder and thus reduced to a thing in commerce.

<sup>235</sup> *Silberberg and Schoeman* (note 12) at 29.

<sup>236</sup> Neethling, Potgieter and Visser *Neethling's law of personality* (2004) have classified personality rights as the right to body and life; the right to physical liberty; the right to good name (reputation); the right to dignity; the right to feelings; the right to privacy; and the right to identity.

<sup>237</sup> François du Bois (note 159) at 417; and *Silberberg and Schoeman* (note 12) at 26 and 29. The *actio iniuriarum* has been described as 'the general remedy for aggression upon person, dignity

Berry<sup>238</sup> modernises the Roman law typology by re-introducing, and modifying, the concept of *res divini iuris*. He conceptualises the forms of property ownership as public, private and collective ownership and argues that *res communes* and common heritage fall into the category of collective ownership.

Berry argues that the temptation is to conceptualise property in binary terms, as either private or public, but that the range of possibilities is broader than that. An argument is made for a more critical and creative approach to the Roman law classifications of property, which, so the argument goes, should be viewed as fluid, and the boundaries permeable. Berry reminds us that those resources which do not belong to anyone – *res nullius* – and which are capable of becoming private property (*res privatae*) are akin to the public domain,<sup>239</sup> and that resources not susceptible to private ownership such as *res communes* (the commons) are not capable of private ownership and as such are not *res nullius*.

Berry's understanding of the modern day commons is narrower than the idea of common heritage and thus, on the back of the *res divini iuris* classification, he introduces a neologism, *res imperium*, as a form of dominium 'for the good of humankind as a whole,'<sup>240</sup> essentially a home for resources that are 'the common heritage of mankind' – *res communes humanitatus* – which is neither a public domain nor a commons. As examples of *res imperium*, Berry suggests the human genome, the natural world, life-forms, space, the moon, and ideas and concepts.<sup>241</sup>

Although it may well be possible to develop the Roman law classifications to such an extent that they are accommodating of current day concerns much thought and debate would still need to go into these relatively underdeveloped concepts, that were originally applied to relatively few resources. In South

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and reputation.' Jonathan M Burchell *Personality rights and freedom of expression: the modern Actio injuriarum* (1998) at 133.

<sup>238</sup> In David M Berry 'Beyond public and private: reconceptualising collective ownership' (2006) 1 *EastBound* at 151-172.

<sup>239</sup> Berry (note 238) at 155.

<sup>240</sup> Berry (note 238) at 165.

<sup>241</sup> Berry (note 238) at 165.

Africa these ancient concepts have all but languished while a renewed focus on tenets of customary and indigenous law around the ‘ownership’ of natural resources (sometimes appearing akin to a managed commons approach, see *Richtersveld*<sup>242</sup> and *Ndebele-Ndzundza*<sup>243</sup> above) are equally capable of being used creatively (and together with aspects of the private law of property) to distinguish between private and public property.

It is uncertain at which level the revised Roman law classification is being suggested: whether it is an international law initiative or if the idea is to develop national law principles. Arguably in any event, both international law and national law (at least in South Africa) have the necessary mechanisms at hand, through concepts such as sovereignty, public trust, public property, common heritage, public domain, community-based natural resource management,<sup>244</sup> and common or communal property resources. The value of the ancient classifications is that they underpin the modern concepts at an abstract, principled, level and allow for a democratic, public-centred notion of property to emerge.

### 2.6.2 Property within a modern constitutional democracy

Over centuries a dominant philosophical concept of property and ownership has emerged in which property is an inalienable human right and is the key to all other rights. The state is not to interfere with private property (except in the most compelling circumstances and usually with compensation) and hence the private – public binary divide, represented graphically in figure 1.



Figure 1: The public / private binary

<sup>242</sup> *Alexkor Ltd and Another v The Richtersveld Community and Others* 2004 (5) SA 460 (CC).

<sup>243</sup> *Prinsloo and Another v Ndebele-Ndzundza Community and Others* 2005 (6) SA 144 (SCA).

<sup>244</sup> For a discussion of case studies, and the challenges, and the potential benefits, of community-based natural resource management in the SA context, see C Fabricius and S Collins ‘Community-based natural resource management: governing the commons’ (2007) 9 Supplement 2 *Water Policy* 83–97.

Piercing the barrier (the right to property) between public and private means an invasion of an inalienable right which is difficult to achieve as property is a negative right, not to be interfered with. In an increasingly unequal society with diminishing scarce resources this binary approach will likely hamper reform and perpetuate inequality thus it is argued that ‘the distinction or relationship between public and private in property should not be seen as a direct conflict or a strict dichotomy but rather as two extremes on a continuum...’<sup>245</sup>

A ‘two extremes on a continuum’ approach accommodates the dynamic and evolving nature of property and it represents a theoretical shift away from the chasm between private and public. Berry might not be satisfied however as it does not address his criticism about the absence of categories other than public and private.

The continuum works well to explain (excludable) resources that fit into Harris’s property spectrum,<sup>246</sup> with ‘full-blooded’ ownership being in the extreme private and ‘mere property’ tending toward the public, but it does not (and is surely not intended to) provide for the full extent of public resources to be plotted. Figure 2 below represents a tentative attempt to locate the private / public debate within the finite nature of public resources.<sup>247</sup>

The term ‘public resources’ should be understood, in the broadest sense, as public property embracing public and natural resources, the public domain<sup>248</sup> including public goods such as knowledge, as well as other public assets, infrastructure, and aspects of heritage. While some aspects of some of these

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<sup>245</sup> Andre van der Walt ‘The public aspect of private property: post-apartheid fragments: law, politics and critique’ (2004) 19 *SAPR/PL* 676-723 at 714. See also Kevin Gray and Susan Francis Gray ‘Private property and public property’ in McLean (ed) *Property and the constitution* (1999) at 11-39.

<sup>246</sup> The more a (privately ownable) resource gravitates toward the public end of the spectrum, the more limited the nature of the rights will be.

<sup>247</sup> Unfortunately, use is made of the terms ‘excludable’ and ‘enclosure,’ which some theorists might prefer to avoid.

<sup>248</sup> The concept of the public domain is broadly understood to encompass a diverse range of public goods that are available for use by all. See for example James Boyle *The public domain: enclosing the commons of the mind* (2008) and his many other publications on the public domain. See also Charlotte Waelde (ed) *Intellectual property: the many faces of public domain* (2007) and G Dutfield ‘The public and private domains: intellectual property rights in traditional knowledge’ (2000) 21 *Science Communication* 274 at 281.

resources may be privately acquired, it will depend on whether the aspect is excludable. 'Inherently public property'<sup>249</sup> is unlikely to be excludable.

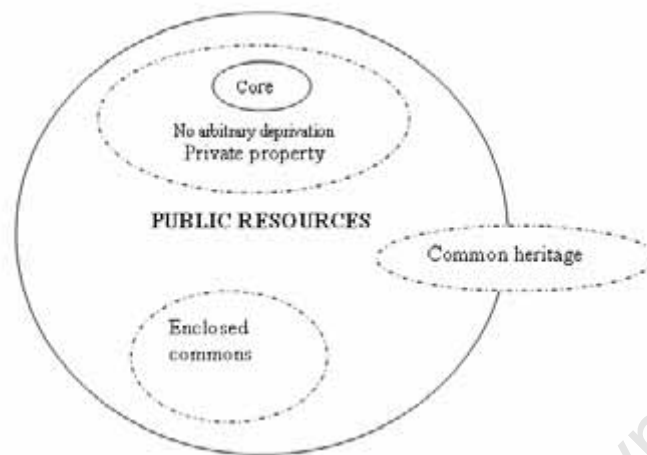


Figure 2: A public-centred notion of private and public property

Private property is that which is excludable and has been excluded. While deprivation of private property may not be arbitrary, reining in the right in order to balance it against a compelling countervailing right should not constitute an arbitrary deprivation. In figure 2, private property is ringed off from public resources and there is an inalienable core of private property. The social and economic justifications for recognising private property are undeniable, what is at issue is the extent of such rights, particularly in respect of public goods. Outside of the core (discussed below), private property is protected by the rule against no arbitrary deprivation, to the extent that such private property is excludable. Common heritage are global resources of a public nature that extend beyond the boundaries of the sovereign.<sup>250</sup> The use of all resources is subject to regulation<sup>251</sup> and the solid and permeable circles indicate the existence of trespass rules. Permeability reflects the dynamic nature of

<sup>249</sup> Carol Rose 'The comedy of the commons: custom, commerce, and inherently public property' (1986) 53 *The University of Chicago Law Review* at 720. Rose mentions for example specific passageways which if in private ownership may lead to rent seeking 'holdouts and monopolies' (at 749).

<sup>250</sup> On common heritage generally see chapter 1, note 26.

<sup>251</sup> Hardin, 25 years after penning 'The tragedy of the commons,' admits that the weightiest mistake in his paper was to omit the adjective 'unmanaged'. He adds that 'individualism is cherished because it produces freedom, but the gift is conditional: the more the population exceeds the carrying capacity of the environment, the more freedoms must be given up.' Hardin, Garrett 'Extensions of "the tragedy of the commons' (1998) 280 *Science* 682-683.

property and the increasing fragmentation of property (the existence of multiple exclusion rights)<sup>252</sup> that occurs when private rights are acquired over aspects of public resources.<sup>253</sup> Permeability recognises that not all occurrences of ownership are full-blooded. The more public the nature of the resource, the more intrusions the holder of private rights can expect. The decisions in the *V & A Waterfront*, *Qualidental Laboratories* and *Nhlabathi* cases discussed earlier illustrate this.

The 'inalienable' part of property (both a negative and a positive right) is reduced to the core or pith of autonomy.<sup>254</sup> As Van der Walt has stated, 'the extent to which a regulatory deprivation may affect private property negatively ... [should be] determined by the nature of the property and its relation to the autonomy and privacy of the person or persons affected – the stronger the social relations and function of the property, the stronger and the wider are the regulatory powers of the legislature in determining the content and limits of that property, but the stronger the personal and individual character and function of the property, the weaker and smaller are the state's powers to limit it through regulation.'<sup>255</sup>

In this approach the allocation of use-privileges in public resources (through mostly permeable constitution-backed enclosures) takes place within a modern international framework recognising sovereign rights.<sup>256</sup>

The sovereign, underpinned by the principles of democracy and circumscribed by the duties to fulfil human rights is required to administer public resources

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<sup>252</sup> The notion of fragmentation stands in contrast to the *numerus clausus* doctrine in both common and civil law which prescribes a fairly rigid set of proprietary rights. Whereas fragmentation can explain the carving out of rights for those who have been unfairly excluded from property, it also adds a veneer of legitimacy to the increasing trend toward the granting of proprietary rights over aspects of public resources. Another concern with fragmentation is that once rights have been recognised, withdrawing them becomes difficult (and costly). Bruce Ziff 'The irreversibility of commodification' 2005 *Stell LR* 283-301.

<sup>253</sup> See the discussion on *Victoria & Alfred Waterfront (Pty) Ltd and Another v Police Commissioner, Western Cape, and Others (Legal Resources Centre as Amicus Curiae)* 2004 (4) SA 444 (C).

<sup>254</sup> Useful concepts include Michelman's property as means for democratic participation. See also the decision in *Residents, Joe Slovo Community, Western Cape v Thubelisha Homes and Others* discussed above.

<sup>255</sup> Van der Walt *Constitutional property law* (2005) at 134 (footnotes omitted). This is the position in German case law.

<sup>256</sup> Article 2(1) of the UN Charter of Economic Rights and Duties of the State grants full permanent sovereignty to states over its natural resources. GA Res 3281(xxix), UN GAOR, 29th Sess, Supp No 31 (1974) 50, UN Doc A/9631 (1974).

according to the nature of the resource and the needs and interests of its people.<sup>257</sup> The sovereign has broad oversight of the allocation of resources and should monitor participation in both the public and private sphere to ensure the optimum balance between private property and public resources.

One of the criticisms which a property model embracing the notion of a 'commons' or 'common heritage' must confront is the 'tragedy of the commons'<sup>258</sup> argument. The tragedy of the commons argument maintains that common property regimes are 'largely to blame for a host of social ills including resource depletion, pollution, dissipation of economic surplus, poverty among resource users, backwardness in technology, and misallocation of labour and capital.'<sup>259</sup>

Significant counter-arguments include the reminder that not all common property is 'everybody's property', it is a form of collective ownership (hence the permeable bordered enclosure in figure 2) with rules for the collective to abide by, and with rules for outsiders permitted to access the resource.<sup>260</sup> Often, it is the using of resources by non-'owners' that leads to social ills. The notion of common heritage resources likewise imposes duties on those who access the resources; and on those who have sovereign rights over aspects of these resources.<sup>261</sup>

Also countering the 'tragedy of the commons' approach are those who point out that the consequence of extensive private property over public resources

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<sup>257</sup> The sovereign must be one whose aim is 'the common welfare and the salvation of all.' Foucault in James D Faubion (ed) *Essential works of Foucault 1954-1984 (Volume three)* at 210. Foucault cites the seventeenth-century author, Pufendorf, who says that 'Sovereign authority is conferred upon them [the rulers] only in order to allow them to use it to attain or conserve what is of public utility.'

<sup>258</sup> The seminal article is G Hardin 'The tragedy of the commons' (1968) 162 *Science* 1243-1248.

<sup>259</sup> S V Ciriacy-Wantrup and Richard C Bishop "'Common property" as a concept in natural resources policy' (1975) 15 *Natural Resources Journal* at 713-714.

<sup>260</sup> Ciriacy-Wantrup and Bishop (note 259) at 715. See also Hardin's admission in note 251.

<sup>261</sup> The understanding is that '[t]he sovereign rights of nation states over certain environmental resources are not proprietary, but *fiduciary*.' Peter H Sand 'Sovereignty bounded: public trusteeship for common pool resources?' (2004) 4:1 *Global Environmental Politics* 47 at 48.

is an 'anti-commons' effect which stresses the public interest detriment that can occur when the tolerated reach of private property is overly broad.<sup>262</sup>

Rose<sup>263</sup> acknowledges the argument that uncertainty about property rights 'invites conflicts and squanders resources'<sup>264</sup> but takes the contrary view that the commons is comedic<sup>265</sup> and, in 'defiance of classical economic thinking',<sup>266</sup> the commons in fact facilitates commerce. As Rose indicates:

... service to commerce was a central factor in defining as 'public' such properties as roads and waterways. Used in commerce, some property had qualities akin to infinite 'returns to scale.' ... And customary doctrines might be thought a 'comedy of the commons' not only because it may infinitely expand our wealth, but also, at least in part, because it has been thought to enhance the sociability of the members of an otherwise atomized society.<sup>267</sup>

The public trust doctrine holds together the public-centred approach to private ownership in natural resources.

### 2.6.3 The public trust doctrine

The public trust doctrine is rooted in the Roman law distinction between *res in commercium* and *res extra commercium*.<sup>268</sup> Notwithstanding criticism of the doctrine,<sup>269</sup> it has been extensively applied in the USA (Rose indicates three

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<sup>262</sup> See for example Michael Heller 'The tragedy of the anti-commons' (1998) 111 *Harvard Law Review* 621-688; and David Bollier *Silent theft: the private plunder of our common wealth* (2002).

<sup>263</sup> Rose (note 249).

<sup>264</sup> Rose (note 249) at 715-6.

<sup>265</sup> Rose means comedic in the classical sense of a story with a happy ending. Rose (note 249) at 723.

<sup>266</sup> Rose (note 249) at 716. Rose also considers the possibility that classical economic theory recognises two exceptions (in respect of 'plenteous' goods and 'public' goods) to the rule favouring private and exclusive property rights. Rose (note 249) at 717.

<sup>267</sup> Rose (note 249) at 723.

<sup>268</sup> Jan Glazewski *Environmental law in South Africa* (2005) at 17. Joseph Sax is generally regarded as the father of the modern conception of the public trust doctrine. His seminal article 'The public trust doctrine in natural resource law: effective judicial intervention' (1970) 68 *Michigan Law Review* 471-566 is oft-cited.

<sup>269</sup> See for example Richard J Lazarus 'Changing conceptions of property and sovereignty in natural resources: questioning the public trust doctrine' (1986) 71 *Iowa Law Review* 631-716; Richard Delgado 'Our better natures: a revisionist view of Joseph Sax's public trust theory of environmental protection, and some dark thoughts on the possibility of law reform' (1991) 44 *Vanderbilt Law Review* 1209-1227; James Huffman 'Fish out of water: The public trust doctrine in a constitutional democracy' (1989) 19 *Environmental Law* 527-572 and James Huffman 'Avoiding the takings clause through the myth of public rights: the public trust and reserved rights doctrines at work' (1987) 3 *J Land Use & Envtl L* 171-212.

waves of popularity of the doctrine since the early nineteenth century)<sup>270</sup> and elsewhere, including South Africa.<sup>271</sup>

While there is much debate on the usefulness and extent of the public trust doctrine,<sup>272</sup> in South Africa the doctrine is statutorily recognised in the National Environmental Management Act<sup>273</sup> (NEMA) and also in the National Water Act<sup>274</sup> and the Minerals and Petroleum Resources Development Act.<sup>275</sup> The public trust reach of the NEMA is extensive:<sup>276</sup>

[t]he environment [which includes plants<sup>277</sup>] is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.<sup>278</sup>

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<sup>270</sup> Rose (note 249) at 729.

<sup>271</sup> The public trust doctrine has been introduced in South Africa in NEMA and also in the context of water and mineral resources. See Jan Glazewski *Environmental law in South Africa* (2005) at 17, 428; E Van der Schyff 'Who "owns" the country's mineral resources? The possible incorporation of the public trust doctrine through the Mineral and Petroleum Resources Development Act' (2008) 4 *TSAR* 757-778; and E Van der Schyff and G Viljoen 'Water and the public trust doctrine – a South African perspective' (2008) 2 4 *The Journal for Transdisciplinary Research in Southern Africa* 339-354. The public trust doctrine is referred to in the following cases: *Truck and General Insurance Co Ltd v Verulam Fuel Distributors CC and Another* 2007 (2) SA 26 (SCA); *Bareki NO and Another v Gencor Ltd and Others* 2006 (1) DS 432 (T); *Hichange Investments (Pty) Ltd v Cape Produce Co (Pty) Ltd t/a Pelts Products and Others* 2004 (2) SA 393 (E); *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs* 2004 (5) SA 124 (W); and *South African Shore Angling Association and Another v Minister of Environmental Affairs* 2002 (5) SA 511 (E).

<sup>272</sup> See the extensive discussion in Van der Schyff's LLD (note 25) at 106-152 where she analyses the public trust doctrine in, not only its traditional and modern sense, but also the idea and meaning of it being codified in the South African context, and in particular in so far as minerals are concerned.

<sup>273</sup> Act 107 of 1998.

<sup>274</sup> Act 36 of 1998.

<sup>275</sup> Act 28 of 2002.

<sup>276</sup> Ngcobo J of the Constitutional Court has indicated that '[t]he importance of the protection of the environment cannot be gainsaid. Its protection is vital to the enjoyment of the other rights contained in the Bill of Rights; indeed, it is vital to life itself. It must therefore be protected for the benefit of the present and future generations. The present generation holds the earth in trust for the next generation. This trusteeship position carries with it the responsibility to look after the environment'. *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others* 2007(6) SA 4 (CC) at para [102].

<sup>277</sup> Environment is defined in s 1 of the NEMA as 'the surroundings within which humans exist and that are made up of-

- (i) the land, water and atmosphere of the earth;
- (ii) micro-organisms, plant and animal life;
- (iii) any part or combination of (i) and (ii) and the inter-relationships among and between them; and
- (iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being...'

<sup>278</sup> Section 2(4)(o).

In other words, South African environmental law specifically provides that the state is required to administer, as trustee, on behalf of South Africa's people, all aspects of plant life (not specifically limited to indigenous plants) including the physical and cultural properties of plants in a manner that serves the public interest. It is said that the public trust doctrine not only prevents the state from alienating the resource held in trust but also places a fiduciary duty on the state in its dealings with the resource.<sup>279</sup>

PGRs, although not necessarily often conceptualised as natural resources<sup>280</sup> in the way that water and minerals might be, are a natural agricultural resource<sup>281</sup> already subject to extensive regulation. Through NEMA these resources are acknowledged as being part of the 'environment'<sup>282</sup> subject to the public trust doctrine.

The idea is that a public trusteeship should serve as a tool 'preventing the destabilizing disappointment of expectations held in common.'<sup>283</sup> In this conceptualisation, and along the lines of the National Water Act,<sup>284</sup> the state has a duty, as public trustee of the nation's PGRs, to ensure that PGRs are 'protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate.' The public trust doctrine presents a means to restrain how the state manages the public resources within its boundaries.

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<sup>279</sup> Sax 'Liberating the public trust doctrine' (note 79) at 185.

<sup>280</sup> For example the Physical Planning Act 88 of 1967 (now partially repealed) defines 'natural resource' as any raw material obtained from nature and includes soil, air, water and minerals.

<sup>281</sup> 'Natural agricultural resources' are defined by the Conservation of Agricultural Resources Act 43 of 1983 as 'the soil, the water sources and the vegetation, excluding weeds and invader plants'.

<sup>282</sup> See note 277.

<sup>283</sup> Joseph Sax 'Liberating the public trust doctrine from its historical shackles' 14 *University of California-Davis Law Review* (1980) 185-194 at 187 cited in Peter H Sand (note 261) at 51.

<sup>284</sup> Section 3(1) of the National Water Act 36 of 1998, titled '[p]ublic trusteeship of nation's water resources' reads as follows:

'As the public trustee of the nation's water resources the National Government, acting through the Minister, must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate.'

## 2.7 Concluding remarks

In South Africa both the protection and the limitation of property are anchored by the provisions of the Constitution which requires a closure of the chasm between the public and the private.<sup>285</sup> This chapter has discussed what this means for property, particularly in the context of natural resources. A more public-centred approach to property is explored. Property should be recognised as a positive and a negative right alongside other fundamental and foundational rights. Where the public interest is compelling, the Constitution provides for the lawful deprivation of property through the exercise of the state's regulatory powers.

In chapter 3, a case study is presented to demonstrate the extent of private rights currently tolerated in PGRs in the case of genetically modified cottonseed and to give an overview of the broader social and economic context in which these rights are deployed.

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<sup>285</sup> It has been said that the Constitution requires a 'move away from a static, typically private-law conceptualist view of the constitution as a guarantee of the *status quo* to a dynamic, typically public-law view of the constitution as an instrument for social change and transformation under the auspices ... of entrenched constitutional values'. AJ van der Walt, *The constitutional property clause* (1997) cited in *First National Bank of SA Ltd t/a Wesbank v Commissioner, South African Revenue Service; First National Bank of SA Ltd t/a Wesbank v Minister of Finance* 2002 (4) SA 768 (CC) (the *FNB* case) at para 52. The *FNB* case is discussed in chapter 4, note 115.

## CHAPTER 3

### PROPERTY IN PRACTICE: A CASE STUDY OF PGRS

... Bt cotton holds very little potential to significantly reduce poverty and ... may in fact be widening and deepening poverty...<sup>1</sup>

#### 3.1 Introduction

The aim of chapter 3, together with the findings presented in chapter 6, is to meet the *implications* objective presented in chapter 1, namely to assess the impact of the current regime for PGRs. This regime is a complex matrix of public law instruments (described in chapter 5) which should be considered alongside the private law of property and contract (discussed in chapter 4).

Chapter 3 has three main parts. The first part places agriculture in context, in particular in Africa and South Africa, and considers threats to the sustainability of the agricultural sector. The second part illustrates how private property rights are acquired in PGRs through innovation and patents in the agricultural biotechnology industry, and the extent to which these rights have taken hold in both the global and local context. The third and final part of the chapter introduces the cotton market in South Africa, and discusses the experiences of the Makhathini cotton farmers during the past decade, with a view to ascertaining whether or not strong property rights in PGRs impact on the sustainability of the agricultural sector.

#### 3.2 Agriculture and threats to sustainable agriculture

##### 3.2.1 *The importance of agriculture*

Although there is a clear link between agriculture and food security given that agriculture feeds the world's expanding population, sufficient available food does not necessarily equate with food security.<sup>2</sup> Access (both physical and

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<sup>1</sup> Aaron deGrassi 'Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence' (June 2003) Third World Network at 32.

<sup>2</sup> Debbie Collier and Charles Moitui 'Africa's regulatory approach to biotechnology in agriculture: an opportunity to seize socio-economic concerns' (2009) 17 *RADIC* 29 at 31 (note 7) where it is indicated that food security is a 'state of affairs where all people at all times have access to and

financial<sup>3</sup>) to food, among other things, is as important as sufficient agricultural output.<sup>4</sup> Agriculture itself is not only about the production of food, it is the source of livelihood for many African communities and is often an important component of a country's export offerings.<sup>5</sup> In sub-Saharan Africa, agriculture engages between 30<sup>6</sup> and 90<sup>7</sup> percent of the labour force and, in many countries, accounts for roughly between 30 and 80 percent of GDP.<sup>8</sup>

The statistics in the South African context are broadly sketched by the Department of Agriculture in its strategic plans for agriculture.<sup>9</sup> The Strategic Plan for the Department of Agriculture 2007 (Strategic Plan 2007) outlines the economic significance of the sector.

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safe and nutritious food to maintain a healthy and active life.' On the nature of the right to adequate food, see UN Committee on Economic, Social and Cultural Rights 'General Comment No 12' (1999) E/C 12/1999/5, 12 May 1999.

<sup>3</sup> The rise in food prices of the past few years is a major concern to food security. See in this regard the statement adopted by the United Nations Committee on Economic, Social and Cultural Rights on the world food crisis 16 May 2008 (UN doc E/C 12/2008/1 [2008]).

<sup>4</sup> Ibid.

<sup>5</sup> It has been said that '[i]f agriculture is in trouble, Africa is in trouble'. Donald L Sparks 'Economic trends in Africa South of the Sahara' in Katherine Murison (ed) *Africa south of the Sahara* 32<sup>nd</sup> ed (2003) at 18.

<sup>6</sup> This is the figure for South Africa. Available at [www.cia.gov/library/publications/the-world-factbook](http://www.cia.gov/library/publications/the-world-factbook) [Accessed 10 January 2008]. The Food and Agriculture Organisation (of the United Nations) reports that 'Sub-Saharan Africa contains a total population of 626 million people of whom 384 million (61 percent) are classified as agricultural.' Malcolm Hall (ed) 'Farming systems and poverty: improving farmers' livelihoods in a changing world' FAO Corporate Document Repository. Available at [www.fao.org/DOCREP/003/Y1860E/y1860e00.htm](http://www.fao.org/DOCREP/003/Y1860E/y1860e00.htm) [Accessed 4 February 2008].

<sup>7</sup> This is so in countries such as Malawi and Burkina Faso. The average is around seventy to eighty percent. Available at [www.cia.gov/library/publications/the-world-factbook](http://www.cia.gov/library/publications/the-world-factbook) [Accessed 10 January 2008].

<sup>8</sup> Collier and Moitui (note 2) at 31 and the sources cited therein.

<sup>9</sup> The first such plan is the Strategic Plan for South African Agriculture, November 2001 (Strategic Plan 2001). Subsequent plans include the Strategic Plan for the Department of Agriculture 2003 to 2006; March 2003 (Strategic Plan 2003/6) the Strategic Plan for the Department of Agriculture 2007 (Strategic Plan 2007) and the Strategic Plan for the Department of Agriculture 2008/09-2010-2011. (Strategic Plan 2008/9- 2010/11). The plans are available at [www.nda.agric.za](http://www.nda.agric.za) [Accessed 3 April 2009]. The Strategic Plan 2001 is derived from a framework of policy for the agricultural sector established by the following policy instruments (as listed in the Strategic Plan 2001):

- The New African Initiative, in terms of which African leaders pledge to eradicate poverty and pursue sustainable growth and development;
- The Integrated Sustainable Rural Development Strategy which is intended to transform rural South Africa into an 'economically viable and socially stable and harmonious sector that makes a significant contribution to the nation's GDP';
- The Black Economic Empowerment Commission;
- The Land Redistribution for Agricultural Development programme;
- The Vision and Code of Conduct for Labour Relations in Agriculture;
- The Integrated Government Planning Framework; and
- The 1995 White Paper on Agriculture and the 1998 Discussion Document on Agricultural Policy.

Formal agriculture provides employment to about 930 000 farm workers. This includes seasonal and contract workers. In addition, the smallholder sector provides full or part-time employment for at least 1,3 million households. It is further estimated that about 6 million people depend on agriculture for a livelihood. Generally, the number of jobs created per unit of investment is higher in agriculture than in other sectors. This implies that growth in agricultural output has a significant impact on job creation.

Notwithstanding the Department's commitment to growth,<sup>10</sup> the vital role of agriculture and the impact which growth of the sector could have on unemployment, poverty and hunger, statistics indicate shrinking output and a shrinking agricultural sector.<sup>11</sup> The Strategic Plan 2007 indicates that:

During 2005/06 the estimated volume of agricultural production was 6,4% lower than in 2004/05. The volume of field-crop production decreased by 21,1% compared to the previous year as a result of the decrease in maize, sorghum and dry bean production.<sup>12</sup>

The Strategic Plan 2008/09-2010/11 confirms this decline during the 2006/07 period. During this period the estimated volume of agricultural production was only 1,1% higher than the 2005/06 period and '[t]he volume of field-crop production decreased slightly by 1,6% because of a decrease in oilseeds and hay products. Horticultural production also decreased by 2,1% because of a decrease in apricots, granadillas and cabbage production.'<sup>13</sup>

Likewise, the SA Cotton Sector Strategic Plan: Implementation Programme Plan (IPP)<sup>14</sup> envisages the expansion of cotton production by both commercial and small-scale farmers, yet the statistics show the opposite is in fact occurring.<sup>15</sup>

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<sup>10</sup> See also government's Integrated Sustainable Rural Development Strategy (November 2000).

<sup>11</sup> The Strategic Plan 2001 indicates that primary agriculture accounts for 4,5% of the GDP of South Africa while the Strategic Plan 2007 indicates that agriculture contributed only 2,2% of the 2005 GDP.

<sup>12</sup> Strategic Plan 2007 (note 9) at 12.

<sup>13</sup> Strategic Plan 2008/09- 2010/11 at 10.

<sup>14</sup> 22 April 2004.

<sup>15</sup> In its April 2009 crop estimate, Cotton SA estimates that the production for 2008/09 will be '18% down from the previous season and the smallest in more than 45 years mainly due to low international prices at planting time and the more favourable prices of other competing summer

The Strategic Plan 2001, and the subsequent plans, envisage a 'united and prosperous agricultural sector', and were drafted in a consultative process with input from the key stakeholders including the Department of Agriculture, the National African Farmers' Union (NAFU),<sup>16</sup> and Agri South Africa (Agri SA).<sup>17</sup> The plans indicate that the strategic goal for the agricultural sector is '[t]o generate equitable access and participation in a globally competitive, profitable and sustainable agricultural sector contributing to a better life for all'.

This chapter demonstrates that current policy and practices support the rights of industry stakeholders to the detriment of local agricultural communities and frustrate the attainment of the goals of equitable access and participation in a sustainable agricultural sector. The case study presented in this chapter focuses on the cotton sector and vulnerable small-scale farmers within the sector.

Poor agricultural practices and inadequate or ineffective agricultural policy are a malaise not restricted to South Africa. Agriculture in many African countries has not been able to recover from colonially imposed inequity,<sup>18</sup> from green revolution failures,<sup>19</sup> and has suffered further neglect by post-colonial

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crops'. 'Latest Crop Estimate' at [www.Cotton SA.org.za/](http://www.Cotton SA.org.za/) [Accessed 6 April 2009]. The total hectares planted with cotton has consistently decreased over the past decade; from 82 971 hectares in 1997/98 to 10 563 hectares in 2007/08. Although the area under cultivation has shrunk significantly, the average yield during this period has shown consistent growth: during this period the average yield per hectare has increased from 746 kg seed cotton per hectare in 1997/98 to 2 825 kg seed cotton per hectare in 2007/08. 'Latest Crop Estimate' at [www.Cotton SA.org.za/](http://www.Cotton SA.org.za/) [Accessed 6 April 2009].

<sup>16</sup> The National African Farmers Union of South Africa (NAFU) is an independent, non-governmental, organisation, formed in 1991, with the assistance and support of the National African Chamber of Commerce and Industries (NARCOC). NAFU's vision is to be '[a] representative farmer organisation ensuring competitive, sustainable, and equitable empowerment of the majority of South African farmers.' See [www.nafu.co.za](http://www.nafu.co.za) [Accessed 3 April 2009].

<sup>17</sup> Agri SA was established in 1904 as the South African Agricultural Union. It currently has a membership base of approximately 70 000 large and small-scale commercial farmer members. The mission of Agri SA is to promote the sustainable profitability and stability of commercial agricultural producers and agribusinesses through its involvement and input on national and international level. See [www.agriinfo.co.za](http://www.agriinfo.co.za) [Accessed 3 April 2009].

<sup>18</sup> See Collier (note 8) at 534-35 and the authorities cited therein. See also Ezekiel Walker 'Agriculture, cash crops, food security' in Kevin Shillington (ed) *Encyclopaedia of African History* Vol 1 (1997) at 22-23.

<sup>19</sup> Green revolution technology includes inputs such as chemical fertilizers, irrigation systems and improved plant cultivars. Although 'successful' in much of Asia, the promise of the green revolution failed to materialise in Africa. See InterAcademy Council (IAC) report titled 'Realizing the promise and potential of African agriculture' (2004) at xviii. Available online at [www.interacademycouncil.net/CMS/Reports/AfricanAgriculture.aspx](http://www.interacademycouncil.net/CMS/Reports/AfricanAgriculture.aspx) [Accessed 19 January 2008]. The success of the green revolution in Asia has in fact been challenged for it has resulted in

governments.<sup>20</sup> Efforts to address these patterns of neglect are frustrated by both internal pressures<sup>21</sup> as well as international trade regime with its import tariff reductions, dumping, agricultural subsidies, and the IP protection of agricultural tool.<sup>22</sup>

### 3.2.2 *The dumping of subsidised products*

Cheap agricultural products from countries such as the USA and China, where farmers are subsidised, are often dumped<sup>23</sup> in developing country markets. In 2007, the headline of a local newspaper<sup>24</sup> cautioned: *SA farming on knife-edge* and the article suggests that:

[s]ince 1990, over 20 000 South African farmers have left the land. Major problems include low import tariffs and the 'dumping' in South Africa of cheap agricultural products from rich countries where farmers are heavily subsidised.

Subsidised cotton is a major problem for many African countries, particularly where cotton is an important export crop. The practice of subsidising farmers in the US, in the case of upland cotton, was challenged by Brazil<sup>25</sup> before a WTO Dispute Settlement Body.<sup>26</sup> Brazil requested consultations with the US

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monocultures to the detriment of crop diversity and an increase in pests and pesticide use. Devlin Kuyek 'Genetically modified crops in African agriculture: implications for small farmers' (August 2002) [www.grain.org/briefings/?id=12](http://www.grain.org/briefings/?id=12) [Accessed 3 April 2009].

<sup>20</sup> New Partnership for Africa's Development (NEPAD) 'Comprehensive Africa Agriculture Development Programme' (CAADP)(July 2003) 8. Available at [www.nepad.org/2005/files/documents/caadp.pdf](http://www.nepad.org/2005/files/documents/caadp.pdf) [Accessed 19 January 2008]. See also § 7.3.3.3.

<sup>21</sup> The major internal factors negatively impacting on agriculture in many African countries include civil unrest and the affect of HIV/AIDS on the community. Collier (note 8) at 529.

<sup>22</sup> The question is also asked whether there is a link between modern technologies and the notion of agricultural deskilling: Stone expresses the view that the two agricultural technologies primarily responsible for the loss of agricultural skills are hybrid seeds and pesticide sprays and that GM seeds can contribute to deskilling depending on local circumstances. Glenn D Stone 'Agricultural deskilling and the spread of genetically modified cotton in Warangal' (2007) 48 (1) *Current Anthropology* 67 at 85.

<sup>23</sup> Dumping occurs when a company exports a product to another country at a price lower than the cost of production or the price normally charged in its own home market. Although not specifically prohibited by the WTO trade rules, countries are entitled to take action against the practice of dumping by charging antidumping duties in terms of the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994, Annex 1 A, Marrakesh Agreement.

<sup>24</sup> *Cape Times* Monday, June 4, 2007 at 1. See also 'Land reform founders on market forces: agricultural liberalisation crushing small-scale farmers' *Cape Times* Tuesday, August 26, 2008.

<sup>25</sup> Third parties who reserved their rights in the matter were Argentina, Australia, Benin, Canada, Chad, China, Chinese Taipei, European Communities, India, New Zealand, Pakistan, Paraguay, Venezuela, Japan, Thailand.

<sup>26</sup> *United States – Subsidies on Upland Cotton* (DS 267).

in terms of the WTO rules in 2002 as it was concerned about government assistance provided to US cotton producers, users and exporters and the legislation which provided for such assistance in the form of subsidies, grants, export credits and the like.<sup>27</sup> The Panel, in its report to Members in September 2004, found that the actions of the US breached the WTO rules on subsidies, and that the US domestic support programmes resulted in suppressed prices in the world market which resulted in serious prejudice of Brazil's (among other countries) interests. The US appealed to the Appellate Body which, in the main, upheld the findings of the panel and, although the US agreed to modify its practices to comply with its WTO obligations, it failed to do so adequately. In 2006 Brazil requested the establishment of a WTO panel in terms of the provisions concerned with the Surveillance of Implementation of Recommendations and Rulings of the Dispute Settlement Body.<sup>28</sup> This Panel, and an Appellate Body hearing an appeal from the US in 2008 essentially concluded again that the US measures were inconsistent with the WTO's Agreement on Agriculture and the Agreement on Subsidies and Countervailing Measures (SCM Agreement).<sup>29</sup>

Although 'unsuccessful', the US managed to draw the dispute out for at least 6 years, protecting its cotton industry while damaging the more vulnerable cotton markets in other countries, including countries in West and Central Africa, during that time.<sup>30</sup>

South Africa, unlike other large developing countries, has not used the WTO's (costly) dispute resolution mechanisms and seems unlikely to, according to the head of the South African delegation to the WTO who has indicated that:

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<sup>27</sup> Documentation on the dispute is available at [www.wto.org/english/tratop\\_e/dispu\\_e/cases\\_e/ds267\\_e.htm](http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds267_e.htm) [Accessed 3 April 2009].

<sup>28</sup> Article 21.5 of the Understanding on Rules and Procedures Governing the Settlement of Disputes, 1994, 33 *ILM* 1226 (1994).

<sup>29</sup> The Agreement on Agriculture and the Agreement on Subsidies and Countervailing Measures, are annexed to the Agreement Establishing the World Trade Organisation (Marrakesh Agreement), 1994, 1867 UNTS 154, 33 *ILM* 1144 (1994).

<sup>30</sup> See for example the United Nations Conference on Trade and Development 'Annex: Cotton subsidies and their effects on the economies of West and Central Africa' in *Economic development in Africa: trade performance and commodity dependence* (2003) United Nations at 63-68.

[t]here are many areas where we could make a complaint against the US or EU, such as sugar, dairy and cotton, but other countries have had a greater interest in pursuing the US and EU on these issues.<sup>31</sup>

Restrictions on trade barriers, first-world subsidies and dumping are not the only trade law threats to healthy agriculture in Africa: the international IP law regime also impacts on the health of the sector.

### 3.2.3 *International intellectual property law*

The IP rights regime instituted by the TRIPS<sup>32</sup> Agreement has been described as creating 'new forms of servitude'.<sup>33</sup> Drahos and Braithwaite explain:

When farmers farm with Monsanto's seeds their world changes. Seeds become patented technology.<sup>34</sup> Farming becomes agricultural biotechnology. Farmers never own this technology. Instead they become its annual lessees under a system of patents and licences. Farmers manage a technological system on behalf of a corporate entity that keeps a monitoring eye on their land and crops to make sure that its patents and licenses are being observed.<sup>35</sup>

IP rights in PGRs are becoming increasingly important, and challenging, for regulators seeking to achieve sustainable agriculture. In government's 2004 National Draft Discussion Document on Agricultural Biotechnology<sup>36</sup> the IP rights dilemma is set out as follows:<sup>37</sup>

- a) There is an asymmetry between the nationality of most Plant Breeders' Rights holders and the nationality of most users. ... Approximately 60% of rights-holders in South Africa are foreigners ... that are largely based in Europe and the North America.
- b) The exploitation of local biodiversity and indigenous knowledge presents a challenge for South Africa. For example, if farmers and traditional communities have adapted, improved and

<sup>31</sup> Ann Crotty 'SA fails to use WTO's dispute process' *Cape Times* Monday, November 9 2009.

<sup>32</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, 33 *ILM* 1197 (1994).

<sup>33</sup> Drahos with Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) at 38.

<sup>34</sup> Monsanto's patents in respect of cottonseed are described in § 3.2.5.

<sup>35</sup> Drahos with Braithwaite (note 33) at 38.

<sup>36</sup> *Government Gazette* No 27936, Notice 1591 of 2005.

<sup>37</sup> *Government Gazette* No 27936, Notice 1591 of 2005 at para 2.4.

produced seed that is environmentally sustainable, who then deserves to reap the benefits of innovation through modern biotechnology? Individuals or the whole community (in a country that often doesn't recognise collective rights)?

- c) Why should farmers provide access to landraces if there will not be due consideration for the benefits ...
- d) Farmers are concerned that the possible introduction of gene use restriction technologies ... could introduce an additional cost upon agricultural production as well as its potential impact on landraces.
- e) The majority of institutions in South Africa lack enforcement mechanisms for intellectual property rights. In fact, few even have an office coordinating intellectual property matters.
- f) Strategically, there is no national coordination of intellectual property, particularly with regard to agricultural biotechnology.

While public institutions grapple with these challenges, and the challenges of managing IP,<sup>38</sup> key industry players in the agricultural sector, such as Monsanto, appear to use every available means to maximise their investment on research and development by securing IP rights such as patents and plant variety protection and through the use of contract law.<sup>39</sup>

#### *3.2.4 Monsanto's operations in South Africa*

The Monsanto Company, a multinational agricultural company with its headquarters in St Louis, Missouri, is one of the world's largest producers of agricultural products, with a mission to help farmers 'feed, clothe and fuel our growing world'.<sup>40</sup> Originally founded in 1901, as a chemical company,<sup>41</sup> the new millennium saw Monsanto's focus shift, through a series of mergers, acquisitions and business sales, from the chemical industry to the agricultural

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<sup>38</sup> Draft Discussion Document on Agricultural Biotechnology 2004, Government Gazette No 27936, Notice 1591 of 2005 at para 3.7 indicates that '[t]here are management challenges with regard to the use of IPR, such as ways of disclosing intellectual property, questions of ownership, remuneration, forms of intellectual property exploitation, and the question of who should manage intellectual property rights as well as the growth and developmental challenges of a country like SA.'

<sup>39</sup> Monsanto's Cotton Technology Agreement is scrutinised from a black-letter law perspective in chapter 4, and its broader context discussed in the text below.

<sup>40</sup> [www.monsanto.com/who\\_we\\_are/default.asp](http://www.monsanto.com/who_we_are/default.asp) [Accessed 11 November 2009]

<sup>41</sup> As a chemical company its products have included saccharin, agent orange, aspartame, polychlorinated biphenyls (PCBs) and recombinant Bovine Growth Hormone (rBGH).

biotechnology industry.<sup>42</sup> Monsanto is one of the forerunners in plant genetic engineering and holds numerous patents in relation to, among other things, genetically engineered soy, canola, maize and cotton seed.<sup>43</sup> Using these patents and its technology agreements, Monsanto determines how farmers may use the resultant genetically engineered seed.<sup>44</sup>

In its 2008 Annual Report,<sup>45</sup> the CEO, in his letter to shareholders, paints the picture of growing meat consumption in 'places like China and India' which is driving the need for more grain, a demand which Monsanto's innovations seek to meet. On this basis, Monsanto commits 'to increase ... annual gross profit to a range of \$9.5 billion to \$9.75 billion in 2012' which may well be achievable given Monsanto's performance in 2008. In its financial highlights for 2008, the CEO indicates that:

Monsanto realized record sales for a fifth consecutive year in fiscal 2008, delivering compound annual earnings growth of 20 percent-plus during that time and enabling us to return value to shareowners through our investments, dividends and share repurchases.

Monsanto appears to have been rewarded for its innovation and seems not to be struggling to recover its research and development costs.<sup>46</sup>

Monsanto is important, and powerful, in the South African cotton market where at least 90% of all cotton grown is genetically modified,<sup>47</sup> all of it currently using Monsanto's patented technology. In 2006 Monsanto acquired

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<sup>42</sup> For a discussion on the growth of the US seed industry and Monsanto's position in the industry and its mergers and acquisitions, see Debra Blair 'Intellectual property protection and its impact on the US seed industry' (1999) 4 *Drake J Agric Law* 297-331.

<sup>43</sup> Ibid.

<sup>44</sup> See chapter 4.

<sup>45</sup> At [www.monsanto.com/investors/financial\\_reports/annual\\_report/2008/default.asp](http://www.monsanto.com/investors/financial_reports/annual_report/2008/default.asp) [Accessed 11 November 2009].

<sup>46</sup> Monsanto indicates that its annual R&D budget is approximately 9% to 10% of its sales. In 2008 Monsanto invested \$980 million in research and development in respect of 'new biotech traits, elite germplasm, breeding, new variety and hybrid development, and genomics research'. [www.monsanto.com/investors/corporate\\_profile.asp](http://www.monsanto.com/investors/corporate_profile.asp) [Accessed 11 November 2009].

<sup>47</sup> The Department of Agriculture reports that in 2005, '[g]enetically modified cotton accounted for approximately 90% of local cottonseed sales'. Department of Agriculture 'The Seed Industry' (10 August 2005) at 1. Available at [www.nda.agric.za/docs/Cropsestimates/THE%20SEED%20INDUSTRY.doc](http://www.nda.agric.za/docs/Cropsestimates/THE%20SEED%20INDUSTRY.doc) [Accessed 31 July 2006].

the Delta and Pineland Company ('Deltapine'),<sup>48</sup> the only seed company that produces and distributes Bt cotton seed in South Africa, thus consolidating its monopoly in the GM cotton market. South Africa is important to Monsanto as a showcase to other developing countries that, like the EU, may otherwise be resisting GM crops.<sup>49</sup>

The Monsanto Technology Agreement, reproduced in annexure B and analysed in chapter 4, indicates that 'Monsanto licenses the Grower under applicable patents owned or licensed by Monsanto to use these technologies' and records that the South African patent numbers covering these technologies are 90/1417,<sup>50</sup> 86/5921<sup>51</sup> and 90/8699.<sup>52</sup> These patents, in the genetic engineering field, are described in some detail below for two reasons. Firstly, the descriptions illustrate modern biotechnology (genetic engineering) in respect of agricultural crops, and secondly they indicate what is being protected (appropriated) as a form of private property (the claims stated in the patent establish the extent of the property right)<sup>53</sup> and how seemingly unpatentable,<sup>54</sup> naturally occurring, genetic material is altered and described in a manner that overcomes the statutory hurdles to patentability.<sup>55</sup>

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<sup>48</sup> The acquisition has been confirmed by agents of Deltapine and Cotton SA.

<sup>49</sup> When the (then) US trade representative, Robert Zoellick (now World Bank president) announced that the US would challenge the EU's position on GM crops at the WTO, he was flanked by TJ Buthelezi, the chairperson of the Ubongwa Farmers Union in Makhathini. Elfrieda Pschorn-Strauss 'Bt cotton in South Africa: the case of the Makhathini farmers' *Seedling* April 2005, 13-21 at 13.

<sup>50</sup> Patent application number 90/1417 is a patent involving 'synthetic plant genes and method for preparation' in the name of Monsanto Company. (See Patent Journal, April 1990).

<sup>51</sup> Patent application number 86/5921 is a patent involving 'glyphosate-resistant plants' in the name of Monsanto Company (see Patent Journal, August 1987 at 125-126).

<sup>52</sup> Patent application number 90/8699 is a patent involving 'promoter for transgenic plants' in the name of Monsanto Company (see Patent Journal, December 1990 at 101).

<sup>53</sup> Carlos M Correa and Abdulqawi A Yusuf *Intellectual property and international trade: the TRIPS Agreement* (2008) at 242.

<sup>54</sup> Section 25(4)(b) of the South African Patents Act 57 of 1978 provides that: '[a] patent shall not be granted-

(a) ...

(b) for any *variety* of animal or plant or any essentially biological process for the production of animals or plants, not being a micro-biological process or the product of such a process.'

<sup>55</sup> *Ibid.* The use of the words 'variety' and 'essentially biological process' are intended to exclude from patentability *naturally* occurring processes and traditional breeding products and processes. On the other hand, the door is opened to genetically engineered plants through the patentability of micro-biological processes and products, including micro-organisms (Article 27(3)(b) TRIPS), which patent offices have accepted can mean plant genes. Margaret Llewelyn and Mike Adcock (eds) *European plant intellectual property* (2006) at 65.

### 3.2.5 Monsanto's patents in respect of genetically engineered cotton

South Africa's Patent Act<sup>56</sup> provides for patents to be granted for any *new*<sup>57</sup> invention which involves an *inventive*<sup>58</sup> step and which is capable of being used or applied in trade or industry or agriculture.<sup>59</sup> Although the Act excludes from patentability plant varieties and essentially biological processes for the production of plants, it does not exclude micro-biological processes or the product of such a process.<sup>60</sup> Although the Department of Agriculture's discussion document on agricultural biotechnology indicates that 'it is not clear whether products of biotechnology such as plants ... can be patented,'<sup>61</sup> it is common practice to do so, as the discussion below reveals.

South African patents endure for a period of 20 years<sup>62</sup> from the date of filing and thus the first registered of the three patents, patent number 86/5921, has already expired some years back<sup>63</sup> and is no longer protected by the Patents Act. The remaining two patents will expire during 2010. Once these patents have expired, Monsanto's technology may however continue to be protected either by new patents in respect of newer innovations,<sup>64</sup> or possibly to a more

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<sup>56</sup> Act 57 of 1978.

<sup>57</sup> 'Novelty' generally requires an invention not to have been previously disclosed, and to be state of the art at the time priority is claimed. See for example *Gentiruco AG v Firestone SA (Pty) Ltd* 1972 1 SA 589 (A) and *Netlon Ltd v Pacnet (Pty) Ltd* 1977 3 SA 840 (A).

<sup>58</sup> An invention is inventive if it is not obvious to a person skilled in the art, having regard to that which forms part of the state of the art at the time. See for example *Ensign-Bickford (South Africa) (Pty) Ltd and Others v AECl Explosives and Chemicals Ltd* 1999 (1) SA 70 (SCA).

<sup>59</sup> Section 25(1).

<sup>60</sup> Section 25(4)(b). There are no provisions in the Act or any additional guidelines on biotechnological inventions nor is there any case law in this regard. See also Kent Nnadozie et al (eds) *African perspectives on genetic resources: a handbook of laws, policies, and institutions* (2003) at 240.

<sup>61</sup> *Government Gazette* No 27936, Notice 1591 of 2005 at 26. What this comment reveals is the lack of co-ordination among government departments: whereas the Department of Trade and Industry, through its CIPRO office, allows for claims over plants, the Department of Agriculture does not appear to be aware of this.

<sup>62</sup> Section 46(1) of the Patents Act 57 of 1978 provides that: '[t]he duration of a patent shall ... be 20 years from the date of application therefore, subject to payment of the prescribed renewal fees ...'.

<sup>63</sup> The patent expired on 6 August 2006.

<sup>64</sup> This is sometimes expressed as 'evergreening' which is a strategy to tweak existing inventions in order to create a new patentable invention. See for example European Patent Office (EPO) 'Scenarios for the future: how might IP regimes evolve by 2025? What global legitimacy might such regimes have?' (2007) at 75.

limited extent, by way of contract law and through the protection of plant breeders' rights in the various cultivars.<sup>65</sup>

The rights afforded by a patent grant are limited to the claims contained in the patents. An invalid claim in a patent 'until corrected or amended, is an insurmountable obstacle to the grant of relief for infringement of the patent'.<sup>66</sup>

A description of each patent is set out below.

### 3.2.5.1 Patent 86/5921: glyphosate-resistant plants

The first South African patent of the three listed in Monsanto's agreement relates to an invention that allows for the genetically modified plant cells (modified to be resistant to a particular herbicide) to be successfully regenerated into plants that are themselves resistant to the herbicide.

This invention is in the fields of genetic engineering, biochemistry and plant biology. The patent explains that prior art had already established that the insertion of a modified gene (from bacteria) that expresses the EPSPS enzyme into a plant cell was able to create glyphosate-resistant (Gly<sup>R</sup>) plant cells.<sup>67</sup> Glyphosate is the active ingredient in Monsanto's herbicide called Roundup. Prior art had also established that glyphosate tolerant plant cells can be selected which overproduce EPSPS in the presence of low levels of glyphosate. What had not been done previously was to devise a method of genetically transforming plant cells in a manner that causes the regenerated cells and plants to also become resistant to glyphosate.<sup>68</sup>

The patent lists the suitable plants for the invention as including soybean, cotton, alfalfa, canola, flax, tomato, sugar beet, sunflower, potato, tobacco,

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<sup>65</sup> Plant breeders' rights are protected in terms of the Plant Breeders' Rights Act 15 of 1976 and discussed further in chapters 4 and 5.

<sup>66</sup> *H Lundbeck A/S and Another v Cipla Medpro (Pty) Ltd* 2008 BIP 79 (CP).

<sup>67</sup> Complete Specification of Patent Number 86/5921 at 2.

<sup>68</sup> Complete Specification of Patent Number 86/5921 at 3. The technical description in the patent is to the effect that '[t]he present invention embraces a cloning or expression vector which contains a gene which encodes a form of EPSPS which can effectively confer glyphosate resistance (Gly<sup>R</sup>) on plant cells and plants regenerated therefrom. The EPSPS gene encodes a polypeptide which contains a chloroplast transit peptide (CPT), which enables the EPSPS polypeptide (or an active portion thereof) to be transported into a chloroplast inside the plant cell.' Complete Specification of Patent Number 86/5921 at 4.

corn, wheat, rice and lettuce.<sup>69</sup> The method for transforming cotton cells is set out in the patent.<sup>70</sup>

There are 36 claims in the patent<sup>71</sup> including the claim over the gene which renders the plant cell resistant to glyphosate.<sup>72</sup> The claims extend to glyphosate-resistant: tomato plants,<sup>73</sup> tobacco plants,<sup>74</sup> oil seed rape,<sup>75</sup> flax plant,<sup>76</sup> soybean plant,<sup>77</sup> sunflower plant,<sup>78</sup> sugar beet,<sup>79</sup> alfalfa plants,<sup>80</sup> *but not cotton plants*. The impact of the omission of cotton plants is not entirely clear but is most likely insignificant given the claims over the gene. In any event, the patent has expired.

If a strict approach to the patentability requirements was adopted, the inventive step<sup>81</sup> of this invention could arguably be challenged on the basis that prior art had already established that the insertion of a modified gene (from bacteria) that expresses the EPSPS enzyme into a plant cell was able to create glyphosate-resistant (Gly<sup>R</sup>) plant cells. Prior art had also established that glyphosate tolerant plant cells can be selected which overproduce EPSPS in the presence of low levels of glyphosate. What had not been done previously was to devise a method of genetically transforming plant cells in a manner that causes the regenerated cells and plants to also become resistant to glyphosate. The question is whether the method devised would have been obvious to a person skilled in the art. While the standard of inventiveness required in the US is low, countries are at liberty to determine their standard according to their needs.

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<sup>69</sup> Complete Specification of Patent Number 86/5921 at 5.

<sup>70</sup> Complete Specification of Patent Number 86/5921 at 40-1.

<sup>71</sup> Complete Specification of Patent Number 86/5921 at 68-71.

<sup>72</sup> Claim 1, Complete Specification of Patent Number 86/5921 at 68.

<sup>73</sup> Claim 23.

<sup>74</sup> Claim 24.

<sup>75</sup> Claim 25.

<sup>76</sup> Claim 26.

<sup>77</sup> Claim 27.

<sup>78</sup> Claim 28.

<sup>79</sup> Claim 29.

<sup>80</sup> Claim 30.

<sup>81</sup> See note 58. The question 'Was the invention obvious?' is asked in assessing inventive step. See for example *Generics (UK) Ltd v Lundbeck A/S* [2007] RPC 32 (at 20) cited in Intellectual Property Office 'Examination guidelines for patent applications relating to biotechnological inventions in the Intellectual Property Office' (April 2009) at para 26.

Even after its expiry, Monsanto continues to refer to the patent in their Cotton Technology Agreement. Monsanto was approached for comment regarding their likely contractual arrangement with farmers once the patents have all expired. No response was forthcoming despite repeated requests for information from both the local and the US office.

### 3.2.5.2 Patent 90/1417: synthetic plant genes and method for preparation

This patented invention relates to the engineering of synthetic genes for insertion into plants in a manner which increases the expression efficiency of the inserted synthetic gene. The broad patent claims cover plants and seeds which contain the synthetic gene. The patent, in the statement of the invention,<sup>82</sup> indicates that:

[t]he present invention provides a method for preparing synthetic plant genes which genes express their protein product at levels significantly higher than the wild-type genes which were commonly employed in plant transformation heretofore. In another aspect, the present invention also provides novel synthetic plant genes which encode non-plant proteins.

More specifically, the invention describes the preparation of synthetic plant genes which encode the crystal protein toxin of *Bacillus thuringiensis* (Bt).<sup>83</sup> The invention indicates that in prior art the expression of the Bt toxin protein in plants has been problematic as mostly the levels of expression are low. This compromises the insecticidal efficacy of the genetically engineered plant.<sup>84</sup> This invention addresses the problem by offering a means to elevate the expression level of Bt toxin proteins in plants.<sup>85</sup>

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<sup>82</sup> Patent 1990/1417 at 16.

<sup>83</sup> Patent 1990/1417 at 16.

<sup>84</sup> Patent 1990/1417 at 18, 22.

<sup>85</sup> Patent 1990/1417 at 22. On the method of plant transformation, the patent indicates that a chimeric plant gene containing a structural coding sequence of the present invention can be inserted into the genome of a plant by any suitable method. Patent 1990/1417 at 32.

Plants which the patent identifies as suitable for use of the invention include soybean, cotton, alfalfa, oilseed rape, flax, tomato, sugarbeet, sunflower, potato, tobacco, maize, rice and wheat.<sup>86</sup>

In so far as the patent claims are concerned, the patent contains 46 claims,<sup>87</sup> ranging from claims over the method for improving the expression of a heterologous gene in plants by modifying the structural coding sequence of the gene;<sup>88</sup> to claims over a structural gene which encodes an insecticidal protein of *Bacillus thuringiensis*;<sup>89</sup> to a plant transformation vector comprising a particular plant gene;<sup>90</sup> to a chimeric plant gene which comprises a structural coding sequence encoding an insecticidal protein of *Bacillus thuringiensis*;<sup>91</sup> to a transformed plant cell containing a specified chimeric plant gene;<sup>92</sup> and to plants<sup>93</sup> that contain the transformed plant cell; and finally even the seed<sup>94</sup> produced by such a plant. As with the previous patent, novelty and inventiveness could be assessed by a person skilled in the art.

The patent expires on 23 February 2010.

### 3.2.5.3 Patent 90/8699: promoter for transgenic plants

This invention involves the DNA sequence of a promoter from the figwort mosaic virus (FMV) which functions as a strong and uniform promoter for chimeric genes inserted into plant cells.<sup>95</sup>

Broadly stated, a promoter assists an inserted gene to express the protein for which it codes in the plant cell.<sup>96</sup> Certain promoters (strong promoters) are more effective at this than others. Whereas prior art showed that a promoter

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<sup>86</sup> Patent 1990/1417 at 32.

<sup>87</sup> Patent 1990/1417 at 115-171.

<sup>88</sup> Claim 1 of Patent 1990/1417 at 115. Method claims are contained in claims 1 through to 12, and claim 27. See also claims 39 and 40.

<sup>89</sup> Claims over structural genes are contained in claims 13 to 24 and claims 26, 28, 29. See also claim 41.

<sup>90</sup> Claim 25 of Patent 1990/1417 at 161. See also claim 42.

<sup>91</sup> Claims over a chimeric plant gene are contained in claims 30-33. See also claim 43.

<sup>92</sup> Claims over transformed plant cells are claims 34 and 35. See also claim 44.

<sup>93</sup> Patent protection over plants is claimed in claims 36 and 37. See also claim 45.

<sup>94</sup> Claim 38. See also claim 46.

<sup>95</sup> Abstract of the Disclosure, Patent 1990/8699. 'The promoter is used in a plant cassette vector, a chimeric gene and in methods for transforming plant cells to obtain transgenic plants, plant cells or seeds incorporating the FMV promoter.' Abstract of the Disclosure, Patent 1990/8699.

<sup>96</sup> Completed Specification of Patent 90/8699 at 1A.

from the cauliflower mosaic virus (CaMV) was the 'strongest constitutive promoter known in plants',<sup>97</sup> this promoter also showed a high degree of variability. The object of the patented invention therefore was to 'provide a promoter for use in transgenic plants that exhibits an increased and more uniform level of expression of a gene product ... than that exhibited by previously known plant promoters.'<sup>98</sup> The invention uses the figwort mosaic virus (FMV). Both the cauliflower mosaic virus and the figwort mosaic virus are members of the caulimoviruses which are a group of double-stranded DNA viruses.<sup>99</sup>

The patent specifically indicates that suitable plants for the invention include soybean, cotton, alfalfa, oilseed rape, flax, tomato, sugar beet, sunflower, potato, tobacco, maize, wheat, rice and lettuce.<sup>100</sup>

The patent contains 48 claims, including claims over the promoter;<sup>101</sup> a method for transforming a plant cell to express a chimeric gene containing the promoter;<sup>102</sup> a chimeric gene containing the promoter;<sup>103</sup> a transformed plant cell containing the chimeric gene;<sup>104</sup> a plant transformation vector capable of inserting a chimeric gene containing the promoter into susceptible plant cells;<sup>105</sup> a transgenic plant containing such transformed plant cells;<sup>106</sup> and a seed<sup>107</sup> from such a plant.

In addition to a possible challenge to inventiveness in light of prior art, a challenge might also be launched against the patent on the basis that a discovery of something that has always existed is not novel and is therefore not patentable.<sup>108</sup> Increasingly however it is standard practice abroad 'to

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<sup>97</sup> Completed Specification of Patent 90/8699 at 2.

<sup>98</sup> Completed Specification of Patent 90/8699 at 4.

<sup>99</sup> Completed Specification of Patent 90/8699 at 7.

<sup>100</sup> Completed Specification of Patent 90/8699 at 14.

<sup>101</sup> Claims 1-5 of the Completed Specification of Patent 90/8699. See also claim 42.

<sup>102</sup> Claims 6-9 of the Completed Specification of Patent 90/8699. See also claims 22, 23 and 43.

<sup>103</sup> Claims 11-14 of the Completed Specification of Patent 90/8699. See also claim 44.

<sup>104</sup> Claims 16-21 of the Completed Specification of Patent 90/8699. See also claim 45.

<sup>105</sup> Claims 24-27 of the Completed Specification of Patent 90/8699. See also claim 46.

<sup>106</sup> Claims 28-34 of the Completed Specification of Patent 90/8699. See also claim 47.

<sup>107</sup> Claims 35-41 of the Completed Specification of Patent 90/8699. See also claim 48.

<sup>108</sup> Section 25(1)(a) of the Patents Act 57 of 1978.

recognise the novelty for a natural substance which has been isolated for the first time and which had no previously recognised existence.<sup>109</sup>

This patent expires on 30 October 2010.

A discussion on the validity of these patents is constrained by the absence of case law and guidelines for the patentability of biotechnological inventions in South Africa. The South African patent office is not an examining office and any challenges to validity are likely to require litigation.

Monsanto's genetic engineering patents are particularly valuable in a country, like South Africa, that permits GM crops. This usually involves the regulation of genetic modification (or modern biotechnology) in terms of international and national biosafety law. The regulatory regime in the South African context, and the broader global uptake of GM crops, is introduced in the section below. The regulatory regime is discussed in more detail in chapter 5 in the context of the state's regulatory powers.

### 3.3 Genetic modification and its regulation

#### 3.3.1 Definitions

The terms *modern*<sup>110</sup> biotechnology,<sup>111</sup> genetic engineering and genetic modification are often used interchangeably. Techniques in modern biotechnology involve the transfer of genes between species in a manner and

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<sup>109</sup> *Howard Florey Institutes Application / Relaxin* OJEPO 1995, 388 (V 0008/94) cited in UK Intellectual Property Office guidelines (note 81).

<sup>110</sup> *Modern* biotechnology should not be confused with the so-called *traditional* methods of biotechnology which produced products such as cheese, beer and penicillin. Early (or traditional) forms of biotechnology include centuries old techniques such as fermentation and the selective breeding of plants and animals. Biotechnology becomes *modern* biotechnology when it involves the transfer of genetic material between organisms, in a manner occurring without contact between the organisms. See Mackenzie et al *An explanatory guide to the Cartagena Protocol on Biosafety* IUCN (2003) at 7. The evolutionary development of biotechnology is sometimes described as the three generations, or phases, of biotechnology. The first two phases (*traditional* biotechnology) consisting of first generation techniques such as selective breeding and fermentation and second generation use of pure cell or tissue culture to yield new products, and the third phase being *modern* biotechnology which uses recent advancements in gene technology, such as the ability to transfer genes between species, in a manner which could not occur using traditional techniques. Iqbal Parker et al 'A national biotechnology strategy for South Africa' (June 2001) Department of Arts, Culture, Science and Technology at 1.

<sup>111</sup> The term biotechnology broadly encompasses the use of living things (organisms) or their derivatives, in various techniques, to make or modify products and processes. See for example the definition of biotechnology in Article 2 of the Convention on Biological Diversity.

at a speed not previously possible.<sup>112</sup> A definition for genetic modification is contained in South Africa's Genetically Modified Organisms Act<sup>113</sup> and *modern* biotechnology is defined in the Cartagena Protocol on Biosafety,<sup>114</sup> a protocol negotiated in terms of the Convention on Biological Diversity,<sup>115</sup> which South Africa is party to.

Whereas the Cartagena Protocol embraces a much narrower definition of living modified organisms,<sup>116</sup> the South African GMO Act more broadly defines a genetically modified organism as:

... an organism the genes or genetic material of which has been modified in a way that does not occur naturally through mating or natural recombination or both, and 'genetic modification' shall have a corresponding meaning.<sup>117</sup>

In other words, *any* modification of genes or genetic material in a manner that does not occur naturally is defined by the GMO Act as a genetically modified organism. The definition of modern biotechnology in the Cartagena Protocol is somewhat narrower than this. The protocol defines modern biotechnology as:

... the application of:

- a. In vitro nucleic acid techniques, including recombinant deoxyribonucleic acid (DNA) and direct injection of nucleic acid into cells or organelles, or
- b. Fusion of cells beyond the taxonomic family, that overcome natural physiological reproductive or recombination barriers and that are not techniques used in traditional breeding and selection...

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<sup>112</sup> A National Biotechnology Strategy for South Africa (June 2001) Department of Arts, Culture, Science and Technology at 1-3.

<sup>113</sup> Act 15 of 1997. The GMO Act is discussed in more detail in chapter 5.

<sup>114</sup> Cartagena Protocol on Biosafety, 2000, 39 *ILM* 1027 (2000).

<sup>115</sup> Convention on Biological Diversity, 1992, 31 *ILM* 818 (1992).

<sup>116</sup> Article 3 of the Protocol defines a living organisms and living modified organisms as follows:  
(g) "Living modified organism" means any living organism that possesses a novel combination of genetic material obtained through the use of modern biotechnology;  
(h) "Living organism" means any biological entity capable of transferring or replicating genetic material, including sterile organisms, viruses and viroids...".

<sup>117</sup> Section 1 of the GMO Act.

The protocol therefore applies to technologies which involve *in vitro* or 'fusion' techniques that are not used in traditional breeding and that overcome natural barriers.

The provisions of the Protocol and the GMO Act, both discussed further in chapter 5, would therefore be applicable to GM cottonseed<sup>118</sup> produced using the techniques described in the above-mentioned patents. The Protocol regulates the transboundary movement of GMOs and the GMO Act regulates activities involving GMOs in the South African context. South Africa is one of a relatively small group of countries that has actively embraced GM crops, as figures 3 and 4 below illustrates.

### 3.3.2 Extent of cultivation

GM crops have been commercially cultivated for more than a decade.<sup>119</sup> It is reported that in the year 2006, one year after the first decade of commercialised GM crops, the global area of GM crops increased by thirteen percent (twelve million hectares) to reach a total of 102 million hectares.<sup>120</sup> By 2008 three more countries were growing GM crops and the global area increased to 125 million hectares.<sup>121</sup> The global area of commercialised GM crops, per country, in 2008 is set out in figure 3.

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<sup>118</sup> Currently cotton is genetically modified to perform one of two (or both) functions: to act as a pesticide or as a herbicide or to perform a combination of these functions. Cotton that is genetically modified to act as a pesticide is known as Bt cotton. Bt refers to *Bacillus thuringiensis*, a bacterium occurring naturally in soil which, when its genes are inserted into the cotton plant, produces toxins that are effective in controlling certain insect infestations (eg the bollworm), hence reducing the need for certain pesticides. The second type of genetic modification occurs when the cotton plant is modified to resist (survive) the herbicide glyphosate (ie Monsanto's Roundup Ready) which would ordinarily kill both weeds and the cotton plant. Cotton plants that are genetically modified to have both traits, which are known as *stacked* varieties, are also commercially available. Stephen Greenberg 'Global agriculture and genetically modified cotton in Africa' (October 2004). Available at [www.grain.org/research/btcotton.cfm?links](http://www.grain.org/research/btcotton.cfm?links) [Accessed 10 January 2008].

<sup>119</sup> See for example the United States Department of Agriculture 'The first decade of genetically engineered crops in the United States' (2006). Available at [www.ers.usda.gov/publications/eib11/eib11.pdf](http://www.ers.usda.gov/publications/eib11/eib11.pdf) [Accessed 4 February 2008].

<sup>120</sup> International Service for the Acquisition of Agri-biotech Applications (ISAAA) 'Global status of commercialized biotech/GM crops: 2006'. Available at [www.isaaa.org/resources/publications/briefs/default.html](http://www.isaaa.org/resources/publications/briefs/default.html) [Accessed 4 February 2008].

<sup>121</sup> The three new countries are Egypt, Burkina Faso and Bolivia. ISAAA Brief 39 – 2008 Executive Summary available at [www.isaaa.org/resources/publications/briefs/39/executivesummary/default.html](http://www.isaaa.org/resources/publications/briefs/39/executivesummary/default.html) [Accessed 3 April 2009].

Rank	Country	Area (million hectares)	GM Crops
1	USA	62.5	Soybean, maize, cotton, canola, squash, papaya, alfalfa, sugar beet
2	Argentina	21.0	Soybean, maize, cotton
3	Brazil	15.8	Soybean, maize, cotton
4	India	7.6	Cotton
5	Canada	7.6	Canola, maize, soybean, sugar beet
6	China	3.8	Cotton, tomato, poplar petunia, papaya, sweet pepper
7	Paraguay	2.7	Soybean
8	South Africa	1.8	Maize, soybean, cotton
9	Uruguay	0.7	Soybean, maize
10	Bolivia	0.6	Soybean
11	Philippines	0.4	Maize
12	Australia	0.2	Cotton, canola, carnation
13	Mexico	0.1	Cotton, soybean
14	Spain	0.1	Maize
15	Chile	<0.1	Maize, soybean, canola
16	Colombia	<0.1	Cotton, carnation
17	Honduras	<0.1	Maize
18	Burkina Faso	<0.1	Maize
19	Czech Republic	<0.1	Maize
20	Romania	<0.1	Maize
21	Portugal	<0.1	Maize
22	Germany	<0.1	Maize
23	Poland	<0.1	Maize
24	Slovakia	<0.1	Maize
25	Egypt	<0.1	Maize

Source: Clive James, 2008.

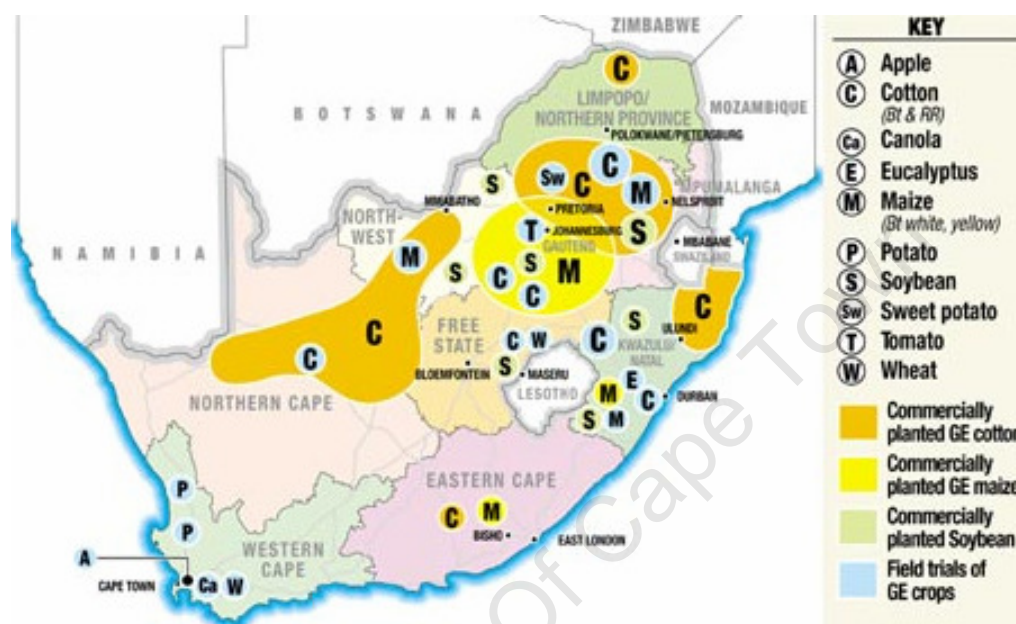
Figure 3: Global area of GM crops by country in 2008

Up until 2008, South Africa was the only African country with commercial GM crops. In 2008 South Africa was joined by Burkina Faso and Egypt.<sup>122</sup> In addition, laboratory research and field trials are being conducted in a number of African countries including Zimbabwe, Malawi, Zambia, Kenya, Sudan, Algeria, Mali, Senegal, Benin, Nigeria and Angola.<sup>123</sup>

<sup>122</sup> Ibid.

<sup>123</sup> Grain at [www.grain.org/seedling\\_files/seed-04-07-gm-africa-map.pdf](http://www.grain.org/seedling_files/seed-04-07-gm-africa-map.pdf) [Accessed 4 February 2008]. See also Steven Were Omamo and Klaus von Grebmer (eds) *Biotechnology, agriculture, and food security in southern Africa* (2004) at 15.

The most common occurring GM crops are cotton, soybean and maize, and, in the 2004/05 season approximately 90 percent of cotton seed, 52 percent of soybean and 20 percent of maize seed sold in South Africa was genetically engineered.<sup>124</sup> Field trials being conducted in South Africa include canola, potato, tomato and wheat. The map<sup>125</sup> shown in figure 4 indicates the extent and location of GM crops grown in South Africa in 2004/5.



(Source: Biowatch)

Figure 4: Genetically modified crops in South Africa (2004/5)

Genetic modification in agriculture, and the distribution of its products,<sup>126</sup> is controversial<sup>127</sup> and opinions in this regard are polarized.<sup>128</sup> Concerns about

<sup>124</sup> Department of Agriculture ‘The Seed Industry’ (10 August 2005). Available at [www.nda.agric.za/docs/Cropsestimates/THE%20SEED%20INDUSTRY.doc](http://www.nda.agric.za/docs/Cropsestimates/THE%20SEED%20INDUSTRY.doc) [Accessed 31 July 2006].

<sup>125</sup> Published by Biowatch at [www.biowatch.org.za/main.asp?include=docs/gm\\_crops.html](http://www.biowatch.org.za/main.asp?include=docs/gm_crops.html). [Accessed 4 February 2008].

<sup>126</sup> In 2002 African countries, in dire need of food, were offered genetically modified food aid from the US. Zambia rejected the GM foods and stood by its rejection; Zimbabwe, an exporter of non-GM foods, agreed to accept the maize only if it was milled so that farmers would be incapable of planting the maize and contaminating local crops; and Lesotho, Malawi and Mozambique eventually relented and accepted the GM food.

<sup>127</sup> In addition to ethical and religious concerns with the technology, there is concern generally about the possible threat posed by the technology to the environment (biodiversity) and to human and animal health. In addition, a spectre of socio-economic consequences may arise from the use of GM crops including ‘the displacement of traditional crops and its attendant problems, and the disruption of small scale farming systems’. Collier and Moitui (note 2) at 33, citing Mackenzie et al (note 110) at para 35. See generally also Christoph Baumgartner ‘Exclusion by inclusion? On

GM cotton include environmental<sup>129</sup> and socio-economic<sup>130</sup> factors. These concerns are discussed in the context of the case study in chapter 6.

The potential value of biotechnology is recognised in the Biotechnology Strategy for South Africa.<sup>131</sup> Supporting legislation, the GMO Act, has enabled the approval and the import of many agricultural biotechnology products.<sup>132</sup> The SA approach has been criticised, on the one hand for being overly restrictive and therefore stifling industry, and on the other for being overly permissive and for lacking in broader consultation and appreciation of the local context.<sup>133</sup> In so far as the technology itself is concerned, what appear to be benefits to the farmer should not obscure increased risks and exposure to

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difficulties with regard to an effective ethical assessment of patenting in the field of agricultural bio-technology' (2006) 19 *Journal of Agricultural and Environmental Ethics* 521-539.

<sup>128</sup> See for example Susanne Freidberg and Leah Horowitz 'Converging networks and clashing stories: South Africa's agricultural biotechnology debate' (2004) 51(1) *Africa Today* 3-25. On the potential benefits of GM see for example Julian Kinderlerer 'Genetically modified organisms: a European scientist's view' (2000) 8 *NYU Environmental Law Journal* 556-565.

<sup>129</sup> In addition to the concern about the vulnerability of monocultures, there is growing evidence that the benefits, or effectiveness, of genetically engineered cotton crops decrease over time. In Australia, for example, one study reports that the pesticide benefits of Monsanto's genetically engineered Ingard cotton varieties steadily declined from one season to the next: 'Average use of insecticide ... was 52% less in 1996/1997 (season of Ingard introduction), 44% less in 1997/1998, and only 38% less in 1998/1999.' Elfrieda Pschorn-Strauss and Christine Jardine, Biowatch South Africa, Briefing No. 3 'Genetically engineered cotton. High risks, low returns' (2004) at 3. Available at [www.biowatch.org.za/pubs/briefings/2004/briefing03.pdf](http://www.biowatch.org.za/pubs/briefings/2004/briefing03.pdf) [Accessed 3 March 2009]. It is also reported that a seven-year study by the Centre for Chinese Agricultural Policy, the Chinese Academy of Sciences and Cornell University in the US has found that farmers in China who planted Bt cotton initially cut their pesticide use by more than 70% and earned around 36% more than farmers planting conventional cotton; but that pesticide use on the GM crops had to be increased over time and this led to GM cotton farmers ultimately earning 8% less than conventional cotton farmers. See the Cornell Chronicle 'Seven-year glitch: Cornell warns that Chinese GM cotton farmers are losing money due to "secondary" pests' online at [www.cals.cornell.edu/cals/public/comm/news/archive/seven-year-glitch.cfm](http://www.cals.cornell.edu/cals/public/comm/news/archive/seven-year-glitch.cfm) [Accessed 3 March 2009]. Notwithstanding potential environmental risks, it would appear that the biosafety trials, which should have been conducted two or three years prior to the release of the seed to farmers, were conducted almost simultaneously with its release. Elfrieda Pschorn-Strauss, Biowatch South Africa, 'Bt cotton and small-scale farmers in Makhathini – a story of debt, dependence, and dicey economics' available at [www.grain.org/btcotton/?id=100](http://www.grain.org/btcotton/?id=100) [Accessed 3 March 2009].

<sup>130</sup> On socio-economic concerns and biotechnology in Africa see generally Collier and Moitui (note 2) and see the discussion in chapter 6.

<sup>131</sup> The strategy was developed under the auspices of the Department of Science and Technology in 2001. The Biotechnology Strategy is available online at [www.pub.ac.za/resources/docs/biotechstrategy\\_2002.pdf](http://www.pub.ac.za/resources/docs/biotechstrategy_2002.pdf) [Accessed 6 April 2009]. The strategy is criticised for being hastily drafted with a 'corporate-driven, top-down orientation'. Aaron deGrassi 'Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence' (June 2003) *Third World Network* at 22.

<sup>132</sup> The Department of Agriculture provides a list of all GMO permits issued on its website at [www.nda.agric.za/](http://www.nda.agric.za/) under Regulatory and Other Services | Plant | Plant Genetic Resources | Genetic Control. [Accessed 3 April 2009].

<sup>133</sup> See Michel Fok, Jean-Luc Hofs, Marnus Gouse, Johann Kirsten 'Contextual appraisal of GM cotton diffusion in South Africa' (2007) Vol 1 (4) *Life Science International Journal* at 468-482.

hardship by vulnerable farm workers and small-scale and subsistence farmers.

### 3.4 Cotton and the South African cotton market

#### 3.4.1 Cotton: not just a textile fibre

Cotton, grown from seed, is a summer crop that can withstand harsh climates (but requires moisture to germinate) making it a potentially useful cash crop for farmers in Africa. After the USA and Uzbekistan, Africa is the third largest cotton export region in the world.<sup>134</sup> The varieties of wild species of cotton,<sup>135</sup> some of which may be native to southern Africa, are generally considered to be commercially unviable: common commercial cotton crops include Egyptian, Sea Island, American Pima, and American Upland. Cotton is used not only as a textile fibre, but also to produce cottonseed oil which is used in many food products and in animal feed.

In an historical account Cotton South Africa (Cotton SA)<sup>136</sup> indicates that '[i]n 1516 ... a certain Barbosa met natives in South Africa who grew cotton and wore cotton clothing. This was a type of wild cotton, species of which still exist today. The first cotton seed was planted [by settlers] in 1690 in the Western Cape, more or less 40 years after the arrival of Jan van Riebeeck.'<sup>137</sup>

Cotton was then brought from the United States in 1846 and was planted in the Amanzimtoti district in Natal and, between 1860 and 1870 cotton cultivation was encouraged in Natal and in the Cape due to the demands for cotton arising from the American Civil War. It appears that production then dropped off until the twentieth century. In the early decades production was encouraged in what were then the Transvaal Lowveld and the Eastern

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<sup>134</sup> Stephen Greenberg 'Global agriculture and genetically modified cotton in Africa' (2004) African Centre for Biosafety at 4.

<sup>135</sup> On the difficulties of identifying centres of origin, see CL Brubaker and JF Wendel 'Reevaluating the origin of domesticated cotton (*Gossypium hirsutum*; *Malvaceae*) using nuclear restriction fragment length polymorphisms (RFLPs)' (1994) 81 *American Journal of Botany* 1309-1326 which indicates that the dominant commercial species (*Gossypium hirsutum* L) originates from the 'semiarid tropics and subtropics of the Caribbean, northern South America, and Mesoamerica' (at 1309).

<sup>136</sup> Cotton SA is an association incorporated under Section 21 of the Companies Act 61 of 1973.

<sup>137</sup> Cotton SA 'History of cotton in South Africa' [www.CottonSA.org.za](http://www.CottonSA.org.za) [Accessed 3 April 2009].

Transvaal. Soon thereafter, the production of cotton was encouraged in regions of Natal and, in 1927, cotton was grown under irrigation in the Lower Orange river region.<sup>138</sup>

Cotton was declared an agricultural crop in 1939,<sup>139</sup> and in 1974 the Cotton Board was established. The Cotton Board, among other things, fixed prices for the cotton industry.<sup>140</sup> The Cotton Board was dissolved, following the enactment of the Marketing of Agricultural Products Act of 1996,<sup>141</sup> and Cotton South Africa (Cotton SA) was established as a non profit (section 21)<sup>142</sup> organisation to administer the cotton industry in South Africa,<sup>143</sup> but not to set prices, as the cotton trade was liberalised at about the same time.

The production of cotton in South Africa has steadily declined since the market was liberalised, most likely due to falling world prices and the comparatively better price of competing crops such as maize, sunflower seed and sugar cane.<sup>144</sup> Lack of access to credit since 2002 has also played a role in the decreasing number of cotton farmers.<sup>145</sup> As a result a number of cotton ginneries have been unable to cover their fixed costs of operation and have consequently closed down.<sup>146</sup>

For large-scale commercial farmers, cotton is cultivated in combination with other crops while, for small-scale farmers (such as those who farm in the

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<sup>138</sup> Cotton SA 'History of cotton in South Africa' [www.CottonSA.org.za](http://www.CottonSA.org.za) [Accessed 3 April 2009].

<sup>139</sup> Section 102 of the (now repealed) Co-operative Societies Act 29 of 1929. Cotton SA 'History of cotton in South Africa' [www.CottonSA.org.za](http://www.CottonSA.org.za) [Accessed 3 April 2009].

<sup>140</sup> Michel Fok et al 'Contextual appraisal of GM cotton diffusion in South Africa' (2007) Vol 1 (4) *Life Science International Journal* 468-482.

<sup>141</sup> Act 47 of 1996, discussed in chapter 4.

<sup>142</sup> Section 21 of the Companies Act 61 of 1973.

<sup>143</sup> Its functions include the rendering of information services, the stimulation of production and the usage of cotton, the enhancement of the marketability of cotton through research, quality standards and norms as well as training, to act as advisory body to various Government Departments, to apply for appropriate statutory measures in terms of the Marketing of Agricultural Products Act and to administer such measures, small-scale cotton farmer development and overseeing the Cotton Sector Strategy Plan.

<sup>144</sup> Fok et al (note 140) at 3. Cotton production has declined from approximately 157 515 bales in 2000/01 to approximately 96 501 in 2001/02 to approximately 47 466 in 2009/10. M Gouse, JF Kirsten and L Jenkins 'Bt cotton in South African: adoption and the impact on farm incomes amongst small-scale and large scale farmers' (2003) 42(1) *Agrekon* 15-28 at 16 and Cotton SA ([www.CottonSA.org.za](http://www.CottonSA.org.za)).

<sup>145</sup> See note 15. See also Stephen Morse and Richard Bennett 'Impact of Bt cotton on farmer livelihoods in South Africa' (2008) 10 *Int J Biotechnology* 224 at 226.

<sup>146</sup> Fok et al (note 140) at 3.

Makhathini Flats), the opportunities to produce other crops are limited by the harsh climate and the lack of support services.<sup>147</sup> For commercial (large-scale) cotton growers, and small-scale farmers alike, pesticide saving and peace of mind about bollworms are indicated as the most important benefit of Bt cotton.<sup>148</sup> While the cost of the seed and technology agreement is indicated as the major disadvantage (resulting in some farmers ceasing to plant the seed),<sup>149</sup> other 'benefits' include increased yield and labour saving.<sup>150</sup>

As mentioned above, at least 90% of all cotton grown in South Africa is genetically modified.<sup>151</sup> In the Makhathini Flats the figure is closer to 100%.<sup>152</sup> The practice is for Cotton SA to make cotton cultivar recommendations in conjunction with experts in the cotton industry.<sup>153</sup> Recommendations are made for each production region. The 2008/09 recommendations for the KwaZulu Natal region (which includes the Makhathini Flats) are:

- NuOPAL RR          NuOPAL
- DeltaOPAL RR      DeltaOPAL
- DP Lebombo BG/RR (for handpicking purposes)
- DP 444 BG/RR (for all regions)
- DP 445 BG/RR

All of these are Deltapine (Monsanto)<sup>154</sup> cottonseed, and all of the cultivars recommended are GM cottonseed except for the DeltaOPAL. Cottonseed suppliers stock a limited variety of cottonseed and it is increasing difficult for farmers to obtain conventional (non-GM) seed: if it is available it is generally packaged in large 25 kg bags that small-scale farmers are unable to afford.<sup>155</sup>

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<sup>147</sup> Fok et al (note 140) at 3.

<sup>148</sup> M Gouse, JF Kirsten and L Jenkins (note 144) at 20-21.

<sup>149</sup> M Gouse, JF Kirsten and L Jenkins (note 144) at 20.

<sup>150</sup> M Gouse, JF Kirsten and L Jenkins (note 144) at 20-21.

<sup>151</sup> The alternatives to Bt cotton include conventional cotton crops which require extensive (and harmful) pesticide spraying, and organic alternatives which may involve techniques such as crop rotation, companion planting and the use of natural sprays.

<sup>152</sup> Stephen Morse and Richard Bennett 'Impact of Bt cotton on farmer livelihoods in South Africa' (2008) 10 *Int J Biotechnology* 224 at 237.

<sup>153</sup> See the Cotton SA 'National cultivar recommendations for cotton – 2008/09' available at [www.CottonSA.org.za](http://www.CottonSA.org.za) [Accessed 3 April 2009].

<sup>154</sup> In South Africa, Deltapine is a subsidiary company of Monsanto.

<sup>155</sup> Harald Witt et al 'Can the poor help GM crops? Technology, representations & cotton in the Makhathini Flats, South Africa' (2006) 109 *Review of African Political Economy* 497 at 507.

Farmers who purchase GM cottonseed are required to sign the Cotton Technology Agreement, reproduced in annexure B.

The high percentage uptake of GM cottonseed in the Makhathini Flats is packaged by some as the successful deployment of agricultural biotechnology, narrated through the experiences of small-scale farmers in Makhathini.<sup>156</sup> A more compelling view is that farmers simply have no choice in the matter. This view maintains that the 'favourable attention accorded the Makhathini cotton farmers is indicative not of the appropriateness of the technology, but a symptom of a development policy and life-science industry which is keen for the technology to succeed'.<sup>157</sup> In effect, government policy strengthens the hand of the property rights holders.

### 3.4.2 *The Makhathini farmers: triumph or tragedy?*<sup>158</sup>

Makhathini is situated in the northern KwaZulu Natal province in the floodplain area east of the Ubombo mountains, below the Pongolapoort Dam

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<sup>156</sup> See for example Ismael, Thirtle and Beyer 'Can GM technologies help the poor? The efficiency of Bt cotton adopters in the Makhathini flats of KwaZulu-Natal (2002) 41 *Agrekon* 62-74; and Stephen Morse and Richard Bennett 'Impact of Bt cotton on farmer livelihoods in South Africa' (2008) 10 *Int J Biotechnology* 224-239.

<sup>157</sup> Harald Witt et al (note 155) at 498. See also Elfrieda Pschorn-Strauss 'Bt cotton in South Africa: the case of the Makhathini farmers' (2005) in *Seedling* Barcelona, Spain: Grain and the authorities cited in note 158 below.

<sup>158</sup> Authors who, in their publications, are 'cautiously optimistic' about the deployment of Bt cotton in Makhathini include Yousouf Ismael, Richard Bennett, and Stephen Morse 'Can farmers in the developing countries benefit from modern technology? Experience from Makhathini Flats, Republic of South Africa' 2001 (Vol 1 No 5) *Crop Biotech Brief*; Stephen Morse and Richard Bennett 'Impact of Bt cotton on farmer livelihoods in South Africa' (2008) 10 *Int J Biotechnology* 224-239; Colin Thirtle, Lindie Beyers, Yousouf Ismael and Jenifer Piesse 'Can GM technologies help the poor? The impact of Bt cotton in Makhathini Flats, KwaZulu-Natal (2003) Vol 31 No 4 *World Development* 717-732; M Gouse, JF Kirsten and L Jenkins 'Bt cotton in South Africa: adoption and the impact on farm incomes amongst small-scale and large-scale farmers' (2003) 42(1) *Agrekon* 15-28; and M Gouse, C Pray and David Schimmelpfennig 'The distribution of benefits from Bt cotton adoption in South Africa' (2004) 7(4) *AgBioForum* 187-194.

Slightly less enthusiasm for the technology is expressed by Hofs JL & Kirsten J 'Genetically modified cotton in South Africa: the solution for rural development?' (2001) Working paper 2001-17, Department of Agricultural Economics, University of Pretoria.

Authors that are more critical of the technology in Makhathini include Harald Witt, Rajeev Patel and Matthew Schnurr 'Can the poor help GM crops? Technology, representation & cotton in the Makhathini Flats, South Africa' (2006) 109 *Review of African Political Economy* 497-513; Devlin Kuyek 'Genetically modified crops in African agriculture: implications for small farmers' (August 2002) [www.grain.org/briefings/?id=12](http://www.grain.org/briefings/?id=12) [Accessed 11 November 2009]; Stephen Greenberg 'Global agriculture and genetically modified cotton in Africa' (October 2004) African Centre for Biosafety; Elfrieda Pschorn-Strauss 'Bt cotton in South Africa: the case of the Makhathini farmers' (2005) in *Seedling* Barcelona, Spain: Grain and Aaron deGrassi 'Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence' (June 2003) Third World Network.

(sometimes called the Jozini Dam) on either side of the Pongola River. Makhathini falls within the Umkhanyakuda district, one of the poorest in the province, and the majority of farmers in the area are small-scale farmers with landholdings generally between 1 and 3 hectares.<sup>159</sup> There are approximately 5000 small-scale farmers in the area, the majority are women, as a result of the migration of men to mines, plantations, and industry.<sup>160</sup>

Recognising its enormous cropping, fishing and grazing potential – the area has fertile alluvial soils and an annual rainfall of approximately 600mm – the Pongola River floodplain was reserved for development by the British colonial government during its period of reign and, when South Africa became a Republic in 1961 it became state land.<sup>161</sup> The river was dammed in the 1960s,<sup>162</sup> with the intention that it would be used for irrigation for the growing of sugar cane by ‘poor whites’.<sup>163</sup> For a variety of reasons though, those earmarked for occupation did not take up occupation in the region.

The damming of the river had major consequences for Makhathini’s residents: fishers and farmers engaged in floodplain agriculture lost their livelihoods<sup>164</sup> and some 5000 individuals were resettled in order that the irrigation scheme could be established.<sup>165</sup> Although the scheme opened up the possibility for the large-scale cultivation of cotton, as it had the potential to provide a predictable and controllable supply of water to the flats,<sup>166</sup> the (expensive) scheme has largely failed and much of the region remains rain fed. This presents almost insurmountable challenges to cotton farmers. Notwithstanding these challenges, government institutions continue to support the cotton industry in

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<sup>159</sup> Witt et al (note 157) at 498.

<sup>160</sup> Aaron deGrassi ‘Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence’ (June 2003) Third World Network at 33.

<sup>161</sup> Clive Poultney ‘Water committees take action’ ILEIA Newsletter, v1n92, 1992.

<sup>162</sup> The damming of the river had consequences for local agriculture. The previously natural flooding cycle was interrupted and replaced by controlled flooding from the dam. The controlled releases of water (undertaken by the Department of Water Affairs) often led to problems being experienced by farmers due to incorrect timing or duration of floods. In 1987 Water Committees were established to allow for representation of user groups from the affected communities in determining when water would be released. Poultney (note 161). Water from the Jozini Dam, and state land connected with the dam is now administered by Mjindi Farming (Pty) Ltd, a parastatal organisation. Witt et al (note 157) at 503.

<sup>163</sup> Poultney (note 161). See also Witt et al (note 157) at 499.

<sup>164</sup> Aaron deGrassi (note 160) at 24.

<sup>165</sup> Witt et al (note 157) at 500.

<sup>166</sup> Witt et al (note 157) at 499.

the area. One of the downsides of '[t]he surging interest in cotton as the key institutionally supported cash crop [is that it] triggered a corresponding decrease in a number of food crops which had previously been planted regularly in the area'.<sup>167</sup>

GM cotton was introduced by Monsanto and Deltapine into the Makhathini region in 1998. This would not have been possible without the backing of public institutions such as the Department of Agriculture and the Land Bank which provided financial support for farmers through a private facilitator, the Vunisa Cotton Company, which, until around 2002, was the sole supplier and purchaser of cotton seed. Vunisa would advance credit on the agreement that farmers would deliver their seed cotton to Vunisa. In 2001/02 a new company, the Makhathini Cotton (Pty) Ltd (MCC), erected a new gin in the area. Many farmers sold their seed cotton to MCC, who offered higher prices, notwithstanding their agreement with Vunisa. Vunisa and the Land Bank suffered a financial blow as a result. Only limited credit was available in the 2002/03 season (the MCC did not offer credit facilities) and by the 2003/04 season Vunisa had stopped operating in the area.<sup>168</sup>

Farmers who purchase GM cottonseed sign the Cotton Technology Agreement (reproduced in annexure B) which requires that farmers:

- Use the seed for planting a commercial crop for only one season;
- Plant a refuge as part of the insect resistance management strategy;
- Not supply any seed containing Bollgard® to any third party;
- Not use or provide seed containing Bollgard® to anyone for crop breeding, research, or seed production;
- Not ratoon any Bollgard® cotton;
- Allow Monsanto agents to inspect the growers' fields to ensure that the correct refuge areas have been planted.<sup>169</sup>

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<sup>167</sup> Footnote omitted. Witt et al (note 157) at 500.

<sup>168</sup> Fok et al (note 140) at 5.

<sup>169</sup> Elfrieda Pschorn-Strauss, Biowatch South Africa, 'Bt Cotton and small-scale farmers in Makhathini – A story of debt, dependence, and dicey economics' available at [www.grain.org/btcotton/?id=100](http://www.grain.org/btcotton/?id=100) [Accessed 3 March 2009].

A 2001 survey of twelve farmers who planted Monsanto's Bollgard® revealed that farmers did not understand the contracts they had signed.<sup>170</sup> In some cases 'farmers understand their contracts to mean that in the case of a crop failure, the seed will be replaced.'<sup>171</sup> Only one of the twelve farmers indicated that he had been fully apprised of the terms of the contract; five of the twelve were aware of the need to plant refuges and only three had done so.<sup>172</sup>

There have been studies which indicate marginal economic benefits and benefits relating to reduced pesticide use relative to previous cultivation of conventional cotton.<sup>173</sup> The majority of the farmers in a study of 100 farmers in the Makhathini area between 2003 and 2005 indicate that the increased livelihood is invested in their children's education, although school attendance is negatively impacted during the harvesting period.<sup>174</sup> Other uses of the increased livelihood include the repayment of debt (28 respondents); investment in cotton (45 respondents); and investment in other crops (20 respondents).<sup>175</sup>

There is some evidence that farmers who are able to finance genetically modified crops become trapped in a debt-cycle that is in fact worse than the debt-cycles already experienced by farmers growing non-genetically modified crops.<sup>176</sup> Even prior to the release of GM cottonseed, farmers, as a matter of course, faced depressing levels of indebtedness, exacerbated by poor yields and the fact that cotton was often the only source of credit in the region.<sup>177</sup>

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<sup>170</sup> Pschorn-Strauss (note 169).

<sup>171</sup> Pschorn-Strauss (note 169).

<sup>172</sup> Pschorn-Strauss (note 169). The industry recognises the real possibility of resistance developing and has made it a contractual requirement that users of Bt crops plant refuges of non-GE varieties to ensure that a sub-population of insects is not exposed to Bt toxin. It is intended that this sub-population will not develop any resistance and will pass on the non-resistant gene, diluting the resistant genes coming from insects that have been exposed to and survived Bt toxin. Elfrieda Pschorn-Strauss and Christine Jardine, Biowatch South Africa, Briefing No. 3 'Genetically engineered cotton. High risks, low returns' (2004) at 4. Available at [www.biowatch.org.za/pubs/briefings/2004/briefing03.pdf](http://www.biowatch.org.za/pubs/briefings/2004/briefing03.pdf) [Accessed 3 March 2009].

<sup>173</sup> Conventional cottonseed is cheaper than GM cottonseed. In addition to the increased cost of the seed, when farmers purchase GM cottonseed, they are required to pay a technology fee. In the 2006/07 season Wenkem provided Nu Opal (Bt) seed at R165 per 5kg and, in addition, the technology user fee cost R 114 per 5 kg. The cost of Nu Opal RR seed was R176 per 5 kg and the technology fee R258 per 5kg.

<sup>174</sup> Morse and Bennett (note 156) at 230-31.

<sup>175</sup> Morse and Bennett (note 156) at 230.

<sup>176</sup> Pschorn-Strauss (note 169).

<sup>177</sup> Witt (note 157) at 504.

GM cottonseed has not provided a solution to this 'dependent cyclical relationship' between farmers and an 'ever-changing set of developmental institutions that has served to entrench farmers in a high risk, low-return system of agriculture that is neither financially nor ecologically tenable'.<sup>178</sup>

Small-scale farmers are also likely to be vulnerable in terms of not owning land which in itself has an important impact on sustainable agriculture. Farmers uncertain about land tenure are unlikely to invest in and pursue long-term agricultural solutions, and will rely rather on to cash crops such as cotton.

Access and ownership of land, following land dispossession during colonisation, the impact of apartheid, and the slow redistribution of land thereafter,<sup>179</sup> is of major socio-economic concern. Currently much of the area under discussion is predominantly owned by the state and is held in trust by the Minister of Land Affairs until such time as it is redistributed to the inhabitants of the area.<sup>180</sup> Small-scale farmers are faced with a hostile environment where the slow redistribution of land, liberalisation of agricultural markets and a decrease in support all contribute to deepening poverty.<sup>181</sup> It has thus been said that, '... [s]cientists and researchers discussing Bt cotton without regard to the land issue have the effect of consciously or unwittingly downplaying the massive injustices and inequalities of the past and present.'<sup>182</sup> The odds for development seem to be stacked against the most vulnerable of communities.

Since the introduction of genetically engineered cotton, the number of cotton varieties available to farmers has decreased (and available varieties are mostly, and in some areas exclusively, genetically engineered). While yields may have risen, overall production has fallen, costs have increased, many jobs have been lost, and spinners have expressed dissatisfaction with the

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<sup>178</sup> Witt (note 157) at 504.

<sup>179</sup> Aaron deGrassi (note 160) at 31-2.

<sup>180</sup> Pschorn-Strauss (note 169).

<sup>181</sup> Aaron deGrassi (note 160) at 32.

<sup>182</sup> Aaron deGrassi (note 160) at 32.

quality of cotton being produced.<sup>183</sup> Although the argument is sometimes made that a successful cotton industry requires a great deal of coordination among public and private players and that this is better achieved when the number of companies involved is few, suggesting that competition should yield to coordination,<sup>184</sup> communications with Cotton SA and the Agricultural Research Centre do indicate that the lack of competition in the South African context has negative consequences.<sup>185</sup>

Figures 5 and 6 below, compiled from Cotton SA<sup>186</sup> statistics reflect estimates of the extent of the cultivation and the performance of cotton in the region during the period under review. The vast differential in respect of the number of cotton growers and the size of the area under cultivation is explained by variable climatic and economic factors.<sup>187</sup>

Figure 5 indicates small-scale farmer cotton production in KwaZulu Natal from 1996 (two years prior to the introduction of GM cotton seed in the region) and figure 6 indicates the average cotton yield statistics per hectare for dryland cultivation in South Africa.

Production year	Total hectares of cotton cultivated in KZN			Estimated number of small-scale farmers
	DRYLAND	IRRIGATION	TOTAL	
1996/97	9379	471	9850	3000
1997/98	9700	454	10154	2200
1998/99	4821	318	5139	2200
1999/00	6000	300	6300	3000
2000/01	3200	10	3210	3000
2001/02	9593	0	9593	3229
2002/03	1060	0	1060	353
2003/04	3000	1300	4300	1594
2004/05	1645	400	2045	598

<sup>183</sup> Pschorn-Strauss and Jardine (note 172) at 3.

<sup>184</sup> David Tschirley, Colin Poulton and Duncan Boughton 'The many paths of cotton sector reform in Eastern and Southern Africa: lessons from a decade of experience' (2006) MSU International Development Working Paper No 88.

<sup>185</sup> Concerns about monocultures, cost, and general public interest have been expressed by these organisations.

<sup>186</sup> At [www.CottonSA.org.za](http://www.CottonSA.org.za).

<sup>187</sup> JL Hofs, B Hau, D Marais and M Fok 'Boll distribution patterns in Bt and non-Bt cotton cultivars II. Study on small-scale farming systems in South Africa' (2006) at [www.up.ac.za/dspace/bitstream/2263/1789/1/Hofs\\_Boll2\(2006\).pdf](http://www.up.ac.za/dspace/bitstream/2263/1789/1/Hofs_Boll2(2006).pdf) [Accessed 3 March 2009].

2005/06	5200	1560	6760	2260
2006/07	1900	1030	2930	853
2007/08	860	440	1300	2260
2008/09	1500	0	1500	809

Figure 5: Small-scale cotton production in KwaZulu-Natal (1996-2008) <sup>188</sup>

YEAR	TOTAL RSA HECTARES DRYLAND	AVERAGE YIELD (seed cotton per hectare) DRYLAND	MAKHATHINI YIELD (seed cotton per hectare) DRYLAND
1997/98	67 017	403	620
1998/99	69 578	580	643
1999/00	67 356	545	270
2000/01	40 282	777	1000
2001/02	38 153	593	400
2002/03	28 897	515	400
2003/04	12 252	475	600
2004/05	17450	492	600
2005/06	8 866	521	388
2006/07	8 394	485	650
2007/08	2 863	451	500

Figure 6: Total dryland cotton yield statistics per hectare <sup>189</sup>

The statistics from the decade under review of GM cotton cultivation in Makhathini Flats are briefly narrated below.

*1997/98 – 1998/99 – 1999/2000 – 2000/01*

During the first four seasons under review, the number of cotton growers in the area fluctuated between 2000 and 3000 and the area under cultivation, by some accounts, at times exceeded 12 000 hectares. <sup>190</sup> At this time the Vunisa Cotton Company was the sole supplier of cotton and was able to offer credit due to its relationship with the Land Bank.

Farmers were encouraged to purchase Monsanto's Bollgard® technology on the basis that the crops would increase the farmers' yields and would require

<sup>188</sup> The table consists of extracts from Cotton SA's statistics titled 'small scale farmer cotton production in the RSA' available online at [www.CottonSA.org.za](http://www.CottonSA.org.za). The figures are estimates, as reported at small scale cotton farmers' forum meetings.

<sup>189</sup> The table is an extract from Cotton SA's table titled 'hectares planted and yields for the Republic of South Africa' available online at [www.CottonSA.org.za](http://www.CottonSA.org.za).

<sup>190</sup> Fok et al (note 140) at 3.

reduced insecticide spraying.<sup>191</sup> Additional inputs into the Makhathini project included a donation from Monsanto of \$10,000 to the Ubombo Farmers Association for the purchase of farming equipment in 2001.<sup>192</sup> In order to encourage farmers to plant cotton, Monsanto and Deltapine introduced money back policies and other incentives.<sup>193</sup>

### *2001/02 season*

In this season the area under cultivation increased substantially from the previous season, and the number of small-scale farmers engaged in cotton cultivation increased by almost 30%.

It was around this time that the cultivation of cotton in Makhathini was hailed a success<sup>194</sup> and used to pressure other African countries to adopt GM crops<sup>195</sup> and as a moral justification for the *Biotech Products*<sup>196</sup> case, discussed in chapter 5, against the European Communities.<sup>197</sup> The argument is that Europe's cautious approach toward GM food has a detrimental effect on Africa's potential to fight poverty and food insecurity.<sup>198</sup>

The 'success' refers to the high percentage uptake of GM cotton: many reports fail to indicate the broader implications of adopting GM cotton in a market where there is over-production and depressed world prices.<sup>199</sup> In addition, GM cotton is a labour-saving technology which has led to major labour cuts on large commercial farms: since 1998 more than 58 000 cotton-

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<sup>191</sup> Pschorn-Strauss (note 169).

<sup>192</sup> Pschorn-Strauss (note 169).

<sup>193</sup> Communication from Marnus Gouse, Department of Agricultural Economics, University of Pretoria (17 January 2008).

<sup>194</sup> Reports by the genetic modification industry indicate that the cotton yields of the small-holder farmers increased dramatically by up to 220%. Pschorn-Strauss (note 169). What the reports fail to indicate, amongst much else, was the artificial level of support and the package of inputs that accompanied the seeds. Pschorn-Strauss (note 169).

<sup>195</sup> Pressured countries include Uganda, Zambia, and Zimbabwe. Pschorn-Strauss (note 169).

<sup>196</sup> *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* WT/DS291/R, WT/DS292/R, WT/DS293/R.

<sup>197</sup> Pschorn-Strauss (note 169) See the many examples of the discourse of 'biotechnology for the poor' cited in Hisano, Shuji 'A critical observation on the mainstream discourse of "biotechnology for the poor"' (2005) 82 Working Paper Graduate School of Economics, Kyoto University.

<sup>198</sup> Pschorn-Strauss (note 169).

<sup>199</sup> The price of cotton in South Africa has fallen almost 40% since the introduction of Bt cotton in South Africa in 1998. Cotton SA statistics cited in Aaron deGrassi (note 160) at 34.

farm workers have lost their jobs.<sup>200</sup> This is a dire situation with South Africa's already unacceptably high unemployment figures.<sup>201</sup>

During this period, the Makhathini Cotton Company came into operation and established a local gin; this ultimately led to a litigated dispute with the Vunisa Cotton Company and the eventual demise of the Vunisa Cotton Company and its 'reckless lending' practices.<sup>202</sup>

#### *2002/03 season*

The area cultivated dropped during the 2002/03 – to around just over 1 400 hectares and the number of small-scale farmers to less than 400.<sup>203</sup> Late rains and drought were experienced,<sup>204</sup> and many farmers are reported to have lost their entire crops, with those who had planted GM crops in greater debt than conventional seed farmers after the crop failure.<sup>205</sup> Many farmers lacked access to credit following the demise of Vunisa and cancelled credit facilities.

#### *2003/04 season*

Notwithstanding the poor previous season, around 1 500 farmers grew cotton in the 2003/04 season.<sup>206</sup> Productivity nevertheless remained low, placing a strain on the finances of the Makhathini Cotton Company (MCC). It is indicated that, for the MCC gin to 'turn a profit it will have to process over 10 million kg a year ... . In the 2003/4 season ... the gin processed only 8 million kg.'<sup>207</sup> Matters never improved, as will be discussed below.

#### *2004/05 season*

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<sup>200</sup> A Cotton SA statistic cited in Aaron deGrassi (note 160) at 34.

<sup>201</sup> Official unemployment rates are close to 30%. A van Niekerk (ed) *Law@work* (2008) at 4. Statistics South Africa indicate that between January and June 2008, 153 000 people employed in the agricultural sector lost their jobs. Statistics South Africa 'Quarterly labour force survey – additional aspects of the labour market in South Africa: informal employment; underemployment and underutilised labour; unemployment' (2008) at 23.

<sup>202</sup> *Makhathini Cotton (Edms) Beperk v Vunisa Cotton (Edms) Bpk* (2002) Unreported case. Witt (note 157) at 503.

<sup>203</sup> Fok et al (note 140) at 3.

<sup>204</sup> Fok et al (note 140) at 12.

<sup>205</sup> Pschorn-Strauss (note 163).

<sup>206</sup> Fok et al (note 140) at 14.

<sup>207</sup> Witt (note 157) at 506.

The number of cotton farmers (548) dropped and the area under cultivation remained low.<sup>208</sup> The yields for the 2003/04 and 2004/05 seasons, although up from the drought seasons in 2001/02 and 2002/03, remained well below the yields achieved in the 2000/01 season.

#### *2005/06 season*

The area under cultivation rose to more than 6 000 hectares of dryland cotton and the number of cotton farmers increased to over 2000.<sup>209</sup> This substantial increase is ascribed to the provision of free (Monsanto) seed by the KwaZulu Natal Agricultural Department.<sup>210</sup> Notwithstanding these efforts, yields remained low as a result of harsh climatic conditions.

#### *2006/07 season*

The number of cotton farmers fell to just over 800 (no free inputs were provided) and the area under cultivation dropped to around a half<sup>211</sup> of the previous season's cultivated area. Increased yields were realised, but overall productivity remained low.

#### *2007/08 season*

The area under cultivation dropped again this season, although the estimated number of small farmers increased. The sustained low productivity over the previous seasons ultimately led to an application for the liquidation of the Makhathini Cotton Company.<sup>212</sup>

#### *2008/09 (current) season*

In the 2008/09 season matters did not improve: farmers were confronted with late rains and were again without a local cotton ginnery to provide their cotton

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<sup>208</sup> Fok et al (note 140) at 3.

<sup>209</sup> Fok et al (note 140) at 3.

<sup>210</sup> Fok et al (note 140) at 6. See also the table titled 'small-scale cotton farmer production estimates' at [www.CottonSA.org.za/reports\\_tables.aspx?tableID=8](http://www.CottonSA.org.za/reports_tables.aspx?tableID=8) [Accessed 11 November 2009].

<sup>211</sup> Fok et al (note 140) at 3. See also the table titled 'small-scale cotton farmer production estimates' at [www.CottonSA.org.za/reports\\_tables.aspx?tableID=8](http://www.CottonSA.org.za/reports_tables.aspx?tableID=8) [Accessed 11 November 2009].

<sup>212</sup> A provisional order was granted in the Natal Provincial Division on 16 November 2007 (N167/2007).

to. Despite all of government's efforts, there is no institutional framework that small-scale farmers growing cotton in Makhathini can turn to for support.

The production costs of cotton are high due to the cost of seed and its associated inputs. These costs and the low world prices for cotton are the major hurdles facing both commercial and small-scale farmers.<sup>213</sup> Whereas the cost of conventional cotton represents 40-60% of the total input cost, with the introduction of Bt cotton the percentage increases to 70-80%,<sup>214</sup> thus putting resource-poor farmers at greater financial risk.<sup>215</sup> Notwithstanding the clear risks facing the Makhathini cotton farmers, most do not produce any alternative crop.<sup>216</sup> Reasons for this are the harsh climate, the lack of irrigation and the lack of a functioning market. In addition, agriculture itself, it seems, is under pressure:

In SA smallholder agriculture is also associated with poverty and farming is no longer attractive to the youth in the rural areas. The reduction, if not disappearance of the supply of much needed technical assistance, contributes to make agriculture further less attractive.<sup>217</sup>

In so far as cotton yields are concerned, as the statistics above reflect, the cultivation of GM cotton in Makhathini is unimpressive. Studies indicate that up until the 2002/03 season, the cotton lint yield fluctuated around 200 kg/ha (or 540 kg/ha of seed cotton) which is estimated at around half of the yield in Francophone African countries.<sup>218</sup> In China, irrigated cotton yields are in excess of 3000 kg per hectare.<sup>219</sup> Interpreting the Cotton SA statistics, the opinion has been expressed that increases in yields since the introduction of GM cottonseed are almost insignificant and even less impressive, bearing in mind that the cost of GM cotton is so much greater than conventional cotton.<sup>220</sup> It has been reported that the only farmers who are able to purchase

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<sup>213</sup> Cotton SA have indicated that they would like to see more competition in the market and, to this extent, are considering alternative cultivars where the focus would be on dryland production.

<sup>214</sup> Fok et al (note 140) at 8.

<sup>215</sup> Fok et al (note 140) at 8.

<sup>216</sup> This is contrary to the typical practice in family farming in Africa. Fok et al (note 140) at 11.

<sup>217</sup> Fok et al (note 140) at 12.

<sup>218</sup> Fok et al (note 140) at 3.

<sup>219</sup> Morse and Bennett (note 156) at 227.

<sup>220</sup> See generally Hofs et al (note 187).

seed, when access to credit is not available, are those who have access to pension income.<sup>221</sup>

Although Makhathini has been flouted as an 'example of the potential for science to improve people's lives,'<sup>222</sup> and notwithstanding studies that indicate that using Bt cotton can benefit farmers in technical respects,<sup>223</sup> on deeper reflection surprise is expressed that the overall results and the overall performance of cotton in the region has not deterred farmers from growing cotton.<sup>224</sup> The point is made that:

[t]echnical solutions can not be expected to solve problems of an institutional order and in the case of the Makhathini Flats cotton producers, focus on a technical solution has diverted attention from the institutional problems.<sup>225</sup>

Cotton production, by large and small-scale farmers, is likely to continue to limp in South Africa, until there is an appropriate institutional response beyond a 'corporate-driven, top-down orientation.'<sup>226</sup> The problems are compounded by the global over-production of cotton, and resulting low world prices, for which both first world subsidies and Bt technology have been implicated.<sup>227</sup>

### 3.4.3 *Monsanto/ government: a relationship detrimental to public interest?*

The cost of the increasingly extensive scope of IP protection afforded to biotechnology companies may include: 'increases in genetic uniformity, increases in market concentration, higher costs to farmers, and potentially higher ... prices for the public.'<sup>228</sup> In the case of Monsanto's GM cotton, there is evidence of market concentration, higher costs to farmers and fears of

<sup>221</sup> Marnus Gouse et al 'Bt cotton and Bt maize: an evaluation of direct and indirect impact on the cotton and maize farming sectors in South Africa' (2008) Study conducted for the South African Department of Agriculture, which illustrates the precarious economics of small-scale cotton production, indicating that 'gross margins are frequently less than R1,000 per hectare, roughly equivalent to the current monthly old-age pension.'

<sup>222</sup> Siyabulela Ntutela, Wieland Gievers and Rudzani Ramaite (eds) *Science-based improvements of rural/subsistence agriculture: forum proceedings* (2006) Academy of Science of South Africa at 4.

<sup>223</sup> For example, a reduction in the use of pesticides and reduced labour needs.

<sup>224</sup> Fok et al (note 140) at 14.

<sup>225</sup> Fok et al (note 140) at 15.

<sup>226</sup> Aaron deGrassi (note 160) at 22.

<sup>227</sup> Ibid.

<sup>228</sup> Ewens, Lara E 'Seed wars: biotechnology, intellectual property and the quest for high yield seeds' (1999) 23 *Boston College Intl and Comparative Law Review* 285-310 at 308.

monoculture. The impact of this and other global trends in cotton, on the livelihoods of many farm workers and small-scale farmers has been devastating.<sup>229</sup> There is very little, if any, decent alternative work for those who have lost their livelihoods in the process.

Government, through its policies, and the provision of credit and cottonseed, has been intimately involved with the uptake of GM cottonseed in Makhathini. Farmers in the area have become dependent on these provisions, and, where crops have failed, have been caught up in a vicious cycle of debt.

Institutional planning for the area has been described as an 'incoherent and continually mutating institutional framework imposed upon a matrix of changing developmental and political philosophies [which has] led to a lack of continuity and poor co-operation.'<sup>230</sup> As a result 'high levels of institutional mistrust, disillusionment with development as a process, and crippling levels of indebtedness' pervade the area.<sup>231</sup>

In 2002, a preliminary agricultural development plan for the Makhathini Flats was launched.<sup>232</sup> The plan was drafted by independent consultants<sup>233</sup> who concluded that the Makhathini Flats 'has the potential to produce vast quantities of food, including the staples of maize, wheat and rice'.<sup>234</sup> The development plan envisaged the region as the breadbasket of South Africa, indicating that the environmental conditions of the Makhathini Flats are potentially conducive to numerous other crops such as coastal cashews and macadamia nuts and a long list of fruit and vegetables including avocados, bananas, cassava, mangoes, onions, pumpkin and squash. Water is available for irrigation purposes from the Jozini/Pongolapoort Dam. The consultant's report indicates that '[r]esearch has illustrated conclusively that the Makhathini

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<sup>229</sup> According to Cotton SA, thousands of farmer workers have lost their jobs, quoted in deGrassi (note 160) at 34.

<sup>230</sup> Witt (note 157) at 500.

<sup>231</sup> Witt (note 157) at 500.

<sup>232</sup> See the address by Mr Narend Singh, (then) KwaZulu-Natal Minister of Agriculture and Environmental Affairs, at the launching of a preliminary development plan – 'towards an agricultural development plan for the Makhathini flats' Mjindi Farmers' Hall, 17 October 2002. Online at [www.info.gov.za/speeches/2002/02121716461001.htm](http://www.info.gov.za/speeches/2002/02121716461001.htm).

<sup>233</sup> Urban-Econ Development Economists and Zakhe.

<sup>234</sup> Singh (note 232).

Flats can produce a range of food and crops in quantities to make a significant impact in the South African and international markets’.

To address the remoteness of markets, the preliminary plan suggests juice extraction and canning operations. Implementing the plan was the task of the KwaZulu Natal Agricultural Development Trust, a public/private sector partnership, and the KwaZulu Natal Agricultural Development Forum. Although criticised for a lack of consultation and what was still essentially a top-down process in which the plan was drafted,<sup>235</sup> the plans nonetheless sketched an alternative possibility.<sup>236</sup>

Crop failures have resulted in thousands of vulnerable farmers being forced to vacate their farms.<sup>237</sup> In the meanwhile government continues to support cotton in the region.<sup>238</sup> The lack of proper engagement and consultation between small-scale farmers and government most likely affords Monsanto opportunities it might otherwise not have had.

Although Monsanto’s profits from the South African market are not likely to be high; its aim, amidst possible shrinking markets elsewhere, will be to gain access to the African and other developing markets.<sup>239</sup>

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<sup>235</sup> Aaron deGrassi (note 160) at 27.

<sup>236</sup> A written enquiry to the KwaZulu Natal Department of Agriculture on the status quo of developments (dated 3 March 2009) remains unanswered. The consultants, to whom the correspondence was copied, have responded to say that they are not aware of any finalisation or implementation of the development plan.

<sup>237</sup> In 2005 it was reported that the Makhathini cotton farmers, over a period of five years ‘have been fighting a losing battle that has forced 2 400 of them to abandon their farms.’ Thabiso Machiko ‘Cotton farmers ripped to shreds’ *Business Report*, May 29, 2005. Available online at [www.busrep.co.za/index.php?fSectionId=552&fArticleId=2537782](http://www.busrep.co.za/index.php?fSectionId=552&fArticleId=2537782) [Accessed 2 March 2009]. Various explanations for this state of affairs are explored in the report, including the cost of the patented GM cottonseed, and the inability of farmers to pay back loans which they entered into in order to purchase the seed.

<sup>238</sup> It is reported that Makhathini Cotton received a grant of R3.2 million to help indebted farmers, which was to be used ‘buy fertilisers and other chemicals needed to plant cotton’. *Business Report* (note 237).

<sup>239</sup> The WTO decision against USA cotton subsidies may eventually lead to the downfall of the USA cotton market. This, in addition to ‘[c]losed markets in Europe, worldwide consumer rejection, heated international debates about the risks of GMOs, and the intransigence of Africa, sans, South Africa, to commercially accept GMOs, hugely threaten Monsanto’s market share in the agricultural biotechnology industry.’ African Centre for Biosafety ‘Monsanto’s “seed of hope campaign” in South Africa – a briefing document’ (January 2007) at [www.biosafetyafrica.net](http://www.biosafetyafrica.net) [Accessed 13 March 2009].

The short-and-long term consequences of Monsanto's contractual relationships with farmers,<sup>240</sup> and the seemingly charitable handing out of free seed and other agricultural inputs should be reflected upon.<sup>241</sup> The profits of cotton for small-scale farmers are slim and give no cause to celebrate the Makhathini small-scale farmers as a successful model of development.

For other African countries the fact that farmers are restrained from saving seed for the following season is also important. It is traditional practice, and indeed the practice of the majority of small-scale farmers in Africa, to save seed from year to year.<sup>242</sup> While this may not be true of cotton farmers in the South African context, it may well have relevance in the maize and soy markets in South Africa. Although South African farmers may have lost their skills to extract cottonseed from the boll, in many developing countries, including Burkina Faso, this is still the practice. These are all factors that should influence decisions on the uptake and the regulation of GM cotton seed.

### 3.5 Concluding remarks

Government itself acknowledges that 'the environmental, social, economic and agricultural implications of the recent biotechnology advances are not yet

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<sup>240</sup> In addition to the technology agreement, Monsanto also contracts farmers to produce GM seed for local and export markets. This practice has both been criticised ('GM Seed Producers Suffer Severe Losses' (October 2005) at [www.flag-sa.org/newsletter.htm](http://www.flag-sa.org/newsletter.htm) [Accessed 11 November 2009]) and praised (NARU Farmer, 'BEE + GM = SUCCESS' (February Issue, 2007) at 13).

<sup>241</sup> In addition, the socio-economic and long term impact of Monsanto's involvement in programmes of the Department of Agriculture and other government initiatives should be reviewed. For example, it is questioned whether Monsanto's involvement in the Eastern Cape Province through the Massive Food Production Programme is appropriate. In terms of the programme emerging farmers receive subsidies to buy seeds, herbicides and fertilizers. In effect, public funding is made available for the purchase of Monsanto's Combi-Packs, thus government itself is becoming an agent to promote Monsanto's campaign. The long-term implications for small-scale farmers who change from open pollinated maize seed to hybrid seed, and any food security implications need to be considered. The point is made that '[u]sing new technologies such as hybrid and GM seeds in African regions will not dramatically improve farmers' yield compared to that received from farming with traditional, open pollinated varieties. In addition, in comparison to using open pollinated seeds, which are often saved by the farmers themselves, hybrid and GM seeds are expensive inputs, which need to be bought every planting season.' African Centre for Biosafety 'Monsanto's "seed of hope" campaign' in South Africa – a briefing document' (January 2007) at [www.biosafetyafrica.net](http://www.biosafetyafrica.net) [Accessed 13 March 2009].

<sup>242</sup> See for example Melanie Gosling 'Government hands out free GM seeds to farmers' *The Mercury* August 27, 2003.

fully understood'.<sup>243</sup> One might therefore expect a more cautious and considered approach.

Chapter 3 has described the patents that protect IP rights in GM cotton in South Africa and has introduced the notion of biosafety law which regulates the use of GMOs in agriculture. A case study on GM cotton was presented, the results of which suggest that a more public interest oriented focus is required. The next two chapters describe the applicable legal framework to locate the various points of regulation where adjustments to law and policy may be made that would enhance matters of public interest.

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<sup>243</sup> *Government Gazette* No 27936, Notice 1591 of 2005 at para 1.2 (f).

## CHAPTER 4

### LEGAL FRAMEWORK (1): THE MONSANTO AGREEMENT

Ours is a multi-racial, multi-cultural, multi-lingual society in which the ravages of apartheid, disadvantage and inequality are just immeasurable. The extent of the oppressive measures in South Africa was not confined to government/individual relations, but equally to individual/individual relations. In its effort to create a new order, our Constitution must have been intended to address these oppressive and undemocratic practices at all levels. In my view our Constitution starts at the lowest level and attempts to reach the furthest in its endeavours to restructure the dynamics in a previously racist society.<sup>1</sup>

#### 4.1 Introduction

Contracts and intellectual property instruments are mechanisms for propertising a particular resource and thus for regulating access to the resource. An example is the Monsanto Cotton Technology Agreement ('the Monsanto Agreement'),<sup>2</sup> a contract which, reinforced by IP rights (the patents described in chapter 3), propertises the plant genetic resources that embody Monsanto's technology. The Monsanto Agreement establishes the relationship between Monsanto and farmers who purchase the GM cottonseed.

This chapter considers the body of domestic law applicable to this relationship. Although essentially a private law relationship, public law provisions, including constitutional provisions, have an impact on the relationship. Chapter 4 also considers the relationship between Monsanto and farmers who are not party to the Monsanto Agreement but who are found to be in possession of PGRs over which Monsanto may claim rights. This non-contractual relationship is governed primarily by IP law, which protection falls away when the patents expire.

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<sup>1</sup> Madala J in *Du Plessis and Others v De Klerk and Another* 1996 (3) SA 850 (CC) at para [163].

<sup>2</sup> The terms and conditions in the Monsanto Agreement (for the 2006/2007 season) are reproduced verbatim in annexure B.

The aim of the chapter is to begin describing the regulatory framework for property rights in PGRs. The focus of chapter 4 are the rules regulating the relationship between Monsanto and farmers. Chapter 5 goes on to consider the law regulating the relationship between the State and Monsanto, and between the State and farming communities.

The Monsanto Agreement, governed by the laws of the Republic of South Africa,<sup>3</sup> presents a typical private law (contract/property) arrangement in which rights in property are regulated by contract. The contractual relationship is governed by private law principles of contract and property as well as applicable statute. These principles must be considered holistically within the structure of the South African legal system.<sup>4</sup>

## 4.2 The South African legal system

The basic premise is that law or conduct inconsistent with the Constitution is invalid.<sup>5</sup> As background, the Constitution was adopted to:

- Heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights;
- Lay the foundations for a democratic and open society in which government is based on the will of the people and every citizen is equally protected by law;
- Improve the quality of life of all citizens and free the potential of each person; and
- Build a united and democratic South Africa able to take its rightful place as a sovereign state in the family of nations.<sup>6</sup>

These are the benchmarks against which law and conduct must be measured. These objectives receive much of their legal cloth from chapter 2 of the Constitution, the Bill of Rights, the ‘cornerstone of democracy’<sup>7</sup> which affirms

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<sup>3</sup> This is provided for in the agreement.

<sup>4</sup> The Constitutional Court has pronounced that ‘[t]here are not two systems of law ... the common law and the Constitution – but only one system of law grounded in the Constitution.’ *Bato Star (Pty) Ltd v Minister of Environmental Affairs and Others* 2004 (4) SA 490 (CC) at para [22].

<sup>5</sup> Section 2 of the Constitution.

<sup>6</sup> Preamble of the Constitution.

<sup>7</sup> Section 7(1).

the democratic values of human dignity, equality, and freedom, and protects the rights of all people in South Africa.<sup>8</sup> Extracts from the Bill of Rights are presented in annexure A.

The Bill of Rights applies to all law.<sup>9</sup> Thus, although the law that was in force when the new Constitution took effect remains in place, it must be congruent with the Constitution.<sup>10</sup> The Bill of Rights specifically binds government, being 'the legislature, the executive, the judiciary and all organs of state'.<sup>11</sup> Where individuals are in a horizontal relationship (such as Monsanto and contracting farmers), the provisions of the Bill of Rights will only bind natural and juristic persons to the extent that they are applicable.<sup>12</sup> If a provision of the Bill of Rights does apply in a particular horizontal relationship, then the court is enjoined to 'apply, or if necessary develop, the common law to the extent that legislation does not give effect to that right'.<sup>13</sup> In addition, '[w]hen interpreting any legislation, and when developing the common law or customary law, every court, tribunal or forum must promote the spirit, purport and objects of the Bill of Rights.'<sup>14</sup>

When a matter comes before the court concerning activity that may be in breach of the provisions of the Bill of Rights, and where legislation has been implemented to give effect to that particular provision, the affected party may not bypass such legislation by directly invoking the Bill of Rights.<sup>15</sup> The affected party must rely on the legislation giving effect to the particular right involved; and in the event that the legislation does not fully protect the particular constitutional right, then the constitutionality of the legislation must be challenged. Where there is legislation in place on a matter which, in the past, may have been governed by common law principles, the Court's powers

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<sup>8</sup> Section 7(1).

<sup>9</sup> Section 8(1).

<sup>10</sup> Schedule 6 (Transitional arrangements), item 2(1).

<sup>11</sup> Section 8(1).

<sup>12</sup> Section 8(2).

<sup>13</sup> Section 8(3). In terms of s 173 of the Constitution, '[t]he Constitutional Court, Supreme Court of Appeal and High Courts have the inherent power ... to develop the common law, taking into account the interests of justice.'

<sup>14</sup> Section 39(2).

<sup>15</sup> See for example *South African National Defence Union v Minister of Defence and Others* 2007 (5) SA 400 (CC).

of adjudication will flow not from the common law itself, but from the legislation.<sup>16</sup>

Where there is no legislation in place and the development of common law is necessitated by the horizontal application of the Constitution, this may be achieved either by legislating, or, if the matter comes before the court, through the discourses of interstitial changes to common law, or a balancing of rights, or through the more fundamentally transformative discourse of the state's duty to protect fundamental rights.<sup>17</sup> As the Constitutional Court in the *Carmichele*<sup>18</sup> case points out, '[o]ur Constitution is not merely a formal document regulating public power. It also embodies, like the German Constitution, an objective, normative value system. ... It is within the matrix of this objective normative value system that the common law must be developed.'<sup>19</sup>

The Court however was clear to point out that the 'major engine for law reform should be the Legislature and not the Judiciary'.<sup>20</sup>

In so far as juristic persons, such as Monsanto, are concerned, these private entities may benefit from the rights contained in the Bill of Rights 'to the extent

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<sup>16</sup> See for example *Pharmaceutical Manufacturers Association of SA and Another: In re Ex parte President of the Republic of South Africa and Others* 2000 (2) SA 674 (CC) and *Bato Star Fishing (Pty) Ltd v Minister of Environmental Affairs and Others* 2004 (4) SA 490 (CC). In the *Bato Star* case for example the court held that its power to review administrative action is no longer derived directly from the common law, but instead flows from the Promotion of Administrative Justice Act 3 of 2000 (PAJA), enacted to give effect to the Constitutional right to just administrative action (s 33 of the Constitution).

<sup>17</sup> For an interesting decision on the State's constitutional duties see for example *President of the Republic of South Africa and Another v Modderklip Boerdery (Pty) Ltd (Agri SA) and Others* 2005 (5) SA 3 (CC). The *Modderklip* case involved the unlawful occupation by a group of people of a portion of a private farm. The case illustrates the duty of the court to balance the landowner's right to property against the unlawful occupiers' rights against arbitrary eviction as well as their rights of access to adequate housing.

<sup>18</sup> *Carmichele v Minister of Safety and Security and Another (Centre for Applied Legal Studies Intervening)* 2001 (4) SA 938 (CC). The *Carmichele* case involved an action by Alix Carmichele, who was viciously attacked by a known offender, against the respondents for damages as a result of the negligent failure to comply with a legal due of care owed to her by members of the South African Police Service and the public prosecutors at Knysna, who failed to prevent the attack. The matter was brought before the Constitutional Court as an application for leave to appeal in view of the order of absolution from the instance granted by the High Court and confirmed by the Supreme Court of Appeal.

<sup>19</sup> At 961 F-G.

<sup>20</sup> At 954 D-E.

required by the nature of the rights and the nature of that juristic person<sup>21</sup> and protected rights may be limited only to the extent that the Constitution permits such limitations.<sup>22</sup>

Bearing these principles in mind, the remainder of this chapter considers the Monsanto Agreement within a more detailed account of South African law.

### 4.3 The Monsanto Agreement: private law in perspective

The contractual relationship between Monsanto and farmers (growers) is governed by the Monsanto Agreement, a licence agreement, reproduced in annexure B, which governs Monsanto's patented technology. Farmers also enter into a separate contract of sale. The agreement provides that:

[o]n signature of the 'Monsanto Technology and Licence Agreement', growers will be able to buy transgenic seed containing Monsanto traits, from any of the Monsanto approved seed supplier or seed distributor. [Note: GM cottonseed in South Africa is produced exclusively by Deltapine, a subsidiary of Monsanto in South Africa, and is supplied to farmers by agents of Monsanto. Thus Monsanto appears to be the principal owner of the GM cottonseed being purchased in terms of the agreement.]

In terms of the agreement 'Monsanto licences the Grower under applicable patents' owned or licensed to Monsanto to use these technologies'. This terminology aligns with the general principle that in the case of a licence agreement, the 'licensee does not obtain the full rights of proprietorship.'<sup>23</sup>

The Patents Act<sup>24</sup> provides that a licence under a patent to use a patented invention terminates on the date on which the patent expires.<sup>25</sup> Where there are multiple patents, parts of the contract may terminate as each patent

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<sup>21</sup> Section 8(4). See for example *First National Bank of SA Ltd t/a Wesbank v Commissioner, South African Revenue Service and Another; First National Bank of SA Ltd t/a Wesbank v Minister of Finance* 2002 (4) SA 768 (CC).

<sup>22</sup> The limitation of rights clause is s 36 of the Constitution.

<sup>23</sup> TD Burrell *Burrells South African patent and design law* (1999) at § 6.35.

<sup>24</sup> Act 57 of 1978.

<sup>25</sup> Section 57(1). Section 57(2) affords the parties the right 'to terminate a contract or a condition in a contract independently of this section.'

expires. The Patents Act therefore no longer supports the current licencing agreements after 2010.

The wording of the licence indicates that unfettered ownership of the physical seed will not be transferred to the farmer in the subsequent contract of sale. In the agreement growers agree:

- To use the seed containing Monsanto gene technologies for planting a commercial crop only in a single season.
- Monsanto retains ownership of the Monsanto technologies specified.
- To not supply any of this seed to any other person or entity for planting, and to not save any crop produced from this seed for replanting, or supply saved seed to anyone for replanting.

It is not an essential element of a contract of sale that ownership be transferred: ownership will only pass from the seller if both the purchaser and the seller intend ownership to pass.<sup>26</sup> The parties' intention to pass ownership is a question of fact, established by considering 'the totality of the evidence.'<sup>27</sup> Indicators of intention are the terms and conditions of the agreement: from which it appears that Monsanto's intention is to transfer only the entitlement to use the seed for a limited period of time and the benefit of limited fruits. Some suggest that the agreement is akin to a rental agreement.<sup>28</sup> As Drahos and Braithwaite critically explain, farmers are the losers in this 'information feudalism' project, being reduced to mere 'annual lessees under a system of patents and licences.'<sup>29</sup> There are conceptual difficulties from a private law perspective with either a 'servitude' (of use or usufruct) or 'rental' arrangement, which are discussed below, although a compelling argument has been made against 'a formalistic treatment of specific contract types.'<sup>30</sup>

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<sup>26</sup> François Du Bois (ed) *Wille's principles of South African law* (2007) at 902.

<sup>27</sup> *Wille's principles of South African law* (note 26) at 902. See especially the sources cited in footnote 143 such as *Eriksen Motors (Welkom) Ltd v Protea Motors, Warrenton & Another* 1973 (3) SA 685 (A) at 695, which was followed in *Lendlease Finance (Pty) Ltd v Corporacion De Mercadeo Agricola* 1976 (4) SA 464 (A).

<sup>28</sup> See for example Debra Blair 'Intellectual property protection and its impact on the US seed industry' (1999) 4 *Drake J Agric Law* 297 at 326.

<sup>29</sup> Peter Drahos with John Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) at 38.

<sup>30</sup> Tjakie Naudé 'The preconditions for recognition of a specific type or sub-type of contract – the *essentialia-naturalia* approach and the typological method' (2003) 2 *TSAR* 411 at 430.

Monsanto's strategy seeks to combine *in rem* rights<sup>31</sup> with *in personam* rights<sup>32</sup> and the resulting relationship is governed by a combination of property and contract law principles which, in South Africa, may be located within the theory of subjective rights.<sup>33</sup>

#### 4.3.1 Property and the theory of subjective rights

The theory of subjective rights provides a private law framework within which to explore legal relationships between legal subjects over legal objects. This explains why the concept of *things*<sup>34</sup> as a category of legal objects remains important.<sup>35</sup>

In terms of the theory, legal subjects have rights over legal objects,<sup>36</sup> and, when the object is a thing,<sup>37</sup> the right of ownership of the thing is a real right. Property law in a narrow, traditional, sense may thus be expressed as the law

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<sup>31</sup> The distinction between *in rem* and *in personam* rights refers to the distinction between real and personal rights (derived from the Roman law distinction between *actions in rem* and *actions in personam*) incorporated by the Pandectists in the 19<sup>th</sup> century into the doctrine of subjective rights (see § 4.3.1). The distinction between real and personal rights forms the basis of the divide between the law of property and the law of obligations. Wille (note 26) at 428. Merrill and Smith observe, from the works of Hohfeld and Honoré, that *in rem* rights impose a negative duty of abstention. Thomas W Merrill and Henry E Smith 'The property/contract interface' (2004) 10 *Columbia Law Review* at 788-9. Referring to AM Honoré 'Rights of exclusion and immunities against divesting' (1960) 34 *Tul L Rev* 453 at 458-459 and Wesley Newcomb Hohfeld 'Faulty analysis in easement and license cases' (1917) 27 *Yale L J* 66 at 71-72.

<sup>32</sup> Within the realm of private law doctrine, property (*in rem* rights) and contract (*in personam* rights) amount to two different strategies for regulating the use of resources. Generally speaking, an *in rem* rights strategy is an exclusionary strategy that applies automatically; whereas *in personam* rights reflect a more intricate governance strategy. Merrill and Smith (note 31) at 790.

<sup>33</sup> As opposed to the more modernist (Hohfeldian or Anglo-American) tradition which uses the concepts of 'rights' and 'duties' as a point of departure. The theory of subjective rights has its origin in Western Europe, and in particular the work of the nineteenth century Pandectists. Lourens du Plessis *An introduction to law* (1999) at 151-152.

<sup>34</sup> A 'thing', in the narrow sense, is defined as 'a corporeal or tangible object external to persons and which is, as an independent entity, subject to juridical control by a legal subject, to whom it is useful and of value.' AJ Van der Walt and GJ Pienaar *Introduction to the law of property* (2006) at 12. See also Badenhorst et al *Silberberg and Schoeman's the law of property* (2006) ('*Silberberg and Schoeman*') at 14-15 and Wille's *principles of South African Law* (note 26) at 409.

<sup>35</sup> In South African property law parlance: "'property" is not a term of art and in itself no more than a convenient expression to denote the existence of some types of legal relationships between specific persons and legal objects, which in many, but not all, instances could be classified as "things".' *Silberberg and Schoeman* (note 34) at 1.

<sup>36</sup> 'A legal object is anything with regard to which a person can acquire and hold a right.' AJ Van der Walt and GJ Pienaar *Introduction to the law of property* (2006) at 8 ('*Introduction to the law of property*').

<sup>37</sup> Other legal objects include interests of personality, immaterial property (such as patents), and performances. The rights recognised in respect of these objects are personality rights (in personality interests), immaterial property rights (in immaterial property) and personal rights (in performances). *Silberberg and Schoeman* (note 34) at 14.

of things (*Sakereg*), being primarily concerned with the real and limited real rights over things. Taking the classification system up a notch, rights may be classified as either 'patrimonial' or 'extra-patrimonial',<sup>38</sup> with property rights, in the traditional sense, constituting one form of rights under the umbrella term patrimonial rights.<sup>39</sup> Some of the patrimonial rights and their objects are schematically represented in figure 7.

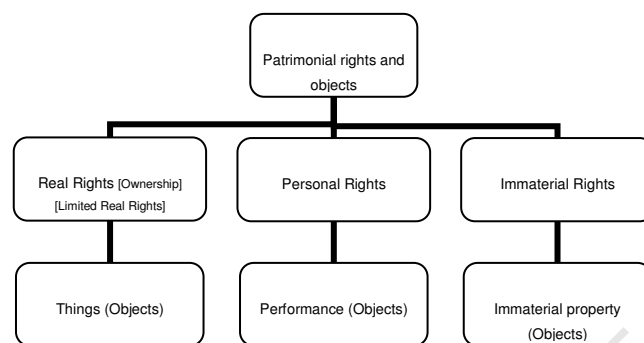


Figure 7: Patrimonial rights and their objects

While the traditional private law of property is narrowly defined and concerned with ownership and limited real rights the constitutional notion of property is broader and more inclusive in its protection of other subjective rights, including immaterial rights.<sup>40</sup>

The private law classification of rights provides a mechanism for 'ranking' rights, and determining applicable principles and available remedies.<sup>41</sup> A real right in a thing (such as ownership) means, in the event that ownership is unlawfully interfered with, that the owner can rely on particular remedies in the law of property, whereas a contractual (personal) right to performance will, in the event of a breach of the obligation to perform, generally give rise to remedies in the law of contract. Rights in immaterial property are predominantly protected by statute.

<sup>38</sup> Patrimonial rights are rights in respect of patrimonial objects that have economic or material value. Personality rights are traditionally considered to be extra-patrimonial. *Silberberg and Schoeman* (note 34) at 9.

<sup>39</sup> *Silberberg and Schoeman* (note 34) at 9, 23-4.

<sup>40</sup> For a discussion on the impact of the Constitution on private property see § 4.3.3.

<sup>41</sup> For example the *mandament van spolie* may be available if a real right exists, on the other hand a breach of contract remedy should be used if the right is a personal, contractual one. See *Telkom SA Ltd v Xsinet (Pty) Ltd* (2003 5 SA 309 (SCA)). The constitutional dimension of the law of property may challenge the hierarchical and scientific nature of property rights in traditional private law.

In this scheme of things, *ownership* is the most comprehensive real right that a legal subject can have over a thing:<sup>42</sup> ‘full-blooded’<sup>43</sup> ownership ‘entitles the owner to do with his or her thing as he or she deems fit, subject to the limitations imposed by public and private law.’<sup>44</sup> Typically, the right to use, exclude and transfer are viewed as the pillars of ownership.<sup>45</sup> Ownership is an independent right, unlimited in duration and is the ‘mother right’ on which other, more limited, rights depend.<sup>46</sup> In Roman law the *numerus clausus* principle meant that the list of real rights (ownership and other limited real rights) was fixed, no new rights could be added. Roman-Dutch law was more flexible.<sup>47</sup> Rights are more diversified in contemporary practice. Indigenous and other fundamental rights challenge the real right composite.<sup>48</sup>

Ownership, as it is envisaged in our common law, has a residuary character,<sup>49</sup> and no matter how many entitlements the owner gives away, the owner retains a reversionary right to the entitlements once they are extinguished.

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<sup>42</sup> Ownership is the ‘“mother right” ... from which other limited real rights flow.’ *Silberberg and Schoeman* (note 34) at 92 citing Snijders and Rank-Berenschot *Goederenrecht* at 52.

<sup>43</sup> Harris *Property and justice* (1996) at 29.

<sup>44</sup> *Silberberg and Schoeman* (note 34) at 91, citing *Johannesburg Municipal Council v Rand Townships Registrar* 1910 TPD 1314 at 1319; *Regal v African Superslate (Pty) Ltd* 1963 (1) SA 102 (A) at 106–7; and also Van der Merwe *Sakereg* at 170 – 173.

<sup>45</sup> See Honoré (chapter 2, note 11); and Bruce G Carruthers and Laura Ariovich ‘The sociology of property rights’ (2004) 30 *The Annual Review of Sociology* 23-46 at 24.

<sup>46</sup> *Silberberg and Schoeman* (note 34) at 93. Important definitions of ownership for the South African context are those of Bartolus de Saxoferrato and Hugo Grotius. De Saxoferrato referred to ownership as ‘the right of disposal over a corporeal thing, within the limits of law’ and similarly, for Grotius, ‘[o]wnership is complete if someone may do with the thing whatever he pleases, provided that it is permitted in terms of law’. Bartolus de Saxoferrato ad *D* 41 2 17 1 fn 4 cited in *Silberberg and Schoeman* (note 34) at 91 fn 6 and Grotius *Inleidinge* 2 3 10 translation cited in *Silberberg and Schoeman* (note 34) at 91 fn 7.

<sup>47</sup> *Silberberg and Schoeman* (note 34) at 47-48.

<sup>48</sup> See for example the recognition of indigenous rights in *Alexkor Ltd and Another v The Richtersveld Community and Others* 2004 (5) SA 460 (CC) and *Prinsloo and Another v Ndebele-Ndzundza Community and Others* 2005 (6) SA 144 (SCA) discussed in § 2.6.1. On the limitations placed on property by competing fundamental rights see *Victoria & Alfred Waterfront (Pty) Ltd v Police Commission, Western Cape* 2004 (4) SA 444 C) and *Nhlabathi & Others v Fick* [2003] 2 All SA 323 (LCC) discussed in § 2.2.1 and *Laugh it Off Promotions CC v SAB International (Finance) BV t/a Sabmark International (Freedom of Expression Institute as Amicus Curiae)* 2006 (1) SA 144 (CC). In the *Laugh it Off* case freedom of expression was balanced against trade mark rights. See also Bruce Ziff ‘The irreversibility of commodification’ 2005 *Stell LR* 283-301. Ziff cautions against the growing set of property entitlements and indicates the difficulty in trying to withdraw some of this rights because of the compensation for expropriate rules.

<sup>49</sup> Sometimes referred to as the ‘elasticity of ownership’. *Silberberg and Schoeman* (note 34) at 93.

Ownership, as a real right, entails a number of entitlements. The major<sup>50</sup> entitlements being:

- the entitlement to use the thing (*ius utendi*);
- the entitlement to the fruits, including the income from the thing (*ius fructu*);
- the entitlement to consume and destroy the thing (*ius abutendi*);
- the entitlement to possess the thing (*ius possidendi*);
- the entitlement to dispose of the thing (*ius disponendi*);
- the entitlement to claim the thing from any unlawful possessor (*ius vindicandi*); and
- the entitlement to resist any unlawful invasion (*ius negandi*).<sup>51</sup>

In terms of the Monsanto Agreement, the entitlements transferred to the farmer in the Monsanto agreement include the entitlement to possess and use the thing (for a limited time and purpose)<sup>52</sup> and the entitlement to some of the fruit (the cotton fibre but not the use of the seed for replanting etc): although Monsanto (or Deltapine) never get the seed back – the seed is processed in the purchasing ginnery for animal and human consumption. The farmer however is restrained, by agreement, from disposing of the seed in a variety of ways. Although '[o]rdinarily, possession of chattels signifies ownership',<sup>53</sup> this is not always the case.<sup>54</sup> Intention to pass ownership is necessary. It would appear from the Agreement that Monsanto intends retaining ownership of the seed and the farmer has a limited real right – a type of usufruct – over the seed. The problem with this is that a usufructuary is generally obliged to preserve the thing (but seed is consumed through planting) and thus the general principle is that a usufruct cannot be established over consumable movables.<sup>55</sup>

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<sup>50</sup> The list is not exhaustive. *Silberberg and Schoeman* (note 34) at 92.

<sup>51</sup> Footnotes omitted. *Silberberg and Schoeman* (note 34) at 92–93.

<sup>52</sup> The agreement stipulates that '[y]ou agree ... to use the seed ... for planting a commercial crop only in a single season; ... to not supply any of this seed to any other person or entity for planting [etc]' and so forth.

<sup>53</sup> Merrill and Smith (note 29) at 812. On the presumption that the possessor of moveable property is the owner in South African law, see *Silberberg and Schoeman* (note 34) at 285-6.

<sup>54</sup> Whether or not possession is a real right is contested. See for example *Silberberg and Schoeman* (note 34) at 273-275 and *Wille's principles of South African law* (note 26) at 446.

<sup>55</sup> *Cooper v Boyes NO and Another* 1994 (4) SA 521 (C); *Silberberg and Schoeman* (note 34) at 340.

Usufruct applies to both movable and immovable property, with the exception of consumable things, namely those which, by their use, are extinguished, such as money, wine and *grain*.<sup>56</sup> (Emphasis added).

Although our courts recognise a *quasi-usufruct*,<sup>57</sup> the general rule is that ownership of the consumable thing is vested in the *quasi-usufructuary*,<sup>58</sup> in other words the farmer.

On a strict usufruct (or lease)<sup>59</sup> reading the grower becomes the (limited) owner of the seed, with Monsanto retaining personal rights (arising out of contract) and immaterial property rights in the seed. The contract of use is more likely an innominate contract which, in the event of a dispute, the courts should 'consider the parties' purpose and all relevant policy considerations and fashion an appropriate residual rule.'<sup>60</sup>

The concept of ownership of the tangible seed is conceptually separate from the idea of intellectual or immaterial property rights in the seed.<sup>61</sup> As De Beer explains:

Law creates IP by separating an abstract idea, like for a molecularly engineered gene, from its physical vessel, such as the gene itself contained in a plant or seed.<sup>62</sup>

These IP rights are traditionally expressed as immaterial property rights<sup>63</sup> whereas ownership of the seed is a real right.<sup>64</sup> For an object to be classified

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<sup>56</sup> Translation of Hugo de Groot (Grotius) *Inleidinge tot de Hollandsche Rechtsgeleerdheid* 2.39.3 in *Cooper v Boyes NO and Another* 1994 (4) SA 521 (C) at 525.

<sup>57</sup> Provided that there is security for return of the equivalent consumed goods.

<sup>58</sup> *Cooper v Boyes NO and Another* 1994 (4) SA 521 (C) at 531 I-J, 532C; *Silberberg and Schoeman* (note 34) at 340 (footnote 164); *Wille's principles of South African law* (note 26) at 605.

<sup>59</sup> Similarly, the nature of the Monsanto Agreement is irreconcilable with the concept of a lease for the idea that a tenant may be given an entitlement to consume and destroy (*ius abutendi*) is incompatible with the concept of a lease. E Kahn et al *Principles of the law of sale and lease* (1998) at 50.

<sup>60</sup> Naudé (note 30) at 420.

<sup>61</sup> IP rights in PGRs also differs from the usual incorporation of a patented component into a physical thing (for example including a patented part in a motor vehicle) because of the self-propagating nature of PGRs.

<sup>62</sup> Jeremy De Beer 'Reconciling property rights in plants' (2005) *J of World Intellectual Property* 5-31 at 5.

<sup>63</sup> Immaterial property is defined as 'the intangible expression of human skills, or inventions of the human mind, embodied in a tangible agent and which are by law allotted to their author.' [Footnotes omitted]. *Silberberg and Schoeman* (note 34) at 23.

as a thing, in order to give rise to real rights, it is generally required to be (a) corporeal; (b) external to a person; (c) independent; (d) susceptible to human control; and (e) of use and/or value (*in commercio*).<sup>65</sup> These requirements make it conceptually difficult to classify IP rights (rights in immaterial property) as real rights.

Roman law distinguished between *res corporales* and *res incorporales*.<sup>66</sup> The English approach (on which South African IP law was modelled) originally transposed this Roman law distinction with the category of chose in action<sup>67</sup> located in the English matrix of real and personal property,<sup>68</sup> ultimately creating a flexible concept of personal property.<sup>69</sup> Today the UK Patents Act<sup>70</sup> specifically indicates<sup>71</sup> that '[a]ny patent or application for a patent is personal property (without being a thing in action)'. The Act goes on to provide that, in Scotland, '[a]ny patent or application for a patent, and any right in or under any patent or any such application, is incorporeal moveable property.'<sup>72</sup>

Similarly in South Africa:

the right acquired by registration of a patent is not a 'proprietary right'. Although such a right is capable of assignment, the grant of a patent does not give the patentee the right to make, use, exercise or vend an

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<sup>64</sup> Because of the public importance of PGRs an argument could be made for recognising only 'lesser' rights (not real rights of ownership) in PGRs, such as has occurred in the case of water. See Glazewski *Environmental law in South Africa* (2005) at 435 for the position on water.

<sup>65</sup> *Introduction to the law of property* (note 36) at 13; *Silberberg and Schoeman* (note 34) at 14.

<sup>66</sup> JAC Thomas *Textbook of Roman law* (1976) at 125 where he indicates that 'the distinction between *res corporales* and *res incorporales* first appears in juristic literature in Gaius.' In his translation of the Institutes of Justinian, Thomas records that '[i]ncorporeal things ... are such as cannot be touched but exist in law: for instance an inheritance, usufruct and obligations, however contracted.' Book II, Tit II On incorporeal things in J A C Thomas *The Institutes of Justinian: text, translation and commentary* (1975) at 84.

<sup>67</sup> A chose in action is linked in intangible property whereas a chose in possession refers to corporeal things. Drahos *A philosophy of intellectual property* (1996) at 20-1. See also footnote 68 below.

<sup>68</sup> 'Real property is linked to interests in land while personal property is defined negatively to refer to property which is not real property. Personal property is subdivided into chattels personal and chattels real. Chattels real are an anomalous category whereby, for historical reasons, leases were classed as personal property. Chattels personal are further subdivided into choses in possession and choses in action. It is this latter category that houses many statutory forms of intellectual property such as patents and copyright. Typically, statutes classify the relevant right as personal property, relying on the legally established meaning of that term.' Drahos (note 67) at 35, note 34.

<sup>69</sup> Drahos (note 67) at 21.

<sup>70</sup> Patents Act of 1977 as amended.

<sup>71</sup> At s 30(1).

<sup>72</sup> Section 31(1). These particular provisions, it would appear, were not in the earlier statutes which influenced the development of intellectual property law in South Africa.

invention. What section 32<sup>[73]</sup> of the Patents Act confers on the patentee is the right to exclude others from making, using, exercising or vending the invention during the currency of the patent. ... It is a right which must be regarded simply as a statutory incorporeal real right (in the sense that it is enforceable against the world) which is negative in its application.<sup>74</sup>

Academic debate recognises the doctrinal difficulties that arise if the definition of things is expanded to include incorporeal things,<sup>75</sup> and suggest that these difficulties be overcome by rather describing the object of the real right, not as a corporeal thing but rather as another subjective right.<sup>76</sup> *Silberberg and Schoeman* explain: '[t]here seems to be no reason why an immaterial property right cannot also be the object of a real right, considering the economic value implicit in such immaterial property right'.<sup>77</sup> The authors explain, 'if any of these subjective rights itself serves as the object of a real right, it is regarded,

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<sup>73</sup> Section 45 is the equivalent section in the current Patents Act 57 of 1978, which, when it talks about the effect of a patent indicates that it is a 'grant to the patentee in the Republic, subject to the provisions of this Act, for the duration of the patent, the right to exclude other persons from making, using, exercising, disposing or offering to dispose of, or importing the invention, so that he or she shall have and enjoy the whole profit and advantage accruing by reason of the invention.' The term *property* is used in the Act (in s 79) in a provision which allows for the assignment of certain patents relating to armaments to the State. The section provides that '[t]he patent ... may be made out in the name of the proprietor and sealed, but such patent shall be delivered to the Minister of Defence and not to such proprietor and shall be the property of the State.'

<sup>74</sup> *Hoechst Aktiengesellschaft v Adcock-Ingram Ltd and Others* 1978 BP 307 (CP) at 312C-D. This position is confirmed in *Chauvier and Another v Selero (Pty) Ltd and Another* 1981 BP 86 (CP) at 93 C-D. See Burrell *Burrells South African patent and design law* (1999) in § 3.2.

<sup>75</sup> If incorporeals are regarded as things, the distinction between different rights (eg real and personal rights) becomes blurred. It is conceptually impossible for a personal right to be the object of a real right; and it is at variance with the traditional notion of a real right giving physical power to a person over a thing. *Silberberg and Schoeman* (note 34) at 15 and the authorities cited therein.

<sup>76</sup> *Introduction to the law of property* (note 36) at 14. The authors cite the examples of shares in a company which the shareholder can utilize in various ways (*Ben-Tovin v Ben-Tovin* 2001 3 SA 1074 (C)); the membership interest in a close corporation that can be attached by the sheriff (*Badenhorst v Balju Pretoria Sentraal* 1998 4 SA 132 (T)); and the loan account of a director of a company that can be ceded (*Graf v Buechel* 2003 4 SA 298 (SCA)). See also *Silberberg and Schoeman* (note 34) at 15.

<sup>77</sup> *Silberberg and Schoeman* (note 34) at 16. In support of this view, the following sources are cited in fn 97:

'Kleyn and Boraime *Property* at 30. See also s 22(1) of the Copyright Act 98 of 1978 "[C]opyright shall be transmissible as movable property by assignment, testamentary disposition or operation of law"; see also s 60(5) of the Patents Act 57 of 1978: "The hypothecation of a patent ... may on application in the prescribed manner be entered in the register." Also *Chauvier v Pelican Pools (Pty) Ltd* 1992 (2) SA 39 (T): "Section 59(1) of the Act [ie the Patents Act 57 of 1978] provides that ... the rights vested in a patentee shall be capable of devolution by operation of law. The question which then arises is in whom the *dominium* of the assets of a deceased's estate, including the rights to a patent, reside during the period after the death of the testator and before delivery or transfer to the heirs or legatees", (at 41G) "In law the executors ... have acquired the *dominium* in the patent."

in terms of common law, as an incorporeal or intangible thing.’ When this logic is used, the courts talk about the quasi-possession of incorporeals.<sup>78</sup>

The point of this discussion is that in the absence of policy and legislative clarity on what entitlements can be privately acquired and how they are protected might be protected, the answer will lie in the labyrinth of the private law principles.<sup>79</sup> In the case of the Monsanto Agreement, this requires a consideration of principles of property and contract law.

#### 4.3.2 *Personal rights in performance: the Monsanto Agreement*

The concepts of ‘freedom<sup>[80]</sup> and sanctity of contract,<sup>[81]</sup> public policy,<sup>[82]</sup> and good faith<sup>[83]</sup> are the cornerstones of contract.<sup>84</sup> The essential elements for a valid contract include legal capacity to contract and serious intention to be bound.<sup>85</sup> In certain circumstances, a lack of consensus as to the material terms of the agreement may render a contract void,<sup>86</sup> and contracts which have been entered into on the basis of a misrepresentation, duress or undue influence may be rendered voidable.<sup>87</sup>

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<sup>78</sup> *Telkom SA Ltd v Xsinet (Pty) Ltd* (2003 5 SA 309 (SCA) at para [11].

<sup>79</sup> This is not always a satisfactory state of affairs. The point is made that no one ‘concerned with the socio-economic impact of commercial growing of GMOs can afford to be ignorant of the uncertainties of the common law’. Maria Lee and Robert Burrell ‘Liability for the escape of GM seeds: pursuing the “victim”?’ (2002) 65:4 *Modern Law Review* 517 at 537.

<sup>80</sup> ‘Freedom of contract entails a general freedom to choose whether or not to contract, with whom to contract, and on what terms to contract.’ *Wille’s principles of South African law* (note 26) at 737. The freedom of contract is regarded by some as having its origins in natural law: see *FNB of SA v Bophuthatswana Consumer Affairs Council* 1995 (2) SA 853 (BGD) at 863 E-F.

<sup>81</sup> The sanctity of contract, embedded in considerations of commerce and morality, requires that parties be held to their agreement. The idea is that agreements should be honoured, as is expressed in the maxim  *Pacta sunt servanda*. *Wille’s principles of South African law* (note 26) at 737.

<sup>82</sup> Freedom of contract is limited by the notion that the court will not enforce contracts that are contrary to the public interest. *Wille’s principles of South African law* (note 26) at 737.

<sup>83</sup> Good faith, a concept which is closely related to public policy, is not so much an independent basis for striking down an agreement but rather ‘underlies and informs the entire law of contract, shaping its content and finding concrete expression in its technical rules and doctrines.’ *Wille’s principles of South African law* (note 26) at 738. In so far as a more community oriented approach to good faith is concerned, it has been said that ‘good faith cannot be contained in a neat and tidy legal definition. It promotes the idea that we as a community of contracting persons, each responsible for the other’s wellbeing, should ultimately be concerned with the constitutive values of the supreme law under which the subordinated but indispensable law of contract must continue to operate’. AJ Barnard (2005) 21 *SAJHR* 252 cited by Davis J in *Advtech Resourcing (Pty) Ltd t/a Communicate Personnel Group v Kuhn and Another* 2008 (2) SA 375 (C) at para 31.

<sup>84</sup> *Wille’s principles of South African law* (note 26) at 737.

<sup>85</sup> *Wille’s principles of South African law* (note 26) at 736.

<sup>86</sup> *Wille’s principles of South African law* (note 26) at 745.

<sup>87</sup> *Wille’s principles of South African law* (note 26) at 739.

While the general principle is that agreements are legally binding on parties, exceptions may arise when an agreement is one which is 'contrary to law, morality, or public policy or the enforcement of which is against the public interest.'<sup>88</sup> Such agreements may be unenforceable on the grounds that '[a]greements which are clearly inimical to the interests of the community whether they are contrary to law or morality, or run counter to social or economic expedience, will accordingly, on the grounds of public policy, not be enforced.'<sup>89</sup>

Examples of agreements that have been held to be unenforceable include: a deed of cession executed by a doctor in favour of a finance company that would give the finance company control over all of the doctor's earnings;<sup>90</sup> a lease in terms of which the rent is to be determined by the lessor or lessee in his or her unfettered discretion;<sup>91</sup> a clause in favour of the creditor providing for the creditor to produce a certificate of balance as conclusive proof of indebtedness;<sup>92</sup> an agreement that on the debtor's default the holder of security may keep the property as owner of the property;<sup>93</sup> and where an attorney had acted for party A against party B and thereafter agreed to act for B against A.<sup>94</sup> Agreements in restraint of trade, although presumed to be reasonable and enforceable,<sup>95</sup> may also be found wanting.<sup>96</sup>

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<sup>88</sup> AJ Kerr *The principles of the law of contract* (2002) at 181.

<sup>89</sup> *Sasfin v Beukes* 1989 (1) SA 1 (A) at 8D. At 8B, Smalberger JA quotes *Aquilius* in 1941, 1942 and 1943 *SALJ* who defines a contract against public policy as 'one stipulating performance which is not *per se* illegal or immoral but which the Courts, on grounds of expedience, will not enforce, because performance will detrimentally affect the interest of the community.'

<sup>90</sup> *Sasfin v Beukes* 1089 (1) SA 1 (A).

<sup>91</sup> See *Benlou Properties (Pty) Ltd v Vector Graphics (Pty) Ltd* 1993 (1) SA 179 (A).

<sup>92</sup> *Ex parte Minister of Justice: In re Nedbank Ltd v Abstein Distributors (Pty) Ltd and Others and Donnelly v Barclays National Bank Ltd* 1995 (3) SA 1 (A).

<sup>93</sup> *Graf v Buechel* 2003 (4) SA 378 (SCA); *Bock and Others v Duburoro Investments (Pty) Ltd* 2004 (2) SA 242 (SCA).

<sup>94</sup> *Retha Meiring Attorney v Walley* 2008 (2) SA 513 (D).

<sup>95</sup> The common law position on agreements in restraint of trade prior to *Magna Alloys and Research (SA)(Pty) Ltd v Ellis* 1984 (4) SA 874 (A) was that restraints of trade were prima facie invalid and unenforceable: the onus was on the party wishing to enforce the restraint to show that the restraint was reasonable and not contrary to public interest. This approach was reversed in *Magna Alloys* where it was held that such restraints are prima facie valid and enforceable and the onus is on a party to show it is unreasonable.

<sup>96</sup> For the most recent case law see *Advtech Resourcing (Pty) Lta t/a Communicate Personnel Group v kuhn and Another* 2008 (2) SA 375 (C); and *Hirt & Carter (Pty) Ltd v Mansfield and Another* 2008 (3) SA 512 (D).

With regard to the concept of public policy, the Constitutional Court in *Barkhuizen v Napier*<sup>97</sup> has noted that:

[p]ublic policy represents the legal convictions of the community; it represents those values that are held most dear by the society. Determining the content of public policy was once fraught with difficulties. That is no longer the case. Since the advent of our constitutional democracy, public policy is now deeply rooted in our Constitution and the values which underline it. Indeed, the founding provisions of our Constitution make it plain: our constitutional democracy is founded on, among other values, the values of human dignity, the achievement of equality and the advancement of human rights and freedoms, and the rule of law. And the Bill of Rights, as the Constitution proclaims, “is a cornerstone” of that democracy; “it enshrines the rights of all people in our country and affirms the democratic [founding] values of human dignity, equality and freedom”.<sup>98</sup>

Although the Court upheld the particular provision (a time-limitation clause) in the *Barkhuizen* case, the court was quick to add that ‘[w]hat public policy is and whether a term in a contract is contrary to public policy must now be determined by a reference to the values that underlie our constitutional democracy as given expression by the provisions of the Bill of Rights. Thus a term in a contract that is inimical to the values enshrined in our Constitution is contrary to public policy and is therefore unenforceable.’<sup>99</sup>

Unless there is a biosafety rationale behind a particular provision, some of the provisions in the Monsanto Agreement, including the cost, are arguably contrary to public policy. The following terms may unduly restrain the farmers:

... YOU AGREE

- To use the seed containing Monsanto gene technologies for planting a commercial crop only in a single season.

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<sup>97</sup> 2007 (5) SA 323 (CC). The *Barkhuizen* case involved a contract of insurance containing a time-limitation clause in terms of which the insured, in the event that the insurer repudiated a claim under the contract, had a period of 90 days within which to institute legal action against the insurer, failing which the insured undertook to release the insurer from liability in terms of the contract. The insured challenged the validity of the time-limitation clause on the basis of s 34 of the Constitution. Section 34 provides that ‘(e)veryone has the right to have any dispute that can be resolved by the application of law decided in a fair public hearing before a court...’.

<sup>98</sup> Para [28]. Footnotes omitted.

<sup>99</sup> Para [29].

- To not supply any of this seed to any other person or entity for planting, and to not save any crop produced from this seed for replanting, or supply saved seed to anyone for replanting.
- ... Monsanto may inspect and test all of your crop fields to determine if saved seed has been replanted. ...

... GENERAL CONDITIONS

... In the event that the Grower saves, supplies, sells or acquires seed for replant in violation of this Agreement and license restriction, in addition to other remedies available to the technology provider(s), the Grower agrees that damages will include a claim for liquidation damages, which will be based on 120 times the applicable Technology Fee.

Although public policy is informed by the Constitution and 'contractual terms are subject to constitutional rights,'<sup>100</sup> public policy, in turn, upholds the sanctity of contract (*pacta sunt servanda*). The point of departure in a contractual enquiry is that agreements 'that conform to the traditional requirements for a contract, and from which a party is not entitled to be relieved in any of the ways recognized by traditional doctrine' are strictly enforceable.<sup>101</sup> The courts have elevated sanctity of contract (*pacta sunt servanda*) to a constitutional principle.

Such reasoning may lead to harsh results.<sup>102</sup> Davis J in *Advtech Resourcing (Pty) Ltd t/a Communicate Personnel Group v kuhn and Another*<sup>103</sup> expresses the opinion that 'contractual autonomy is a heavily value laden concept employed in an individualistic, autonomous fashion.'<sup>104</sup> Davis J considers a number of authorities<sup>105</sup> and finds that 'the concept of contractual autonomy

<sup>100</sup> Davis J in *Advtech Resourcing (Pty) Ltd t/a Communicate Personnel Group v kuhn and another* 2008 (2) SA 375 (C).

<sup>101</sup> Gerhard Lubbe 'Taking fundamental rights seriously: the Bill of Rights and its implications for the development of contract law' (2004) 121 *SALJ* 395 at 415.

<sup>102</sup> See for example the Constitutional Court decisions in *Crown Restaurant CC v Gold Reef Theme Park (Pty) Ltd* 2008 (4) SA 16 (CC) on the legality of non-variation unless in writing clauses, and *Barkhuizen v Napier* 2007(5) SA 323 (CC). See also the Supreme Court of Appeal judgments in *Brisley v Drotosky* 2002 (4) SA 1 (SCA) and *Afrox Healthcare Bpk v Strydom* 2002 (6) SA 21 (SCA) and the discussion of these decisions in Lubbe (note 101).

<sup>103</sup> 2008 (2) SA 375 (C).

<sup>104</sup> At para [30].

<sup>105</sup> Including R Hale 'Bargaining, duress and economic liberty' 1943 (43) *Columbia Law Review* 607; F Kessler 'Contracts of adhesion. Some thoughts about freedom of contract' 1943 (43) *Columbia Law Review* 629; Duncan Kennedy *Sexy dressing* (1993) ch 3; AJ Barnard 'A different way of saying: on stories, text, a critical legal argument for contractual justice and the ethical element of

within the concept of a community of contracting persons must mean something distinct from a libertarian connotation, particularly if the concept of *ubuntu* is to play any role in our law'.<sup>106</sup> He concludes that the courts have yet to 'grasp the nettle' and should (through the s 8 or s 39(2) mechanisms) revisit the issue of restraint of trade. In reflecting on the institution of contract, adjudicators and legislators should be mindful of the fact that, like property, contract plays an important role in allocating social wealth.<sup>107</sup>

Much thought has been given to the impact of the Constitution on property.<sup>108</sup>

#### 4.3.3 *Private and Constitutional property*

The provisions of the property clause in the Bill of Rights bind the State,<sup>109</sup> and although s 25 will generally not apply to parties *inter se* in a horizontal relationship,<sup>110</sup> decisions that turn on s 25 and the lawful deprivation of property in terms of s 25 will ultimately (indirectly) impact on, and may restrict the rights, of parties entering into private law relationships. Within a horizontal relationship other constitutional rights may require the restriction of private property rights.<sup>111</sup>

Other than to say that property is not restricted to land,<sup>112</sup> the Constitution does not provide much guidance on the meaning and scope of the term

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contract in South Africa' (2005) 21 *SAJHR* 252; Barnard 'Death, mourning & melancholia' 2006 (17) *Stell LR* 386 at 391-6; and L Hawthorne 'Closing the open norms in the law of contract' (2004) 67 *THRHR* 294 at 301.

<sup>106</sup> At para 31.

<sup>107</sup> Harris *Property and justice* (1996) at 50.

<sup>108</sup> Apartheid resulted in large-scale land disposessions and the forced removals of black people. 'African people were confined to 13% of the total land in the country while white people owned almost all the remaining 87%. (Footnotes omitted) *Zondi v MEC for Traditional and Local Government Affairs and Others* 2005 (3) SA 589 (CC) at para [38].

<sup>109</sup> Section 8(1).

<sup>110</sup> Individuals are only bound by a provision in the Bill of Rights to the extent that that particular provision is applicable: s 8 (2). In so far as s 25 is concerned, the prevailing argument appears to be that s 25 does not apply horizontally. See for example the Constitutional Court's decision in *Phoebus Apollo Aviation CC v Minister of Safety and Security* 2003 (2) SA 34 (CC) (especially para [4]) and see the discussion in Van der Walt *Constitutional property law* (2005) at 47-8.

<sup>111</sup> This was the case in *Laugh it Off Promotions CC v SAB International (Finance) BV t/a Sabmark International (Freedom of Expression Institute as Amicus Curiae)* 2006 (1) SA 144 (CC) where freedom of expression was balanced against trade mark rights. See also *Victoria & Alfred Waterfront (Pty) Ltd v Police Commission, Western Cape*, 2004 (4) SA 444 C) and *Nhlabathi & Others v Fick* [2003] 2 All SA 323 (LCC) discussed in § 2.2.1.

<sup>112</sup> Section 25(4)(b).

property. One of the objections raised in the *First Certification*<sup>113</sup> case was that the proposed property clause failed to recognise a right to the protection of IP.<sup>114</sup> This objection was dismissed (albeit somewhat ambiguously)<sup>115</sup> on the basis that it was not necessary to mention intellectual property separately as a universally accepted fundamental right in view of the fact that a right to intellectual property is 'rarely recognised in regional conventions protecting human rights and in the constitutions of acknowledged democracies.'<sup>116</sup> Although there is no positive right in the Constitution that protects intellectual property, it would appear that IP is at least protected by the provisions in s 25,

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<sup>113</sup> *Ex Parte Chairperson of the Constitutional Assembly: In re Certification of the Constitution of the Republic of South Africa*, 2006 1996 (4) 744 (CC).

<sup>114</sup> At para [75]. In this regard see O H Dean 'The case of the recognition of intellectual property in the Bill of Rights' (1997) 60 *THRHR* 105-119. Other objections related to the absence of an explicit guarantee of the right to acquire, hold and dispose of property; and that the provisions governing expropriation and the payment of compensation are inadequate (para [70]). In addition an objection was raised that the proposed clause failed to recognise mineral rights (para [74]). On the basis of international and comparative law, none of these objections were sustained.

<sup>115</sup> The Court's laconic response has been interpreted to mean, on the one hand, that its exclusion could mean that IP is not protected by the Constitution (see for example Debbie Collier 'Access to and control over plant genetic resources for food and agriculture in South and Southern Africa: how many wrongs before a right?' (2006) 7 *Minnesota Journal of Law, Science and Technology* 529 at 551); and, in respect of minerals see *Lebowa Mineral Trust Beneficiaries Forum v President of the Republic of South Africa* 2002 (1) BCLR 23 (T) where the court decided that mineral rights are not protected by s 25 on the basis that 'if the drafters of the Constitution intended to protect mineral rights, they would have done so expressly as in other jurisdictions' [at 29 G-H]); and on the other hand, the view has also been expressed that its inclusion is implied. As Van der Walt states:

'[t]he fact that mineral rights (or intellectual property or other commercial rights) are not usually specifically and explicitly mentioned and protected in constitutional property clauses (as was correctly held in the *First Certification Case*) means that it was not necessary for the South African 1996 Constitution to mention and protect them explicitly, but it does not mean that these rights are therefore not protected. They are not mentioned explicitly exactly because they are generally understood to be included in the usual generic reference to property.'

(footnotes omitted) AJ van der Walt *Constitutional property law* (2005) at 95.

In *First National Bank of SA Ltd t/a Wesbank v Commissioner, South African Revenue Service; First National Bank of SA Ltd t/a Wesbank v Minister of Finance* 2002 (4) SA 768 (CC) (the *FNB* case) the Constitutional Court was faced with an opportunity to define 'property' and found rather that it was 'practically impossible to furnish – and judicially unwise to attempt – a comprehensive definition of property for purposes of section 25' (at para [51]). The Court accepted that 'ownership of a corporeal movable must – as must ownership of land – lie at the heart of our constitutional concept of property', but certainly did not close the door on other forms of property (at para 51). In the *FNB* case the Court recognised the bank's (FNB) reservation of ownership in its instalment sale agreements as a constitutionally protected property right. See also para [17] in *Laugh it Off Promotions CC v SAB International (Finance) BV t/a Sabmark International (Freedom of Expression Institute as Amicus Curiae)* 2006 (1) SA 144 (CC) where Moseneke J indicates that intellectual property, like other property, is not immune to challenge and must be constitutionally tenable.

<sup>116</sup> Section 8 of Article 1 of the Constitution of the United States is an example of a Constitution that contains specific protection. In terms of s 8, one of the powers of Congress is:

'To promote the Progress of Science and useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.'

in so far as vertical relationships<sup>117</sup> are concerned.<sup>118</sup> In other words, aspects of the arbitrary deprivation and expropriation of IP by the State may be subject to Constitutional scrutiny.<sup>119</sup>

Section 25 provides the parameters for legitimate State 'interference' with private property by means of deprivation and expropriation of property by the State.<sup>120</sup> According to the decision in the *FNB* case<sup>121</sup> expropriation is a subset of deprivation. Where the deprivation is an expropriation, ss 25(2) and (3), which require a public purpose or public interest and compensation must also be complied with.

Deprivation of private property by the State may not be arbitrary; and may only take place in terms of law of general application.<sup>122</sup> Deprivation generally involves the restriction of use-rights in property by way of 'public health and safety laws related to property, land-use planning and development controls, building regulations and environmental conservation laws'.<sup>123</sup> Expropriation involves a 'taking' of property (rather than a restriction of use rights) for a public purpose or in the public interest. Expropriation also requires an

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<sup>117</sup> For the position in horizontal matters see *Laugh it Off Promotions CC v SAB International (Finance) BV t/a Sabmark International (Freedom of Expression Institute as Amicus Curiae)* 2006 (1) SA 144 (CC) discussed in the text below.

<sup>118</sup> The aspects of protected IP should also be limited by the provisions for protection of IP in international law which restrict protection to natural authors in respect of their material and moral interests in the IP. See § 5.3.1 in this regard.

<sup>119</sup> *Ibid.*

<sup>120</sup> For a detailed examination of deprivation and expropriation in terms of s 25 see Chapter 4 'Deprivation' and Chapter 5 'Expropriation' in *Constitutional property law* (note 115) at 121-283. US law uses the following terminology: expropriation involves the exercise of 'eminent domain'; deprivation the use of 'police power'; and the grey area in between the two is what is called 'regulatory taking' (*Constitutional property law* (note 115) at 128-9). An example of the grey area in the South African context includes the forfeiture of property (usually as a result of criminal activity) which is not deprivation as it is usually understood; nor is it expropriation (see *Constitutional property law* (note 115) at 180-1).

<sup>121</sup> *First National Bank of SA Ltd t/a Wesbank v Commissioner, South African Revenue Service; First National Bank of SA Ltd t/a Wesbank v Minister of Finance* 2002 (4) SA 768 (CC).

<sup>122</sup> Section 25(1).

<sup>123</sup> Footnotes omitted. *Constitutional property law* (note 115) at 124. For case law on the deprivation of property in terms of s 25 see especially the *FNB* case (note 115) and *Mkontwana v Nelson Mandela Metropolitan Municipality; Bisset and Others v Buffalo City Municipality; Transfer Rights Action Campaign and Others v Member of the Executive Council for Local Government and Housing, Gauteng and Others* 2005 (1) SA 530 (CC).

enabling law of general application;<sup>124</sup> and, if classified as an expropriation, compensation is payable.<sup>125</sup>

The 'law of general application' requirement may be met by either statute or the rules of common and customary law.<sup>126</sup> The 'arbitrariness' enquiry has both a procedural and a substantive element.<sup>127</sup> What constitutes procedural fairness depends on the circumstances: substantive fairness, in the context of the prohibition against the arbitrary deprivation of property, requires 'a test that is specific to the property clause and that falls somewhere between a "mere rationality" enquiry and the proportionality enquiry used to assess the legitimacy of limitations of rights.'<sup>128</sup> In other words, the deprivation must at least be rationally connected to a legitimate government purpose, but it must also try to achieve a balance between the public benefit achieved and the private harm caused.<sup>129</sup> The test is contextual: 'a mere rational connection between means and end could suffice for a minimal deprivation, while a more compelling reason and a closer relationship between means and ends would be required when the extent of the deprivation was greater.'<sup>130</sup> The limitation of rights' analysis requires the regulator or adjudicator to look at the nature and importance of the competing rights;<sup>131</sup> and the extent of the limitation sought to be imposed on the property right and possibly any less restrictive means to achieve that purpose.<sup>132</sup> Controlling the cost or production or distribution of GM cottonseed, or limiting the terms and conditions that may be imposed contractually between the parties are measures that limit property and thus, if challenged, may be tested for arbitrariness. In the case of patents,

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<sup>124</sup> Section 25(2).

<sup>125</sup> Section 25(2)(b).

<sup>126</sup> *Constitutional property law* (note 115) at 144.

<sup>127</sup> Iain Currie and Johan de Waal *The Bill of Rights handbook* (2005) at 543.

<sup>128</sup> *The bill of rights handbook* (note 127) at 545. (Original footnotes excluded).

<sup>129</sup> *Constitutional property law* (note 115) at 145. See also in this regard the *FNB* case (note 121).

<sup>130</sup> *Constitutional property law* (note 115) at 156. Van der Walt is comparing the formulation of the test in *Mkontwana v Nelson Mandela Metropolitan Municipality; Bisset and Others v Buffalo City Municipality; Transfer Rights Action Campaign and Others v Member of the Executive Council for Local Government and Housing, Gauteng and Others* 2005 (1) SA 530 (CC) (the *Mkontwana* case) with that of the *FNB* case (note 121).

<sup>131</sup> The public interest in access to PGRs and a health agricultural sector is compelling. It involves the protection of, among others, rights to dignity, substantive equality, culture, and the right to life embedded in food security and sustainable livelihoods.

<sup>132</sup> See s 36 in annexure A.

limitations are required to comply with the TRIPS Agreement<sup>133</sup> and, in the case of modern biotechnology, with the provisions of other WTO Agreements and the Protocol on Biosafety.<sup>134</sup>

A deprivation which amounts to an expropriation must be for a public purpose or in the public interest.<sup>135</sup> Public interest 'includes the nation's commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources.'<sup>136</sup>

The property clause in the Constitution challenges the traditional unitary and exclusionary concept of property. For example the Restitution of Land Rights Act,<sup>137</sup> enacted in accordance with s 25(6) of the Constitution,<sup>138</sup> goes well beyond the scope of real and limited real rights in land and recognises rights in land as 'any right in land whether registered or unregistered, and may include the interest of a labour tenant and sharecropper, a customary law interest, the interest of a beneficiary under a trust arrangement and beneficial occupation for a continuous period of not less than 10 years prior to ... dispossession'. These principles are applied in the *Richtersveld*<sup>139</sup> and the *Ndebele-Ndzundza*<sup>140</sup> cases discussed in § 2.5.3.

In addition to recognising indigenous rights, the state's duty to protect fundamental rights in a seemingly private dispute may further curtail the extent to which private rights will be protected.<sup>141</sup>

Case law which illustrates the balancing nature of the state's duty to protect rights include the *President of the Republic of South Africa and Another v*

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<sup>133</sup> See § 5.5.4 and further at § 7.3.3.1.

<sup>134</sup> The WTO agreements and their impact on states' regulatory powers is discussed in chapter 5.

<sup>135</sup> Section 25(2)(a).

<sup>136</sup> Ibid.

<sup>137</sup> Act 22 of 1994. The Act provides for the restitution of a right in land where a community has been dispossessed (after 19 June 1913) of that right as a result of racial discrimination. (Section 2(1)).

<sup>138</sup> Section 25(6) provides that:

'A person or community whose tenure of land is legally insecure as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to restitution of that property or to equitable redress.'

<sup>139</sup> *Alexkor Ltd and Another v The Richtersveld Community and Others* 2004 (5) SA 460 (CC).

<sup>140</sup> *Prinsloo and Another v Ndebele-Ndzundza Community and Others* 2005 (6) SA 144 (SCA).

<sup>141</sup> For example *Victoria & Alfred Waterfront (Pty) Ltd v Police Commission, Western Cape*, 2004 (4) SA 444 C) and *Nhlabathi & Others v Fick* [2003] 2 All SA 323 (LCC) discussed in § 2.2.1.

*Modderklip Boerdery (Pty) Ltd.*<sup>142</sup> The case involved a landowner who sought to evict unlawful occupiers from the land. The outcome essentially reinforced the state's obligations to both parties: the landowner's right to private property, and the unlawful occupiers' right to adequate housing. Similar reasoning underlies the decision concerning a registered trademark in *Laugh it Off Promotions CC v SAB International (Finance) BV t/a Sabmark International (Freedom of Expression Institute as Amicus Curiae)*.<sup>143</sup> In the Supreme Court of Appeal decision,<sup>144</sup> Harms J quotes Professor David Vaver<sup>145</sup> in support of the view that 'intellectual property cannot be treated as an absolute value. Its value should be weighed up against a range of values of at least equal importance such as the "right of people to imitate others, to work, compete, talk, and write freely, and to nurture common cultures".'<sup>146</sup> The courts recognise that the enforcement of intellectual property rights must be constitutionally tenable.<sup>147</sup> What is fair will have to be assessed on a case by case basis with due regard to the context and factual matrix of the case.<sup>148</sup>

When assessing the weight of competing rights the primary role of agriculture in any society should not be undermined. *Activities 'like agricultural land use activities, seem to be accorded a higher social utility by the courts than activities that only indirectly advance public welfare through trade, industry and commerce.*<sup>149</sup> Added to this are the rights to dignity and the right to life,<sup>150</sup> which includes the right to livelihood.

<sup>142</sup> 2005 (5) SA 3 (CC). See Mia Swart 'Left out in the cold? Crafting constitutional remedies for the poorest of the poor' (2005) 21 *SAJHR* 215 at 228.

<sup>143</sup> 2006 (1) SA 144 (CC). In the court a quo the High Court granted SAB an interdict preventing the appellant from marketing 'Black Labour' T-shirts which were held to infringe SABs Black Label trademark in terms of s 34(1)(c) of the Trade Marks Act. The Court (a quo) found that the caricature was likely to take unfair advantage of or be detrimental to the distinctive character or repute of SAB's trade marks; and that the caricature bordered on hate speech. Laugh it Off appealed to the Supreme Court of Appeal, alleging that the message on the T-shirt was a parody of SAB's trademarks; and that the interdict infringed the Constitutionally protected freedom of expression.

<sup>144</sup> 2005 (2) SA 46 (SCA).

<sup>145</sup> Vaver 'Canada's intellectual property framework: A comparative overview' (2004) 17 *Intellectual Property Journal* at 187-8.

<sup>146</sup> At para [9].

<sup>147</sup> At para [17] CC decision.

<sup>148</sup> At para [49] CC decision.

<sup>149</sup> *Wille's principles of South African law* (note 26) at 479 (emphasis added) and footnote 80 where the following cases are referred to: *Holland v Scott* (1882) 2 EDC 307 at 316 / 330; *Graham v Dittmann & Son* 1917 TPD 288 at 294; *Malherbe v Ceres Municipality* 1951 (5) SA 510 (A) at

[T]he right to life encompasses more than “mere animal existence”. It includes the right to livelihood.<sup>151</sup>

The private law rights of the parties are supplemented and constrained by the following domestic legislation.

#### 4.4 Legislation and the Monsanto Agreement

Relevant statutes are broadly located within the areas of environmental, agricultural, biosafety, intellectual property and also human rights law (for example the right to life and dignity). These are predominantly public law measures that may impact on private rights, in terms of which the state may regulate ownership rights (such as the right to develop and trade in genetically modified organisms). In so far as these laws raise rights and responsibilities between the state and the parties, rather than between the parties *inter se*, they are discussed in more detail in chapter 5.

Although patent law is of a public nature in the sense that duties are imposed on the state to recognise and protect patent rights (assuming there is a patentable invention), patent law has obvious implications on private actors.

##### 4.4.1 IP (patent and plant breeders’) rights derived from statute

Patent protection is primarily concerned with excluding competitors, other researchers and the state<sup>152</sup> from unauthorised use of the patented

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517-8. See also *Zondi v MEC for Traditional and Local Government Affairs and Others* 2005 (3) SA 589 (CC) where provisions of provincial legislation, the Pound Ordinance 32 of 1947 (KZN), were declared invalid for being unconstitutional. In considering the provisions, which related to the impoundment of animals, the rights of landowners (seeking to have trespassing livestock impounded) had to be balanced against the rights of livestock owners.

<sup>150</sup> See *S v Makwanyane and Another* 1995 (3) SA 391 (CC) at para [144] where it is stated that ‘[t]he rights to life and dignity are the most important of all human rights’.

<sup>151</sup> *Victoria & Alfred Waterfront (Pty) Ltd and Another v Police Commissioner, Western Cape, and Others (Legal Resources Centre as Amicus Curiae)* 2004 (4) SA 444 (C) at 448. The Court also refers to *Tellis v Bombay Municipal Corporation and Others* 1987 LRC 351 (India) reprinted in Davis, Cheadle and Haysom *Fundamental rights in the constitution: commentary and cases* (1997) at 520-528 where the ‘nexus between life and the means of livelihood’ is explored.

<sup>152</sup> Section 4 of the Patents Act provides that: ‘[a] patent shall in all respects have the like effect against the State as it has against a person: *Provided that a Minister of State may use an invention for public purposes on such conditions as may be agreed upon with the patentee, or in default of agreement on such conditions as are determined by the commissioner on application by or on behalf of such Minister and after hearing the patentee*’. (Emphasis added).

technology.<sup>153</sup> Monsanto's patent rights underlie its agreement with farmers and patent law will apply to a grower or growers not party to the agreement are found growing Monsanto's cotton.<sup>154</sup> The latter scenario is discussed at § 4.5.

The agreement between the parties indicates that 'Monsanto licenses the Grower under applicable patents owned or licensed by Monsanto to use these technologies'. The contract indicates that the patent numbers covering these technologies are 90/1417,<sup>155</sup> 86/5921<sup>156</sup> and 90/8699<sup>157</sup> which are explored in chapter 3. Patent number 86/5921 has expired and is no longer protected by the Patents Act and the remaining two patents will expire in 2010. The rights afforded by a patent grant are limited to the claims<sup>158</sup> contained in the patent application. A party may however secure contractual rights which extend beyond the rights afforded by the patent claims. As Llewelyn and Adcock point out:

[t]he terms of any licence agreement are not governed by intellectual property laws but by the laws common to commerce which provide the parties to the agreement with a significant amount of freedom to dictate the terms of that agreement.<sup>159</sup>

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<sup>153</sup> 'The effect of a patent shall be to grant to the patentee in the Republic, subject to the provisions of ... [the Patents] Act, for the duration of the patent, the right to exclude other persons from making, using, exercising, disposing or offering to dispose of, or importing the invention, so that he or she shall have and enjoy the whole profit and advantage accruing by reason of the invention' (s 45(1)).

<sup>154</sup> The effect of a patent is 'to grant to the patentee in the Republic, subject to the provisions of this Act, for the duration of the patent, the right to exclude other persons from making, using, exercising, disposing or offering to dispose of, or importing the invention, so that he or she shall have and enjoy the whole profit and advantage accruing by reason of the invention' (s 45). In terms of s 69A which deals with acts of non-infringement, it is not permitted to possess the patented invention other than for obtaining information required under any law regulating a product.

<sup>155</sup> Patent application number 90/1417 is a patent involving 'synthetic plant genes and method for preparation' in the name of Monsanto Company. (See Patent Journal, April 1990).

<sup>156</sup> Patent application number 86/5921 is a patent involving 'glyphosate-resistant plants' in the name of Monsanto Company (see Patent Journal, August 1987 at 125-6).

<sup>157</sup> Patent application number 90/8699 is a patent involving 'promoter for transgenic plants' in the name of Monsanto Company (see Patent Journal, December 1990 at 101). The 'equivalent' US patent application is US5378619; and the European patent application is patent number EP0426641.

<sup>158</sup> For more details on the specific claims of the three patents mentioned in the Monsanto Agreement, see § 3.2.5.

<sup>159</sup> Margaret Llewelyn and Mike Adcock (eds) *European plant intellectual property* (2006) at 51.

In the South African context this freedom is to some extent curtailed by the provisions of the Patents Act, which provides for the automatic termination of licencing contracts on expiry of the patents.<sup>160</sup> Unless Monsanto has new patents applicable to its cottonseed they should not be entitled to collect a technology user fee in addition to a purchase price subsequent to the expiry of its last remaining patents in 2010.

The Patents Act, in s 90, also limits the conditions which may be imposed on the purchaser or licensee. One of the restrictions renders a condition 'to require the purchaser or licensee to acquire from the seller ... any article or class of articles not protected by the patent' as null and void. The proviso in s 90(2)(b) is however most likely to save the condition in the Monsanto Agreement requiring growers to implement a specified Insect Resistance Management Program by stating that '[n]othing in this section shall ... affect any condition in a contract for the lease of or a licence to use a patented article, whereby the lessor or licensor reserves to himself or his nominee the right to supply such new parts of the patented article, other than ordinary articles of commerce, as may be required to put or keep it in repair.' It is not quite at point (but then the patenting of PGRs is anomalous) but the intention of the legislation can still be gathered.

The Patents Act is an important tool enabling Monsanto to establish a monopoly in respect of the production and sale of GM cottonseed in South Africa. This monopoly in turn enables Monsanto to impose onerous terms and conditions on the purchase of GM cottonseed.

In addition to Monsanto's patent rights, Monsanto's subsidiary, Delta & Pine Land Co (Deltapine), has applied for and been granted statutory plant breeders' rights<sup>161</sup> for *gossypium hirsutum* L (cotton) in respect of, among

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<sup>160</sup> Section 57(1) of the Patents Act which provides that '[a]ny contract, in so far as it relates to a licence under a patent to make, use, exercise, offer to dispose of, dispose of or import a patented invention, shall terminate on the date on which the patent under which the licence was granted expires, is revoked or otherwise ceases to protect such invention'. See also Burrell *South African patent law and practice* (1986) at 333-334.

<sup>161</sup> In terms of the Plant Breeders' Rights Act 15 of 1976.

others, DeltaOPAL RR, NuOPAL RR and DP 677 BG/RR.<sup>162</sup> This might have been in anticipation of the expiry of Monsanto's patents as the effect of the plant breeders' rights is to place restrictions on the reproduction of the protected variety. Section 23(1) of the Act lists the activities that require prior authorisation (by licence) from the plant breeder. However, prior authorisation is not required in the event that the person undertaking the listed activity 'is a farmer who on land occupied by him or her uses harvested material obtained on such land from that propagating material for purposes of propagation: Provided that harvested material obtained from the replanted propagating material shall not be used for purposes of propagation by any person other than that farmer.'<sup>163</sup>

Other mechanisms that may limit the extent to which private rights in PGRs may be commercially exploited include the use of competition law, the law relating to the marketing of agricultural products, and consumer protection law.

#### 4.4.2 *Competition law*

Competition law, as it is conventionally understood, seeks to promote (the efficiency of) competition within the market for goods and services. A more controversial role is the use of competition law in a way that seeks to balance free market imperatives against other social objectives in order to 'give proper effect to the complex matrix of needs, aspirations and ideals operating in society at the time'.<sup>164</sup> South Africa's Competition Act<sup>165</sup> embraces the broader approach, as the Act's preamble illustrates by recognising:

... [t]hat apartheid and other discriminatory laws and practices of the past resulted in excessive concentrations of ownership and control within the national economy, inadequate restraints against anti-

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<sup>162</sup> The grant of plant breeders' rights in respect of the three varieties was published in Notice 168, *Government Gazette* 28519 on 24 February 2006.

<sup>163</sup> Section 23(6)(f). The Plant Breeders' Rights Act may however restrict certain rights of other plant breeders. See § 5.5.4.3 on the Plant Breeders' Act more generally. See also *Keith Kirsten's (Pty) Ltd v Weltevrede Nursery (Pty) Ltd and Another* 2002 (4) SA 756 (C) and *Weltevrede Nursery v Keith Kirsten's (Pty) Ltd and Another* 2004 (4) SA 110 (SCA) on the requirements for a variety to be protectable; and as to who may apply for rights.

<sup>164</sup> Martin Brassey (ed) *Competition law* (2002) at 1.

<sup>165</sup> Act 89 of 1998.

competitive trade practices, and unjust restrictions on full and free participation in the economy by all South Africans.

The Act lists among its purposes: 'to provide consumers with competitive prices and product choices';<sup>166</sup> 'to promote employment and advance the social and economic welfare of South Africans';<sup>167</sup> and 'to promote a greater spread of ownership, in particular to increase the ownership stakes of historically disadvantaged persons.'<sup>168</sup>

There is, on the face of it, an apparent conflict between the principles of IP law and competition law.<sup>169</sup> Whereas IP has the tendency to promote market dominance, competition law seeks to break up the power of dominant firms. Both however aim to promote consumer welfare, and are ultimately complementary.<sup>170</sup> Competition law is a mechanism to rein in IP related anti-competitive behaviour to the extent that it breaches competition law.<sup>171</sup>

In the South African context, where there is a dominant firm (meeting a threshold turn-over)<sup>172</sup> in a particular market, the Competition Act prohibits the abuse of such dominance.<sup>173</sup> A firm is dominant if it has a market share of 45% or above (or less if it has market power).<sup>174</sup> Dominant firms may not, among other things, 'charge an excessive price to the detriment of consumers.'<sup>175</sup> Dominant firms may not 'refuse to give a competitor access to an essential facility when it is economically feasible to do so'.<sup>176</sup> In addition, dominant firms may not, unless there is good reason for doing so, sell goods or services on condition that the buyer purchases separate goods or services

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<sup>166</sup> Section 2(b).

<sup>167</sup> Section 2(c). (Emphasis added).

<sup>168</sup> Section 2 (f).

<sup>169</sup> See in this regard James Brand 'Intellectual property and the abuse of dominant position in South African competition law' (2005) 122 *SALJ* 907-928. See generally also Steven D Anderman (ed) *The interface between intellectual property rights and competition policy* (2007).

<sup>170</sup> Brand (note 169) at 909.

<sup>171</sup> Steven D Anderman (ed) *The interface between intellectual property rights and competition policy* (2007) at 1.

<sup>172</sup> Section 6.

<sup>173</sup> Chapter 2, Part B. In drafting these provisions, the relevant provisions in EC and US law were considered. Lawrence Reyburn *Competition Law of South Africa* (2008) at para 7.1.

<sup>174</sup> Section 7.

<sup>175</sup> Section 8(a).

<sup>176</sup> Section 8(b).

unrelated to the object of a contract, or forcing a buyer to accept a condition unrelated to the object of a contract.<sup>177</sup>

Assuming Monsanto meets the threshold turn-over, they are a dominant firm and, if the pricing is excessive, the cost of access to the seed may be challenged. Whether or not a price is excessive requires an assessment of the actual price of a product and its economic value. Economic value is determined by an analysis of the costs incurred by the dominant firm.<sup>178</sup> In other words 'an excessive price is one that bears no reasonable relation to the economic value of the good or service ... there is an unreasonable relationship between the price charged ... and the costs incurred in producing it.'<sup>179</sup> Although Monsanto's R&D costs may have originally been high, the current cost of production is unlikely to significantly exceed that of conventional cotton.<sup>180</sup> The cost of Monsanto's seed is comprised of both the price of the seed and the cost of the technology user fee.

The provisions relating to competitors' access may arguably assist competitor / public research undertakings to gain access to Monsanto's technology. It is the role of the Competition Commission to investigate alleged contraventions of the Act.<sup>181</sup> Monsanto has had allegations of anti-competitive (anti-trust) behaviour levelled against it for its behaviour in foreign markets.<sup>182</sup>

Recently, in particular in the wake of a settlement agreement between Sasol Chemical Industries Limited and the Competition Tribunal relating to Sasol's anti-competitive activities in the fertiliser industry, there have been calls for companies found guilty in terms of the Act to give a percentage of their annual

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<sup>177</sup> Section 8(d)(iii).

<sup>178</sup> Brassey (note 164) at 202.

<sup>179</sup> Brassey (note 164) at 202. See also the decision of the Competition Appeal Court of South Africa in *Mittal Steel SA Limited and others v Harmony Gold Mining Company Limited and another* 70/CAC/Apr07.

<sup>180</sup> Communication with Agricultural Research Council, July 2009.

<sup>181</sup> Section 21(1).

<sup>182</sup> Drahos with Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) at 165 observe that intellectual property rights allow for companies to practice cartelism, which may be anti-competitive and cite the example of private antitrust action that has been brought by farmers (US and international) against Monsanto and its co-conspirators alleging the use of patents to fix prices and restrain trade in the GM corn and soybean seed markets.

turnover to the development of the agricultural sector, or at least for the fine to be utilised for helping emerging farmers who have faced rising costs.<sup>183</sup>

South African law also permits restrictions on the marketing and sales of agricultural products.

#### 4.4.3 Legislation regulating the marketing of agricultural products

The Marketing of Agricultural Products Act<sup>184</sup> commenced on 1 January 1997 and its objectives are:

- (a) the increasing of market access for all market participants;
- (b) the promotion of the efficiency of the marketing of agricultural products;
- (c) the optimisation of export earnings from agricultural products;
- (d) the enhancement of the viability of the agricultural sector.

The Act puts in place mechanisms for establishing statutory measures that will regulate the marketing of agricultural products. In extraordinary circumstances, the Act gives legislative power to prohibit the import or export of an agricultural product.<sup>185</sup> The Act provides for directly affected groups to request the Minister of Agriculture to establish, continue, amend or repeal a statutory measure.<sup>186</sup> Such requests must indicate, *inter alia*, the agricultural product(s); the objectives, or objections (to an existing measure); the support of other affected groups; an implementation plan and the geographical areas and duration in which the statutory measure applies or should apply.<sup>187</sup>

Statutory measures must be gazetted and may involve the introduction of a levy.<sup>188</sup> One of the functions of Cotton SA (a body described in chapter 3) is to apply for appropriate statutory measures in terms of the Marketing of Agricultural Products and to administer such measures. An example of this

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<sup>183</sup> Business Report (online edition) 'Guilty firms must pay more – union' May 26, 2009.

<sup>184</sup> Act 47 of 1996, which repealed the Marketing Act 59 of 1968 as amended.

<sup>185</sup> In terms of s 22 of the Act.

<sup>186</sup> Section 10.

<sup>187</sup> Section 10(2).

<sup>188</sup> Section 15.

includes a 2008 statutory measure<sup>189</sup> which was put in place to extract a levy from ginners in respect of cotton lint.<sup>190</sup> The purpose of the measure is to provide financial support for a number of functions that have been identified as essential and in the interest of the cotton industry. These functions are:

- (a) Rendering of information services to all role-players;
- (b) the promotion of cotton production and the usage;
- (c) the co-ordination of research;
- (d) the maintenance of quality standards and norms and the provision of training; and
- (e) the facilitation of the development of the emerging cotton production sector.<sup>191</sup>

The intention is to increase market access for all market participants and the view is expressed that '[t]he promotion of the production of cotton can make a significant contribution towards the level of household food security in South Africa, particularly in the more arid regions of the country where other summer crops have regularly failed. It is furthermore important that perceptions be changed in terms of crops more suited to those areas to feature more strongly.'<sup>192</sup> It is intended that a portion of the funds collected will be used to focus on small-scale farmers and the developing cotton industry. The measure applies throughout South Africa.<sup>193</sup>

#### 4.4.4 Consumer protection law

The common law maxim, *pacta sunt servanda*, discussed above, is tempered in some cases by recently enacted consumer protection legislation. Consumer

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<sup>189</sup> Marketing of Agricultural Products Act: establishment of statutory measure and determination of guideline prices: Levy relating to cotton lint: GNR 373 of 4 April 2008 (*Government Gazette* No 30925).

<sup>190</sup> A ginner is 'any person who gins seed cotton.' Seed cotton is 'is the lint and seed derived from the ball of the cotton plant,' cotton lint is the fibre remaining after the seed cotton has been ginned, and to gin is 'to separate the seed and fibre in seed cotton.' Clause 1 of GNR 373 of 4 April 2008 (*Government Gazette* No 30925).

<sup>191</sup> Clause 2 of GNR 373 of 4 April 2008 (*Government Gazette* No 30925).

<sup>192</sup> There is a contrary view that, at least in so far as the Makhathini Flats are concerned, that alternative agrarian choices to cotton should in fact be pursued. See for example Harald Witt et al 'Can the poor help GM crops? Technology, representation & cotton in the Makhathini Flats, South Africa' (2006) 109 *Review of African Political Economy* 497-513.

<sup>193</sup> Clause 4 of GNR 373 of 4 April 2008 (*Government Gazette* No 30925).

protection in South Africa is consolidated by the Consumer Protection Act.<sup>194</sup> The Consumer Protection Act is extensive, and the preamble sets the context within which its provisions should be interpreted. The preamble recognises '[t]hat apartheid and other discriminatory laws of the past have burdened the nation with unacceptably high levels of poverty, illiteracy, and other forms of social and economic inequality; and [t]hat it is necessary to develop and employ innovative means to ... fulfil the rights of historically disadvantaged persons and to promote their full participation as consumers'.

The Act establishes an ethos of fundamental consumer rights<sup>195</sup> and empowers civil society support for consumer's rights.<sup>196</sup> In terms of the Act,<sup>197</sup> 'goods' includes anything marketed for human consumption or other tangible object and any intangible object or licence to use intangible object and thus the sale of seed and the Monsanto Agreement will be subject to the provisions of the Act. In terms of the consumer right to fair and honest dealing, the Act confirms the common law prohibition on unconscionable conduct and includes conduct where a supplier takes advantage of a customer's vulnerabilities.<sup>198</sup>

False, misleading, or deceptive representations are also dealt with in the Act.<sup>199</sup> In addition, suppliers are prohibited from supplying goods or services at a price, or on terms, that are unfair, unreasonable or unjust. Consumers have recourse to the courts, but also to a National Consumer Commission and a National Consumer Tribunal.

In addition, the Act allows for categories of goods to be prescribed that require a trade description (labelling) and that '[a]ny person who produces, supplies, imports or packages any prescribed goods must display on, or in association with the packaging of those goods, a notice in the prescribed manner and

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<sup>194</sup> Act 68 of 2008.

<sup>195</sup> Chapter 2 sets out these rights as: the right of equality in consumer market; the consumer's right to privacy; the consumer's right to choose; the right to disclosure and information; the right to fair and responsible marketing; the right to fair and honest dealing; the right to fair, just and reasonable terms and conditions; the right to fair value, good quality and safety; and the supplier's accountability to consumers.

<sup>196</sup> Chapter 3.

<sup>197</sup> Section 1.

<sup>198</sup> Section 40 – see especially s 40(2).

<sup>199</sup> Section 41.

form that discloses the presence of any genetically modified ingredients or components of those goods in accordance with applicable regulations.<sup>200</sup>

Outside of the consumer-supplier relationship, there are classes of persons (such as organic and conventional farmers who, while not party to the Monsanto Agreement, may nonetheless be impacted by GM cottonseed. The dynamics of these legal relationships may impact on decision-making as to the extent to which private property rights in PGRs should be tolerated.

#### **4.5 The Monsanto Agreement: third party rights and obligations**

What happens when a third party, who is not party to the Monsanto Agreement, is found in possession of proprietary GM cottonseed? This scenario might involve, on the one hand, a third party that is not necessarily unhappy with the presence of GM cottonseed on his or her land or, on the other hand, a third party, for example an organic farmer, who will be decidedly unhappy with the presence of GM cottonseed on his or her land. Whether or not the farmer is unhappy, Monsanto's patents rights still weigh heavily in favour of Monsanto. An unhappy farmer may try to found an action in the law of property (nuisance) or in delict (see § 4.5.2) but is unlikely to succeed. Another avenue of recourse for liability and redress for damage caused by GMOs is under discussion under the auspices of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity.<sup>201</sup>

##### *4.5.1 Monsanto's IP rights against third parties*

If cottonseed has blown onto a third party's land and taken root, even though the third party might argue that accession (*accessio*)<sup>202</sup> has occurred this is

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<sup>200</sup> Section 24(6). A prescribed form has not yet been promulgated. For a discussion on GMO labelling in the South African context see Viljoen et al 'Detection of GMO in food products in SA: implications of GMO labelling' (2006) 5(2) *African Journal of Biotechnology* 73-82.

<sup>201</sup> 39 *ILM* 1027 (2000). See § 4.5.3 and also the discussion on the Biosafety Protocol in chapter 5.

<sup>202</sup> Accession involves a thing (the accessory) or a portion of a thing being incorporated by natural or artificial means into another thing (the principal thing). The general principle is that owner of the principal thing becomes the owner of the new thing in line with the Roman law maxims *omne quod implantatur solo cedit* (things sown or planted in soil accede to the soil once it has taken root) and *superficies solo cedit*. Although there is some authority for the view that the person prejudiced because his seeds have taken root on another's land can claim the value of the seeds as compensation, possibly on the basis of unjust enrichment. See for example *Silberberg and*

unlikely to assist the third party against Monsanto's statutory claim. Monsanto's claim will be that liability attaches to the third party on the basis of Monsanto's patent rights. This was the case in the patent infringement proceedings<sup>203</sup> in the Supreme Court of Canada in *Monsanto Canada Inc v Schmeiser*<sup>204</sup> which involved GM canola ('Roundup Ready Canola'). Schmeiser, a commercial farmer in Saskatchewan, had never purchased Roundup Ready canola, nor had he acquired a licence to grow Monsanto's canola, however tests conducted on Schmeisers' 1998 crops revealed that between 95 and 98 percent of the crop was roundup ready canola. The trial court found in favour of Monsanto, holding that the patent was valid and was infringed by Schmeiser, who knew, or ought to have known, that the seed saved and planted by Schmeiser,<sup>205</sup> contained the patented gene and cell. The Federal Court of Appeal, with only a small majority,<sup>206</sup> upheld this decision finding that Schmeiser used Monsanto's patented gene and cell and hence infringed the patent.<sup>207</sup> The Court (or at least the majority)<sup>208</sup> was not prepared to rule on the policy arguments against biotechnology patents,

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*Schoeman* (note 34) at 141-156; Van der Walt and Pienaar (note 34) at 102-109; and CG Van der Merwe 'Things' Law of South Africa (Vol 27 – First Reissue Volume) at para 328-338.

<sup>203</sup> The proceedings were brought in terms of s 42 of the Canadian Patent Act, namely that:

'Every patent granted under this Act shall ... grant to the patentee ... the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used, subject to adjudication in respect thereof before any court of competent jurisdiction.'

The equivalent provision in the South African Patent Act is s 45 which provides that:

'The effect of a patent shall be to grant to the patentee ... the right to exclude other persons from making, using, exercising, disposing or offering to dispose of, or importing the invention, so that he or she shall have and enjoy the whole profit and advantage accruing by reason of the invention.'

<sup>204</sup> 2004 SCC 34. For a consideration of the ramifications of the decision see for example Maria Lee and Robert Burrell 'Liability for the escape of GM seeds: pursuing the "victim"?' (2002) 65 *Modern Law Review* at 517-537 and the sources cited therein.

<sup>205</sup> How the plants came to be on Schmeiser's farm is disputed. The Court however rejected Schmeiser's suggestions in this regard, finding, at para[6], that: '[t]he origin of the plants is unclear. They may have been derived from Roundup Ready seed that blew onto or near Schmeiser's land, and was then collected from plants that survived after Schmeiser sprayed Roundup herbicide around the power poles and in the ditches along the roadway bordering four of his fields. The fact that these plants survived the spraying indicated that they contained the patented gene and cell. The trial judge found that "none of the suggested sources [proposed by Schmeiser] could reasonably explain the concentration or extent of Roundup Ready canola of a commercial quality" ultimately present in Schmeiser's crop ((2001), 202 FTR 78 at para [118]).'

<sup>206</sup> The judges were split 5:4.

<sup>207</sup> Monsanto sought relief on the basis of accounting of profits (rather than damages) and as the court found that Schmeiser's profits were what they would have been had they planted and harvested ordinary canola, no claim was awarded.

<sup>208</sup> The minority judgment, relying on an earlier decision in the Supreme Court of Canada in *Harvard College v Canada (Commissioner of Patents)* 2002 SCC 76, would have allowed Schmeiser's appeal. In *Harvard College* the Court was once again sharply divided, but a majority (5:4) drew the line at the patentability of 'life forms' (in this case the oncomice).

expressing the view that 'if Parliament wishes to respond legislatively to biotechnology inventions concerning plants, it is free to do so.'<sup>209</sup>

The *Schmeiser* decision has been criticised for extending the protection to include the whole plant.<sup>210</sup> Monsanto's patents in SA in any event extend over plants and seeds. The minority judgment concluded that 'the gene patent claims and the plant cell claims should not be construed to grant exclusive rights over the plant and all of its offspring.'<sup>211</sup> In so far as a farmers' right to save seed is concerned,<sup>212</sup> the Supreme Court of Canada had the following to say:<sup>213</sup>

[Schmeiser] argue(s) ... that Monsanto's activities tread on the ancient common law property rights of farmers to keep that which comes onto their land. Just as a farmer owns the progeny of a 'stray bull' which wanders onto his land, so Mr. Schmeiser argues, he owns the progeny of Roundup Ready Canola that came onto his field. However, the issue is not property rights, but patent protection. Ownership is no defence to a breach of the *Patent Act*.

The same is likely to be true in South Africa as rights derived from statute take precedence over common law rights. The logical conclusion therefore, is that, if indeed the balance of rights is unduly skewed in favour of Monsanto, the solution is likely to be a legislative one.

Damages recoverable from an infringing farmer are restricted by s 66(1) which provides that:

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<sup>209</sup> Para [95].

<sup>210</sup> See for example ER Gold and WA Adams 'The *Monsanto* decision: the edge or the wedge' (2001) 19 *Nat Biotechnol* 587.

<sup>211</sup> Para [129]. The minority were of the opinion that:

'It is clear from the specification that Monsanto's patent claims do not extend to plants, seeds, and crops. It is also clear that the gene claim does not extend patent protection to the plant. The plant cell claims ends at the point where the isolated plant cell containing the chimeric gene is placed into the growth medium for regeneration, Once the cell begins to multiply and differentiate into plant tissues, resulting in the growth of a plant, a claim should be made for the whole plant. However, *the whole plant cannot be patented*. Similarly the method claim ends at the point of the regeneration of the transgenic founder plant but does not extend to methods for propagating that plant. *It certainly does not extend to the offspring of the regenerated plant.*' (para [130]) (Emphasis added).

<sup>212</sup> Farmers' rights are discussed in more detail in chapter 5.

<sup>213</sup> Para [96].

[a] patentee shall not be entitled to recover damages in respect of infringement of a patent from a defendant who proves that at the date of the infringement he was not aware, and had no reasonable means of making himself aware, of the existence of the patent.

A possible (but costly) response by growers that may be pursued by Monsanto<sup>214</sup> on the basis of the Patents Act, is to 'counterclaim for the revocation of the patent and, by way of defence, rely upon any ground on which a patent may be revoked'<sup>215</sup> although the argument was not sustained in the *Schmeiser* case. Another possibility, discussed below, is to actively seek remedy from Monsanto for damages, which appears to have happened in the Canadian case of *Schmeiser*. It is reported that in March 2008 Monsanto agreed to cover the costs of a clean-up operation to remove the Roundup Ready canola that contaminated the Schmeiser farm,<sup>216</sup> possibly paving the way for future recourse by non-licensed farmers who are the unwitting recipients of GM crops.<sup>217</sup>

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<sup>214</sup> Monsanto, in proceedings for infringement, may be entitled to relief by way of-

- (a) an interdict;
- (b) delivery up of any infringing product or any article or product of which the infringing product forms an inseparable part; and
- (c) damages (s 65(3)).

Section 65(4) provides that '[i]n lieu of damages the plaintiff may, at his or her option, be awarded an amount calculated on the basis of a reasonable royalty which would have been payable by a licensee or sub-licensee in respect of the patent concerned.' The recovery of damages is however restricted in terms of s 66(1), see text above, which requires that the defendant have knowledge of infringement before damages may be recovered.

<sup>215</sup> The grounds for revoking a patent are set out in s 61 and include that the invention concerned is not patentable in terms of the requirements for patentability.

<sup>216</sup> Schmeiser claimed \$660 in the small claims court.

<sup>217</sup> GM Watch, 20 March 2008. For a similar type of claim, also in Canada, see also *Hoffman v Monsanto Canada Inc* 2007 SKCA 47. The *Hoffman* case involved a class action by organic farmers against Monsanto and Bayer CropScience Inc aimed at stopping the introduction of GM wheat and also limiting the spread of GM canola on the basis that these products were harmful to the interests of organic farmers. Shortly thereafter, Monsanto abandoned its plans to introduce GM wheat and the dispute was therefore reduced to a consideration of GM canola. The court indicated as a weakness the fact that these biotech companies did not grow GM canola and only provided seed to farmers. (Paras [8]-[10]). Out of its original six causes of action in: negligence; the strict liability rule in *Rylands v Fletcher* (1866), LR 1 Ex 265; (1868) LR 3 HL 330; nuisance; trespass; the environmental Management and Protection Act of Saskatchewan; and the Environmental Assessment Act of Saskatchewan; it was clear that none of the common law claims would be sustained. Kathryn Garforth and Paige Ainslie 'When worlds collide: biotechnology meets organic farming in *Hoffman v Monsanto*' (2006) 18 *Journal of Environmental Law* 459.

#### 4.5.2 Do third parties have rights against Monsanto?<sup>218</sup>

The concepts of neighbour law and nuisance, the idea that property must be used in such a manner as not to injure that of another (*sic utero tuo alienum non laedas*)<sup>219</sup> provide an aggrieved party with remedies in the law of property (for infringement of property entitlements) and the law of delict (for patrimonial loss or personal injury). Depending on the circumstances, appropriate remedies may be an interdict (prohibiting particular behaviour or mandating certain remedial action) or compensation for damage.

Although the argument could be made that Monsanto may be liable in delict for losses suffered in delict, case law, at least pre-1994 case law, relating specifically to actions based on the *lex Aquilia* indicates that aggrieved parties seeking redress against manufacturers of a (lawfully registered) product are unlikely to be successful.<sup>220</sup> This was the case in *Natal Fresh Produce Growers' Association and Others v Agroserve (Pty) Ltd and Others*<sup>221</sup> where the plaintiff sought an interdict that would prohibit the defendants from manufacturing and distributing (duly registered) hormonal herbicides in South Africa as these herbicides are transported through water and air and are deposited on, and cause damage to, fresh produce (on the evidence, specifically in the Tala Valley area in KwaZulu Natal). The Court was of the view that the manufacture of the herbicides was not rendered unlawful merely because the use of the herbicides by certain third parties resulted in damage to the plaintiffs. The court upheld an exception to the plaintiff's plea maintaining that:

[i]t may be that the use [of the herbicides] cannot take place without the manufacture and distribution, so that the manufacture and distribution can be regarded as a *causa sine qua non* of the use, but that is not

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<sup>218</sup> See also in this regard Jeremy de Beer 'Rights and responsibilities of biotech patent owners' (2007) 40 *UBCL Rev* 343-373 where he uses, among other grounds, the 'duty to prevent harm' incident of ownership to argue for greater responsibility on the part of the patent owner.

<sup>219</sup> *Silberberg and Schoeman* (note 34) at 111-132; *Introduction to the law of property* (note 36) at 88-97.

<sup>220</sup> On the elements of aquilian liability see Chapter 41 'Compensation for pecuniary loss – the *actio legis Aquiliae*' in *Wille's principles of South African law* (note 26) 1094-1164.

<sup>221</sup> 1990 (4) SA 749 (N).

sufficient to saddle the manufacturers with legal responsibility of the conduct of the users.<sup>222</sup>

The logical (private law) conclusion is that a third party is likely only to have a claim against neighbours who grow GM cottonseed. There is an insufficient link between a third party and Monsanto in order to establish liability on the part of Monsanto and it is unlikely that an appeal to the provisions of the Bill of Rights will alter that. Other liability and redress options are currently under consideration at international law level.

#### 4.5.3 *Liability and redress in international and domestic law*

Parties to the Cartagena Protocol on Biosafety to the Convention on Biological Diversity<sup>223</sup> could not reach agreement on a provision for recourse for liability and redress for damage caused by GMOs. The applicable Article<sup>224</sup> provides for a process of engagement on liability and redress and, as yet, no resolution has been reached.<sup>225</sup>

In terms of South Africa's Genetically Modified Organisms Act,<sup>226</sup> a statutory duty of care is imposed on users<sup>227</sup> 'to ensure that appropriate measures are taken to avoid an adverse impact on the environment [and human and animal health]<sup>228</sup> which may arise from the use of genetically modified organisms.'<sup>229</sup>

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<sup>222</sup> At 755-6.

<sup>223</sup> 39 *ILM* 1027 (2000). See also the discussion on the Biosafety Protocol in chapter 5.

<sup>224</sup> The Article on Liability and Redress (Article 27) simply provides that:

'The Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first meeting, adopt a process with respect to the appropriate elaboration of international rules and procedures in the field of liability and redress for damage resulting from transboundary movements of living modified organisms, analysing and taking due account of the ongoing processes in international law on these matters, and shall endeavour to complete this process within four years.'

<sup>225</sup> At the first meeting of the Parties an ad hoc, open ended working group on liability and redress was established and has since met on at least three occasions to consider liability and redress, although no definitive resolutions have been taken. The fourth COP/MOP Meeting took place in Germany in May 2008. The minutes of the South African executive council established under the GMO Act held on 29 July 2008 (formerly hosted at [www.nda.agric.za](http://www.nda.agric.za)) indicate that a South African country position on liability and redress would be finalised for a meeting on liability and redress in February 2009. The fifth COP/MOP meeting is scheduled to take place in Nagoya, Japan in October 2010.

<sup>226</sup> Act 15 of 1997 as amended.

<sup>227</sup> The term 'user' is defined in s 1 of the GMO Act to mean 'any natural or legal person or institution responsible for the use of genetically modified organisms and includes an end-user or consumer.' This definition is substituted in the GMO Amendment Act to read 'a person who conducts an activity with a genetically modified organism' (s 1 of the Amendment Act).

<sup>228</sup> As amended by s 11 of the Amendment Act.

The user is liable for damage caused by the use or release of a genetically modified organism.<sup>230</sup> Persons qualifying as users are likely to include farmers, persons transporting GMOs, and even consumers. Liability is limited to an adverse impact on the environment or on health and would not include loss of markets or other forms of economic loss.<sup>231</sup>

## 4.6 Concluding remarks

### 4.6.1 The chapter in brief summary

This chapter has analysed the agreement between farmers and Monsanto. In private law terms the agreement, a licence of use of technology embedded in the cottonseed, creates a relationship between the farmer and the physical seed that is similar in some respects to a usufruct, except that a usufruct cannot generally exist over consumables. The agreement is unclear on whether or not ownership passes to the farmer. The farmer's entitlements over the seed (such as the right to save, sell, exchange and replant seed) are constrained by contract and Monsanto's IP rights. The chapter describes the common law grounds on which terms of the contract may be challenged. The hurdle is the constitutionally endorsed notion of *pacta sunt servanda*.

Statutory provisions impacting on the agreement were considered in the chapter including the Patents Act, the Competition Act, which prohibits abuse (such as excessive pricing) by a dominant firm, the Consumer Protection Act, which tempers the *pacta sunt servanda* principle, and the Marketing of Agricultural Products Act which provides a mechanism for regulating the marketing of agricultural products.

The final section of the chapter considers the potential liability of third parties to Monsanto and *vice versa*.

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<sup>229</sup> Section 17(1). The Amendment Act (s 11) substitutes the term 'use and release of' with the term 'activities relating to', and inserts s 17A which provides for the recovery of costs incurred by Council (in terms of a new s 17(3) provision for Council to remedy damage.

<sup>230</sup> Section 17(2).

<sup>231</sup> For a general comment on the position in South Africa see L Feris 'Risk Management and liability for environmental harm caused by GMOS – The South African regulatory framework' (2006) (1) *PER* 1-26.

#### *4.6.2 Conclusion*

Monsanto and farmers do not enter into the relationship with equal bargaining powers. Small-scale farmers in particular are marginalised by poor agricultural policy and have little choice of agricultural products. The extent to which this relationship may be altered by government intervention is the subject matter of chapter 5. Chapter 5 considers the matrix of laws, both international and domestic, that determine, on the one hand, the state's relationship with Monsanto (its obligations toward Monsanto), and, on the other, its duties in respect of farmers.

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## CHAPTER 5

# LEGAL FRAMEWORK (2): THE STATE'S REGULATORY POWERS

The law's impact may be felt where it is least evident and where those affected may have few resources to recognize or pursue their rights in institutional fora. This is certainly true in the field of intellectual property...<sup>1</sup>

### 5.1 Introduction

The aim of chapter 5 is to consider the regulatory framework (the 'regime complex')<sup>2</sup> which both empowers and limits the state's ability to regulate rights in PGRs in the public interest. While the focus of chapter 5 is on the regulation of genetically modified plants, the broader context for the regulation of various aspects of PGRs is described.

The state's regulatory powers, some of which were briefly discussed in chapter 4, derive from three levels: international, regional, and domestic<sup>3</sup> law, and span diverse areas of law. The following are discussed in this chapter:

- Human rights law, which regulates, *inter alia*:
  - Property rights
  - Socio-economic rights
  - Rights to dignity, equality and life; and
  - Rights to culture, development and farmer's rights
- Environmental and agricultural law, which regulate, *inter alia*:
  - Sustainable development; and
  - Biosafety law
- Trade law, which includes:
  - International trade; and
  - IP: patents and plant breeders' rights.

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<sup>1</sup> Rosemary J Coombe 'Critical cultural legal studies' (1998) *Yale Journal of Law & the Humanities* 463 at 473.

<sup>2</sup> See § 1.2.2.

<sup>3</sup> The terms national and domestic are used interchangeably. The term municipal would also suffice.

The chapter is, to use the property paradigm, about the so-called ‘police-power principle’<sup>4</sup> in terms of which the state may regulate property (generally without compensation)<sup>5</sup> for health, safety and welfare reasons. In the South African context ‘the state is authorized to regulate the use, enjoyment and exploitation of private property – even when such regulation involves limitation of the property owner’s entitlements and causes financial loss – provided the regulatory deprivation is imposed generally, for a legitimate public purpose and fairly (not arbitrarily in the South African terminology of s 25(1)).’<sup>6</sup>

PGRs are of global significance and are increasingly regulated in international law. At this level the biotech industry is an important lobby group able to influence policy.<sup>7</sup> National decisions that may which aggrieve the industry are taken up at the WTO.<sup>8</sup> This occurred in the case of a complaint by the large GM-food producing countries (USA, Canada and Argentina) against the EU in the *Biotech Products*<sup>9</sup> dispute.

The first part of chapter 5 discusses the basic principles and major institutions in international law. The remainder of the chapter is divided into three parts: human rights law; environmental and agricultural law; and trade law, wherein

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<sup>4</sup> See generally AJ Van der Walt *Constitutional property law* (2005) at 132-137.

<sup>5</sup> When property is expropriated, compensation is payable. The exercise of police-power amounts to a deprivation without compensation.

<sup>6</sup> Van der Walt (note 4) at 133. See also the comparative law examples provided by Van der Walt at 108 (footnotes 183 and 184) and at 133 where the police-power principle in the US (*Coal Co v Mahon* 260 US 393 (1922) at 413, 419) and in German law are considered. The principle in German law is summarised by Van der Walt (134), as follows:

‘... the extent to which a regulatory deprivation may affect private property negatively is partly determined by the nature of the property and its relation to the autonomy and privacy of the person or persons affected – the stronger the social relations and function of the property, the stronger and the wider are the regulatory powers of the legislature in determining the content and limits of that property, but the stronger the personal and individual character and function of the property, the weaker and smaller are the state’s powers to limit it through regulation.’ (footnotes omitted).

<sup>7</sup> Monsanto for example is a member of the powerful Intellectual Property Committee (IPC), representing major US corporations created in 1986 to negotiate what would become the TRIPS agreement. Drahos with Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) at 118.

<sup>8</sup> The dispute resolution mechanism is contained in the Understanding on Rules and Procedures Governing the Settlement of Disputes, 1994, 33 *ILM* 1226 (1994), Annex 2 of the Agreement Establishing the World Trade Organization, 1994, 33 *ILM* 1144 (1994).

<sup>9</sup> The dispute is reported as *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* WT/DS291/R, WT/DS292/R, WT/DS293/R. The dispute settlement panel handed down its lengthy report on 29 September 2006. The dispute is discussed at § 5.5.

the applicable provisions in international, regional and domestic law are considered.

## 5.2 International law in the South African context

In terms of international law,<sup>10</sup> it is States and not individuals that are the principal bearers of rights and duties.<sup>11</sup> The *pacta sunt servanda* rule<sup>12</sup> is universally recognised in international law,<sup>13</sup> and hence '[e]very treaty in force is binding upon the parties to it and must be performed by them in good faith.'<sup>14</sup> Once enacted into domestic law,<sup>15</sup> the provisions of domestic law, which reflect the principles of international law, are binding on individuals in terms of national law.

The status of international law in South Africa is established by various provisions of the Constitution: s 39 provides, inter alia, that 'when interpreting the Bill of Rights, a court, tribunal or forum ... must consider international

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<sup>10</sup> International law rules derive from consensus between states and not from a central authority. According to Palmetier and Mavroidis, 'modern discussions of the sources of international law usually begin with a reference to Article 38(1) of the Statute of the International Court of Justice' which indicates that international law includes:

- a. international conventions, whether general or particular, establishing rules expressly recognized by the contesting states;
- b. international custom as evidence of a general practice accepted as law;
- c. the general principles of law recognized by civilized nations;
- d. ... judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary means for the determination of rules of law.'

David Palmetier and Petros C Mavroidis 'The WTO legal system: sources of law' (1988) 92 *The American Journal of International Law* at 398. See also John Dugard (ed) *International law: a South African perspective* (2005) at 27

Strictly speaking, this chapter is concerned with the rules of public international law. As Dugard explains, '[p]ublic international law ... must be distinguished from private international law. Public international law governs the relations between states. It comprises a body of rules and principles which seek to regulate relations between states. Private international law concerns the relations between individuals whose legal relations are governed by the laws of different states.' Dugard at 2. Private international law may be involved in the case of cross-border contamination of GM crops.

<sup>11</sup> Dugard (note 10) at 1.

<sup>12</sup> Dugard (note 10) at 406 describes the rule as being the 'foundation stone' on international law. See also Malcolm N Shaw *International law* (2003) 811-2 where he describes the rule as 'arguably the oldest principle of international law.'

<sup>13</sup> See for example the preamble of the Vienna Convention on the Law of Treaties, 1969, 8 *ILM* 679 (1969). Although South Africa is not a signatory to the Vienna Convention, the treaty, which is 'a blend of codification and progressive development, is viewed as a definitive statement on the law of treaties by both signatories and non signatories'. Dugard (note 10) at 406. See also Shaw (note 12) at 810.

<sup>14</sup> Article 26 of the Vienna Convention.

<sup>15</sup> The Constitution (at s 231) provides the mechanism for international agreements to become law in South Africa.

law.<sup>16</sup> International law is further entrenched by s 233, which provides that 'when interpreting any legislation, every court must prefer any reasonable interpretation of the legislation that is consistent with international law over any alternative interpretation that is inconsistent with international law.' The Constitution also provides that customary international law is law in South Africa provided it is not inconsistent with the Constitution or other statutory law in South Africa.<sup>17</sup>

Given the Constitutional provisions, and prevailing legal sentiment, Dugard predicts that, in post-apartheid South Africa, 'appeals will be made to international law as a "higher law"',<sup>18</sup> and he gives examples of where this has already occurred.<sup>19</sup> Common law rules will be required to give way to conflicting provisions of customary international law,<sup>20</sup> which will only be subject to domestic legislation and the Constitution. Once incorporated into domestic law, international agreements are elevated to the extent that 'it is the duty of the court to ascertain the content of the [international] rule and to seek to give an interpretation to the Constitution that accords with this rule, and that only if this is impossible because of a clear inconsistency between the rule of international law and the Constitution, the latter is to prevail'.<sup>21</sup> The idea is that '[i]nternational agreements and customary international law ... provide a framework within which [the Bill of Rights] can be evaluated and

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<sup>16</sup> Section 39(1)(b) of the Constitution.

<sup>17</sup> Section 233.

<sup>18</sup> Dugard (note 10) at 25.

<sup>19</sup> Dugard (note 10) at 25 where he cites the constitutional challenges to the Promotion of National Unity and Reconciliation Act 34 of 1995 (challenged on the basis that international law required prosecution for gross human rights violations whereas the legislation granted immunity) and the Gauteng School Education Bill of 1995 (challenged on the basis that the Bill discriminated against the Afrikaans minority in terms of international human rights law). In the case of the Promotion of National Unity and Reconciliation Act (considered in *Azanian Peoples Organisation (AZAPO) and others v President of the Republic of South Africa and Others* 1996 (4) SA 671 (CC)) the court considered the international law principles but concluded that the Act in question was not in violation of these principles. In the matter involving the Gauteng School Education Bill (*Ex parte Gauteng Provincial Legislature: in re dispute concerning the constitutionality of certain provisions of the Gauteng School Education Bill of 1995* 1996 (3) SA 165 (CC)), Sachs J refers to the minority rights provisions of the Constitution in the light of public international law. The Act was held not to be in conflict with the provisions of the Constitution.

<sup>20</sup> Dugard (note 10) at 56.

<sup>21</sup> This is Dugard's interpretation of the decision in *AZAPO v President of the Republic of South Africa* 1996 (4) SA 671 (CC). Dugard (note 10) at 68-69.

understood.<sup>22</sup> International law will be invoked, 'not only as a guide to statutory interpretation but as a challenge to the validity of legislation.'<sup>23</sup>

Unlike the clear hierarchical distinction in South African domestic law between the Constitution (and its Bill of Rights) and other sources of law, the sources of international law are not so ranked. There appears to be no hierarchy of rights or vertical structure in international law.<sup>24</sup> In addition, international law has fragmented as it expands into new areas, creating problems in the coherence between the different institutions and the regimes established by them.<sup>25</sup>

In this system, treaties that protect fundamental human rights may appear to rank no higher than, for example, agreements regulating international economic relations, unless the latter treaty so provides. Countries that have not signed a particular treaty are not bound by its provisions and latter treaties relating to the same subject matter take precedence.<sup>26</sup> There is however some comfort in the notion that '[m]odern international law has seen important developments in the hierarchy of norms. Whereas in classical international law, all norms and rules enjoyed equal ranking, today, certain norms, known as peremptory norms (*jus cogens*),<sup>[27]</sup> enjoy a higher status in the normative hierarchy.'<sup>28</sup> Some firming up of this notion is desirable. In addition, the creative use of the tools of interpretation may influence dispute outcomes and assist with the prioritising of certain values.

International and regional bodies responsible for the development of international and regional rules on human rights, environmental, agricultural

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<sup>22</sup> *S v Makwanyane* 1995 (3) SA 391 (CC).

<sup>23</sup> Dugard (note 10) at 67.

<sup>24</sup> Dugard (note 10) at 43, where he indicates that 'international society is viewed as a horizontal system premised on the sovereign equality of states.'

<sup>25</sup> See for example Martti Koskenniemi 'Fragmentation of international law: difficulties arising for the diversification and expansion of international law, report of the study group of the International Law Commission' UN Doc A/CN.4/L.682, 13 April 2006.

<sup>26</sup> Article 30 of the Vienna Convention.

<sup>27</sup> See for example Article 53 of the Vienna Convention (1969). There is some uncertainty regarding which norms would be considered to be peremptory although 'there is widespread support for the view that the prohibitions against slavery, genocide, racial discrimination (including apartheid) torture and the denial of self-determination ... [in addition to aggression] ... qualify for the status of peremptory norms.' Dugard (note 10) at 43-44.

<sup>28</sup> Dugard (note 10) at 27-28. See also Shaw (note 12) at 115-119.

and trade law include at least three international organisations: the United Nations (UN); the African Union (the AU), formerly the Organisation for African Unity (OAU) (although a regional body, the AU is a recognised international law body);<sup>29</sup> and the World Trade Organisation (WTO).

### 5.2.1 *The UN, the AU and the WTO*

Detail on the background, objectives, and instruments of these three organisations is provided to assist interpret the rights and duties that might flow from membership of the organisations and ratification of their instruments.

#### 5.2.1.1 *The United Nations*

The United Nations,<sup>30</sup> which preceded the establishment of the AU and the WTO, was constituted in 1945 in terms of the UN Charter.<sup>31</sup> The Charter embraces a number of human rights provisions,<sup>32</sup> as do other UN agreements, which include the Universal Declaration of Human Rights (UDHR);<sup>33</sup> the International Covenant on Civil and Political Rights (ICCPR);<sup>34</sup> and the International Covenant on Economic, Social and Cultural Rights (ICESCR).<sup>35</sup> The AU has a similar focus to the UN whereas the WTO, an

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<sup>29</sup> Tiyanjana Maluwa 'International law-making and the Organisation of African Unity: an overview' (2000) 12 *African Journal of International and Comparative Law* 201-225.

<sup>30</sup> The purposes of the UN are fourfold (Article 1 of the Charter) namely: to maintain international peace and security; to develop friendly relations among nations based on the principles of equal rights and self-determination; to achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character while encouraging respect for human rights; and finally to be a centre for harmonising the actions of nations in the attainment of these common ends.

<sup>31</sup> The Charter of the United Nations was signed on 26 June 1945 and came into force on 24 October 1945. The Charter, the constituent treaty of the UN, is binding on all members, including the USA.

<sup>32</sup> On the legal status of the human rights provisions of the Charter see Dugard (note 10) at 313-4 where he discusses the human rights provisions in the context of apartheid and the decision of the International Court of Justice in *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)* 1971 ICJ Reports 16 at 57 (the *Namibian Opinion*), which decision 'dispelled any doubts concerning the legal obligations that were imposed on member states by the human rights provision in the Charter.'

<sup>33</sup> Universal Declaration of Human Rights, 1948, GA Res 217A (III), UN Doc A/810 71 (1948) adopted by the UN General Assembly on 10 December 1948, not as a legally binding agreement, but rather a 'common standard'. Shaw (note 12) at 259.

<sup>34</sup> International Covenant on Civil and Political Rights, adopted 16 December 1966, entered into force 23 March 1976, 6 *ILM* 368 (1967).

<sup>35</sup> International Covenant on Economic, Social and Cultural Rights, adopted 16 December 1966, entered into force 3 January 1976, 6 *ILM* 360 (1967).

international economic organisation, is concerned with the rules for international trade.

To assist the UN to achieve international economic and social co-operation, specialised agencies have been identified and brought within the domain of the UN.<sup>36</sup> These agencies include, amongst others, the Food and Agriculture Organisation of the UN (FAO), the UN Educational, Scientific and Cultural Organisation (UNESCO), and the World Intellectual Property Organisation (WIPO).<sup>37</sup>

In 1993, Member States of the United Nations created the Office of the High Commission for Human Rights (OHCHR) by a General Assembly Resolution. The OHCHR is mandated to promote and protect the enjoyment and full realization of the rights contained in the UDHR, ICCPR and the ICESCR.<sup>38</sup>

#### 5.2.1.2 African Union (formerly the OAU)

The AU has recently emerged out of the OAU, having been inaugurated in July 2002. A key instrument adopted by the OAU in 1981 is the African Charter on Human and Peoples' Rights<sup>39</sup> which establishes an African Commission on Human and Peoples' Rights to promote human and peoples' rights and ensure their protection in Africa.<sup>40</sup>

The African Charter is supplemented by the Constitutive Act of the African Union (AU).<sup>41</sup> In the preamble fifty-three heads of state record that they are:

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<sup>36</sup> Article 57 read with Article 63.

<sup>37</sup> The WTO establishes a link with WIPO (and hence the UN) in the preamble of the TRIPS agreement which states that the parties desire 'to establish a mutually supportive relationship between the WTO and ... WIPO ... as well as other relevant international organisations ...'.

<sup>38</sup> These instruments together are referred to as the International Bill of Human Rights. See [www.ohchr.org](http://www.ohchr.org) [Accessed 2 July 2009].

<sup>39</sup> African Charter on Human and Peoples' Rights, 1981, 21 *ILM* 58 (1982). The charter was acceded to by South Africa on 9 July 1996.

<sup>40</sup> The Commission concedes that '[the African human rights system] ... remains one of the most comprehensive in terms of the rights protected but yet the feeblest in terms of protecting those rights.' Internship policy of the African Commission on Human and Peoples' Rights, available at [www.achpr.org](http://www.achpr.org).

<sup>41</sup> The Constitutive Act of the African Union, adopted by the OAU in July 2000, establishes the AU which was inaugurated in July 2002. The transformation from the OAU to the AU reflects the change in era: the OAU focussed on the transition of African countries from colonialism to self-

DETERMINED to take up the multifaceted challenges that confront our continent and peoples in the light of the social, economic and political changes taking place in the world;

...

DETERMINED to promote and protect human and peoples' rights, consolidate democratic institutions and culture, and to ensure good governance and the rule of law;

The objectives of the AU are set out in Article 3 of the Constitutive Act and include, among other, the objectives to '[p]romote and defend African common positions on issues of interest to the continent and its peoples',<sup>42</sup> to '[e]ncourage international cooperation, taking due account of the Charter of the United Nations and the Universal Declaration of Human Rights',<sup>43</sup> and to '[p]romote and protect human and peoples' rights in accordance with the African Charter on Human and Peoples' Rights and other relevant human rights instruments'.<sup>44</sup> The AU is also tasked to '[c]oordinate and harmonize policies between existing and future Regional Economic Communities for the gradual attainment of the objectives of the Union'.<sup>45</sup>

Also within the domain of the OAU, and now the AU, is the New Partnership for Africa's Development (NEPAD) program, a 'holistic, comprehensive and integrated strategic framework for the socioeconomic development of Africa'.<sup>46</sup> NEPAD was formally adopted as a program (a 'pledge by African leaders') of the OAU in July 2001, and has subsequently been integrated into the AU.<sup>47</sup>

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determination; and the AU is committed to addressing the serious economic and social issues faced by the continent. Dugard (note 10) at 549-50.

<sup>42</sup> Article 3(d).

<sup>43</sup> Article 3(e).

<sup>44</sup> Article 3(h).

<sup>45</sup> Article 3(l).

<sup>46</sup> T Maluwa 'The African Union, the Southern African Development Community, and the New Partnership for Africa's Development: some observations on South Africa's contribution to international law-making and institution building in Africa, 1994-2004' (2004) 29 *SAYIL* at 4 note 10, cited in Dugard (note 10) at 554-5.

<sup>47</sup> NEPAD is in fact a merger of two plans for economic development in Africa, namely: the Millennium Partnership for the African Recovery Programme (MAP) (led by South Africa, Algeria and Nigeria) and the OMEGA Plan for Africa (developed by Senegal). Dugard (note 10) at 554-6. In April 2008 a review summit of five heads of state (from South Africa, Senegal, Algeria, Egypt and Nigeria) met to discuss progress in this regard. Their report was tabled at the AU summit in Egypt in July 2008.

NEPAD's founding document recognises 'that failures of political and economic leadership in many African countries impede the coherent mobilisation of resources into productive areas of activity in order to attract and facilitate domestic and foreign investment.'<sup>48</sup> In its strategic framework document<sup>49</sup> a bleak picture of the 'poverty and backwardness of Africa'<sup>50</sup> is painted and a call is made 'for the reversal of this abnormal situation by changing the relationship that underpins it'.<sup>51</sup> More specifically, a call is made 'for a new relationship of partnership between Africa and the international community, especially the highly industrialised countries, to overcome the development chasm that has widened over centuries of unequal relations.'<sup>52</sup> In its sectoral priorities, numerous shortcomings in Africa's agriculture sector are identified.<sup>53</sup> Attempts to address these shortcomings may arguably be curtailed by Africa's commitments in terms of the WTO's multilateral trade arrangements.

#### *5.2.1.3 The World Trade Organisation*

The WTO has its origins in the General Agreement on Tariffs and Trade (GATT), which dates back to around 1947-48. At that time, the idea of an International Trade Organisation was mooted at a UN Conference on Trade and Employment but never materialised; thus paving the way for the GATT, a somewhat provisional agreement (and informal organisation) involving trade rules and tariff concessions. Until the establishment of the WTO in 1994 the rules for the liberalisation of international trade were provided for by the GATT.<sup>54</sup>

Rules on tariffs and other trade matters were produced during the various rounds of trade negotiations under the GATT. The eighth round of trade and tariff negotiations, the Uruguay Round, commenced in 1986 and concluded in 1994. The Uruguay Road addressed a number of identified shortcomings (in

<sup>48</sup> 'A New African Initiative: Merger of the Millennium Partnership for the African Recovery Programme (MAP) and Omega Plan', July 2001, at para [34].

<sup>49</sup> 'The New Partnership for Africa's Development (NEPAD)', October 2001.

<sup>50</sup> At para [2].

<sup>51</sup> At para [5].

<sup>52</sup> At para [8].

<sup>53</sup> Section B of the NEPAD Framework document, October 2001.

<sup>54</sup> Shaw (note 12) at 1167. See generally [www.wto.org](http://www.wto.org).

particular the fact that the GATT only regulated trade in goods and not in services or intellectual property) and resulted in the signing of 'a long and complex agreement covering a range of economic issues, such as agriculture, textiles and clothing, rules of origin, import licensing procedures, subsidies, intellectual property rights, and procedures on dispute settlement.'<sup>55</sup> Importantly, it also led, on 1 January 1995, to the establishment of the WTO as a permanent institution.<sup>56</sup> Although the WTO replaced the GATT as an organisation, the GATT as an agreement (GATT 1994)<sup>57</sup> still regulates aspects of the international trade in goods. The current round of negotiations, the Doha Development Round, commenced in November 2001 with the intention of rectifying imbalances in previous rounds and promoting the development of the least developed countries.<sup>58</sup> Negotiations have however broken down over a lack of consensus on a number of issues, including agricultural imports and subsidies, although efforts are being made to get the negotiations back on track in order to conclude the negotiations in 2010.<sup>59</sup>

The main aims of the WTO 'are to administer and implement the multilateral and plurilateral trade agreements together making up the WTO, to act as a forum for multilateral trade negotiations, [and] to try and settle trade disputes and to oversee national trade policies.'<sup>60</sup>

Instruments negotiated under the WTO free trade agenda include, among others,<sup>61</sup> the Agreement on Agriculture;<sup>62</sup> the Agreement on Technical Barriers to Trade (TBT Agreement);<sup>63</sup> the Agreement on the Application of

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<sup>55</sup> Ibid.

<sup>56</sup> Ibid.

<sup>57</sup> General Agreement on Tariffs and Trade (GATT 1994) 33 *ILM* 1153 (1994).

<sup>58</sup> Joseph E Stiglitz 'Towards a pro-development and balanced intellectual property regime' (2004) Keynote address at the Ministerial Conference on Intellectual Property for Least Developed Countries, World Intellectual Property Organisation (WIPO), Seoul, October 25, 2004.

<sup>59</sup> Charlotte Matthews 'Trade chief urges Doha conclusion' *BusinessDay*, 22 October 2009.

<sup>60</sup> Shaw (note 12) at 1168.

<sup>61</sup> The Uruguay Round (1986-1994) of trade negotiations resulted in a large number of agreements including the 'umbrella' agreement, the Agreement Establishing the World Trade Organisation, (Marrakesh Agreement) 1867 UNTS 154; 33 *ILM* 1144 (1994). There are about 60 WTO agreements.

<sup>62</sup> Agreement on Agriculture, Annex 1A to the Marrakesh Agreement, 1867 UNTS 3.

<sup>63</sup> Agreement on Technical Barriers to Trade, Annex 1A to the Marrakesh Agreement, 1867 UNTS 3 (TBT Agreement).

Sanitary and Phytosanitary Measures (the SPS Agreement),<sup>64</sup> and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS),<sup>65</sup> which many argue should not have been included in trade negotiations.<sup>66</sup>

Difficulties arise when the treaty obligations arising out of membership of the three organisations (the UN, AU and the WTO) are in conflict with each other. On such occasions, the adjudicator of the particular dispute must invoke the rules for the interpretation of treaties.

### 5.2.2 *Conflicting treaty obligations*

The perceived lack of a hierarchy in the relationship between international organisations and their respective treaties may be addressed to some extent by a closer reading of the instruments and through the use of purposive interpretation.<sup>67</sup> In so far as the substantive provisions of a treaty are concerned:

[t]here are broadly three approaches to treaty interpretation: the textual, the teleological, and the intention of the parties. The first gives effect to the literal or grammatical meaning of words and is the approach favoured by formalists and positivists. The second emphasizes the object and purpose of a treaty in the interpretative process. Ambiguities in a treaty are resolved by choosing that interpretation which gives the maximum effect to the main purpose and object of the treaty. The third approach seeks to give effect to the intention or presumed intention of the parties, which the judge infers from the text and the preparatory works (*travaux préparatoires*) or historical record of the treaty.<sup>68</sup>

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<sup>64</sup> Agreement on the Application of Sanitary and Phyto-sanitary Measures, 1867 UNTS 493 (SPS Agreement).

<sup>65</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, 33 *ILM* 81 (1994) (TRIPS Agreement).

<sup>66</sup> Stiglitz (note 58).

<sup>67</sup> Where the dispute involves non-member parties, it should also be remembered that although treaties are generally only binding on parties, customary international law is binding on all states. It may happen therefore that the provisions of a particular treaty become customary law, in which case 'all states would be bound, regardless of whether they had been parties to the original treaty or not.' Shaw (note 12) at 835.

<sup>68</sup> Dugard (note 10) at 417-18.

These three approaches are codified in the Vienna Convention.<sup>69</sup> Article 31(2) of the Convention legitimises the use of the preamble and annexes in interpreting a treaty and Article 32 the use of preparatory work in certain circumstances.

In the event of a conflict between treaties' obligations, the UN Charter provides that members' obligations set out in the Charter *shall prevail over* all other treaty obligations.<sup>70</sup> Hence some form of hierarchy is in fact agreed to by the parties to the Charter. Members of the UN pledge to co-operate with the UN in acting to promote:

- a. higher standards of living, full employment, and conditions of economic and social progress and development;
- b. solutions of international economic, social, health, and related problems; and international cultural and educational cooperation; and
- c. universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion.<sup>71</sup>

Although the Convention on Biological Diversity (CBD),<sup>72</sup> an international environmental law treaty, was in place prior to the establishment of the WTO and its package of agreements, the Cartagena Biosafety Protocol<sup>73</sup> follows chronologically on the heels of the WTO agreements. The Protocol, a compromise agreement,<sup>74</sup> addresses a potential conflict between trade and the environmental in its preamble as follows:

*Recognizing* that trade and environment agreements should be mutually supportive with a view to achieving sustainable development,

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<sup>69</sup> Articles 31 and 32 of the Vienna Convention on the Law of Treaties (see note 13). The Vienna Convention regulates successive treaties on the same subject matter (Article 30).

<sup>70</sup> Article 103(i) provides that 'in the event of a conflict between the obligations of the Members of the United Nations under the present Charter and their obligations under any other international agreement, their obligations under the present Charter shall prevail.' South Africa and the US have signed the Charter.

<sup>71</sup> Article 56.

<sup>72</sup> Convention on Biological Diversity, 1992, 31 *ILM* 818 (1992).

<sup>73</sup> Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2000, 39 *ILM* 1027 (2000).

<sup>74</sup> See § 5.4.2.2.

*Emphasizing* that this Protocol shall not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreements,

*Understanding* that the above recital is not intended to subordinate this Protocol to other international agreements ...

Article 22(1) of the CBD (which pre-dates the WTO Agreements) provides that:

The provisions of this Convention shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of these rights and obligations would cause a serious damage or threat to biological diversity.

Members of the WTO recognise, in the preamble to the Agreement Establishing the WTO, that:

their relations in the field of trade and economic endeavour should be conducted with a view to *raising standards of living, ensuring full employment* and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services, while allowing for the optimal use of the world's resources in accordance with the objective of *sustainable development*, seeking both to *protect and preserve the environment* and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development. (Emphasis added).

It would appear from this preamble that a consideration of instruments protecting human and socio-economic rights, including environmental rights, is not outside the scope of consideration in trade law disputes. Sustainable development is specifically indicated as an objective.<sup>75</sup> The decisions taken in terms of the WTO's dispute resolution mechanism<sup>76</sup> indicate however that the free trade agenda is likely to curtail the extent to which states may implement

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<sup>75</sup> Sustainable development is discussed in § 5.4.1. Sustainable development is described as the 'contemporary international norm which underpins environmental law'. Jan Glazewski *Environmental law in South Africa* (2005) at 12. Sustainable development involves the integration of environmental protection, economic development and social upliftment into decision-making.

<sup>76</sup> The dispute resolution mechanism is contained in the Understanding on Rules and Procedures Governing the Settlement of Disputes, Annex 2 to the Marrakesh Agreement, 33 *ILM* 1226 (1994).

environmental measures<sup>77</sup> that might impede on free trade. This is certainly the case when one, or more, of the parties to the dispute is not bound by the environmental law treaty provisions.<sup>78</sup> This was the case in the *Biotech Products*<sup>79</sup> dispute where the WTO panel was asked to consider, in a trade-related dispute, the interpretive role to be played by the CBD,<sup>80</sup> the Biosafety Protocol and the precautionary principle as a general principle of law.<sup>81</sup> The panel concluded that the provisions of the CBD and the Protocol need not be taken into account as they are not in force for a number of the WTO members; and that the 'legal status of the precautionary principle remains unsettled'.<sup>82</sup> The decision illustrates the problem of the increasingly fragmented approach in international law.

While it may appear from the cases that trade and IP obligations are likely to prevail in such disputes, this is not an immutable state of affairs.<sup>83</sup>

[w]hen it comes to which treaties should take priority, we must bear in mind that IPRs are meant to serve the public interest as they benefit the rights holders. Since the CBD was opened for signature in 1992, over 170 countries have already ratified it, implying that biodiversity conservation, sustainability and equitable sharing are now public interest issues throughout the world (Tarasofsky 1997). It is essential that the WTO, which is the key institution overseeing and promoting the internal trade systems, pays much greater attention to MEA's like the

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<sup>77</sup> See for example the panel reports in *United States – Restrictions on Imports of Tuna* 30 ILM 1594 (1991) (although the report was never adopted) where the US domestic measures designed to protect dolphins when tuna is harvested with purse seine nets were challenged in relation to imports in terms of the old GATT system; and in *United States – Import Prohibition of Certain Shrimp and Shrimp Products* 38 ILM 118 (1999) where the US domestic measures designed to protect sea turtles were successfully challenged in relation to imports.

<sup>78</sup> Although the non-member party may be bound if it is a principle of customary international law (see note 67).

<sup>79</sup> *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* WT/DS291/R, WT/DS292/R, WT/DS293/R. The dispute settlement panel handed down its report on 29 September 2006.

<sup>80</sup> The US has signed the CBD but has not ratified it, and has not signed the Biosafety Protocol; and Argentina and Canada have signed the Biosafety Protocol but have not ratified it.

<sup>81</sup> The precautionary principle is discussed further below. See § 5.4.2.2 and note 258.

<sup>82</sup> Para [7.89] *Reports of the Panel* (note 79).

<sup>83</sup> Petersmann suggests constitutional reforms of WTO law in order that human rights are required to be taken more seriously. Petersmann, Ernst-Ulrich 'The WTO Constitution and human rights' (2000) 3 *J of International Economic Law* 19-25. For an argument against constitutionalisation, and in favour of a development approach (a focus on development rather than trade), see Deborah Cass *The constitutionalization of the World Trade Organisation: legitimacy, democracy and community in the international trading system* (2005).

CBD. The May 1988 WTO Ministerial Declaration made no mention of the environment, biodiversity or even MEAs. On the contrary, the CBD should be given much greater priority, even by the WTO. Developing countries should be given the time and the opportunity to design national IPR systems in accordance with their interests.<sup>84</sup>

In addition, a strong message urging governments to comply with their human rights obligations has emerged from numerous quarters within the UN. In 2000 the United Nations Sub-Commission on the Promotion and Protection of Human Rights recommended 'the primacy of human rights obligations over economic policies and agreements'<sup>85</sup> and in 2001 the High Commissioner of Human Rights reiterated that 'human rights are the first responsibility of Governments'.<sup>86</sup>

Currently an amendment to the TRIPS agreement to require disclosure of origin of traditional knowledge and genetic material in patent applications is on the negotiating table.<sup>87</sup> Human rights and development require greater concessions than this.

The remainder of this chapter deals with the state's regulatory powers as defined by relevant international, regional and domestic law provisions in human rights, environmental, agricultural and world trade law.

### 5.3 Human rights law

The classification of human rights into different generations or categories (civil and political, socio-economic, and cultural) is less important in the South African context where the full extent of civil, political, social, economic and

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<sup>84</sup> Graham Dutfield 'Intellectual property rights, trade and biodiversity: the case of seeds and plant varieties' IUCN Project on the Convention on Biological Diversity and the International Trade Regime (Intersessional Meeting on the Operations of the Convention (Montreal, Canada, 28-30 June 1999).

<sup>85</sup> Intellectual Property Rights and Human Rights, Sub Commission on Human Rights, UN Doc E/CN.4/Sub 2/RES/2000/7 (Aug, 17, 2000) cited in Peter K Yu 'Reconceptualizing intellectual property interests in a human rights framework' (2007) *UC Davis LR* 1039 at 1041.

<sup>86</sup> The High Commissioner cited the Vienna Declaration and Programme of Action adopted at the 1993 World Conference on Human Rights. UN ECOSOC Sub-Commission on the Promotion and Protection of Human Rights 'The impact of the Agreement on Trade-Related Aspects of Intellectual Property Rights on Human Rights: Report of the High Commission' UN Doc E/CN 4/Sub 2/2001/13 cited in Yu (note 85) at 1042.

<sup>87</sup> Intellectual Property Watch 'New WTO draft modalities text on IP issues gathers wider support' 18 July 2008.

cultural rights are protected and are justiciable.<sup>88</sup> The sections below look at the protection of a number of these rights, including property, dignity, equality, life, and culture and how their protection, and the duties imposed on the state<sup>89</sup> as a result of their protection, impact on the way in which the state is required to regulate rights in PGRs.

### 5.3.1 Property and other rights in human rights law

Property is protected in numerous international human rights instruments. Property and some attributes of IP rights are included in the Universal Declaration of Human Rights<sup>90</sup> and the International Covenant on Civil and Political Rights.<sup>91</sup>

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<sup>88</sup> Many authors question the assumptions on which the separation of the two sets of rights were based. See Coombe (note 101) at 62. On the South African courts approach to socio-economic rights see for example *Soobramoney v Minister of Health (Kwa-Zulu Natal)* 1998 (1) SA 765 (CC); *Government of the Republic of South Africa v Grootboom* 2001(1) SA 46 (CC) and *Minister of Health v Treatment Action Campaign* (2) 2002 (5) SA 721 (CC) and on the interplay between the two sets of rights see *President of the Republic of South Africa and Another v Modderklip Boerdery (Pty) Ltd* 2005 (5) SA 3 (CC). See generally Danie Brand and Christof Heyns (eds) *Socio-economic rights in South Africa* (2005) for a comprehensive overview of the state's duty to protect and promote the socio-economic rights contained in the Constitution, such as the rights to education, housing, health, social security, food, water and a sustainable environment. In addition, the Bill of Rights protects language and culture (s 30) and the rights of cultural, religious and linguistic communities (s 31). See generally Christof Heyns and Danie Brand 'The constitutional protection of religious human rights in Southern Africa' in (2000) 3 *CILSA* 52-82.

<sup>89</sup> In so far as the duties imposed on the state in terms of the ICESCR (which South Africa has not ratified) see also the Limburg Principles on the Implementation of the International Covenant on Economic, Social and Cultural Rights (the Limburg Principles) UN doc E/CN/4/1987/17, Annex and (1987) 9 *Human Rights Quarterly* 122-135 and the Maastricht Guidelines on Violations of Economic Social and Cultural Rights (1998) 20 *Human Rights Quarterly* 691-704.

<sup>90</sup> The UDHR provides that:

Article 17:

- (1) Everyone has the right to own property alone as well as in association with others;
- (2) No one shall be arbitrarily deprived of his property.

Article 27:

- (1) Everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits.
- (2) Everyone has the right to the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.

<sup>91</sup> The ICESCR provides that:

'Article 15:

1. The States Parties to the present Covenant recognize the right of everyone:
  - (a) To take part in cultural life;
  - (b) To enjoy the benefits of scientific progress and its applications;
  - (c) To benefit from the protection of the moral and material interests resulting from any scientific, literary or artistic production of which he is the author.
2. The steps to be taken by the States Parties to the present Covenant to achieve the full realization of this right shall include those necessary for the conservation, the development and the diffusion of science and culture.

The IP attributes protected by these human rights instruments are the author's moral and material interests resulting from any scientific, literary or artistic production.<sup>92</sup> The Committee on Economic, Social and Cultural Rights' General Comment No. 17 distinguishes IP rights from human rights. Whereas human rights are 'fundamental, inalienable and universal entitlements belonging to individuals ... [or] communities', intellectual property rights 'often with the exception of moral rights, may be allocated, limited in time and scope, traded, amended and even forfeited'.<sup>93</sup> The human rights aspect of IP is limited to human persons, who are authors<sup>94</sup> and creators, and the moral<sup>95</sup> and material (adequate standard of living) interests of such authors.<sup>96</sup> The rights of legal entities who are the holders of intellectual property rights are not protected at the level of human rights.<sup>97</sup>

In so far as property in human rights instruments is concerned, arbitrary deprivation of property is prohibited, and the approach to IP is a balanced one: although the rights of the author/inventor are protected, this must not be to the exclusion of the right to 'share in scientific advancement and its benefits'.<sup>98</sup> Parties are required to take measures for 'the development and the diffusion of science and culture'<sup>99</sup> and to 'respect the freedom indispensable for scientific research and creative activity'.<sup>100</sup> Notwithstanding

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3. The States Parties to the present Covenant undertake to respect the freedom indispensable for scientific research and creative activity.
  4. The States Parties to the present Covenant recognize the benefits to be derived from the encouragement and development of international contacts and co-operation in the scientific and cultural fields.'

<sup>92</sup> Committee on Economic, Social and Cultural Rights 'General Comment No 17' (2005) E/C 12/GC/17 12 January 2006 ('General Comment No 17'). For a detailed discussion on the attributes of IP which are protected see Yu (note 85).

<sup>93</sup> General Comment No 17 at paras [1]-[2].

<sup>94</sup> 'Author' is defined in General Comment No 17 at paras [7] and [8].

<sup>95</sup> Moral interests are defined in General Comment No 17 at paras [12]-[14] to include the right of recognition as creator and to object to any distortions and modifications that are prejudicial to the author.

<sup>96</sup> Ibid.

<sup>97</sup> General Comment No 17 at para [7].

<sup>98</sup> Article 27 of the UDHR.

<sup>99</sup> Article 15.2 of the ICESCR.

<sup>100</sup> Article 15.3 of the ICESCR.

these long-standing provisions, the 'international human rights framework is unfamiliar for many intellectual property scholars.'<sup>101</sup>

From a regional perspective, the approach to property, like that in international and domestic law, entails a balancing act between public interest and the right to property. The African Charter on Human and Peoples' Rights<sup>102</sup> provides that '[t]he right to property shall be guaranteed. It may only be encroached upon in the interest of public need or in the general interest of the community and in accordance with the provisions of appropriate laws.'

The potential for IP rights to give rise to social justice concerns, particularly given the inroads into sovereignty as a result of global efforts to harmonise national laws is well recognised.<sup>103</sup>

To the extent that we have seen rights to intellectual property entrenched and expanded internationally, it is even more important to ensure that those rights are exercised in a fashion congruent with international human rights norms.<sup>104</sup>

The arena should not be clouded with notions of the absoluteness of property or property as a barrier between private and public. Property rights must be balanced against other rights including socio-economic rights and the foundational rights to dignity and life.<sup>105</sup>

### 5.3.2 Socio-economic rights

Although South Africa is not party to the ICESCR the state has a duty to realise a number of socio-economic rights including rights to education, housing, health, social security, food, water and a sustainable environment.<sup>106</sup>

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<sup>101</sup> Rosemary J Coombe 'Intellectual property, human rights and sovereignty: new dilemmas in international law posed by the recognition of indigenous knowledge and the conservation of biodiversity' (1998) 6 *Indiana Journal of Global Legal Studies* 59 at 60.

<sup>102</sup> Article 14.

<sup>103</sup> Coombe (note 101) at 60.

<sup>104</sup> Coombe (note 101) at 63.

<sup>105</sup> See for example the decision in *Victoria & Alfred Waterfront (Pty) Ltd v Police Commissioner, Western Cape* 2004 (4) SA 444 (C) discussed in § 2.6.2. In this case, the property right to exclude others was restricted by the right to freedom of movement. The right to livelihood was considered in the case.

<sup>106</sup> See annexure A. There is much debate on how these rights should be realised. For a comprehensive overview of the debate in the South African context see Karin Lehmann 'In

These rights are justiciable and, to the extent that they are applicable, will bind a natural or a juristic person.<sup>107</sup>

### 5.3.3 *Rights to dignity, equality and life*

Dignity in the South African context is a central value of the Constitution's 'objective, normative value system'<sup>108</sup> 'that informs the interpretation of many, possibly all, other rights'.<sup>109</sup> On the one hand, critiques of dignity as a value in human rights adjudication<sup>110</sup> point out that upholding dignity, because it entails minimising state interference with individual liberties, may not advance the redistribution of resources. On the other hand, it is argued there is in fact an important role to be played by dignity as a value in the achievement of socio-economic justice in South Africa. From this perspective 'respect for human dignity requires that we pay close attention to conditions of material disadvantage and its impact on different groups in our society.'<sup>111</sup> The idea is that dignity is a 'two-edged sword' which, depending on the circumstances, may uphold personal liberties but may also serve to restrict them.<sup>112</sup> In other words, 'the state is entitled to restrict the liberties of some members of society (provided this does not impinge on their basic human capabilities) in order to guarantee to everyone the social basis of basic human capabilities.'<sup>113</sup>

Dignity is viewed, not as an individualistic notion, but as a relational value, recognising our interconnectedness.<sup>114</sup> Hence, 'society's neglect to redress

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defence of the Constitutional Court: litigating socio-economic rights and the myth of the minimum core' (2006) 22 *Am U Intl L Rev* 163-197.

<sup>107</sup> Section 8(2) of the Constitution.

<sup>108</sup> *Carmichele v Minister of Safety and Security* 2001 (4) SA 938 (CC) at para [56], cited in Iain Currie and Johan de Waal *The Bill of Rights handbook* (2005). See also Sandra Liebenberg 'The value of human dignity in interpreting socio-economic rights' (2005) 21 *SAJHR* 1-31.

<sup>109</sup> *Dawood v Minister of Home Affairs* 2000 (3) SA 936 (CC) para [35] cited in Liebenberg (note 108) at 3.

<sup>110</sup> Liebenberg (note 108) at 5 indicates three major critiques being (1) 'the alleged indeterminacy of human dignity as a normative concept'; (2) 'that human dignity as a value is irrevocably linked with the protection of freedom and autonomy ... [thus] ... it serves to discourage the positive redistributive measures needed to remedy ... material inequality and disadvantage...'; and (3) that 'reliance on the value of dignity in the test for unfair discrimination promotes a narrow focus on individual personality issues'.

<sup>111</sup> Liebenberg (note 108) at 9.

<sup>112</sup> *Ibid.*

<sup>113</sup> Liebenberg (note 108) at 10 (footnotes omitted).

<sup>114</sup> Liebenberg (note 108) at 11.

conditions of socio-economic disadvantage represents a collective failure to value human dignity.<sup>115</sup>

Respect for human dignity requires society to marshal its resources and respond strongly to situations in which certain groups are unable to gain access to basic socio-economic needs.<sup>116</sup>

To have dignity is to have self-worth and self-respect, both as an individual and as part of a community. Dignity is thus impaired when unfair, discriminatory, treatment is metered on an individual or on a group.<sup>117</sup> Hence dignity is linked to *equality* and where discrimination and inequalities inhere in a formerly divisive society formal equality in which individuals simply receive equal treatment is insufficiently mindful of dignity. The approach to equality must be substantive, requiring a contextual analysis taking into account differences, such as racial or gender or socio-economic differences and modelling an approach that ensures an appropriate result is reached.<sup>118</sup>

The South African Constitution seeks to transform one of the world's most unequal societies and envisages the notion of 'restitutionary equality' requiring a process of transformation that may require treatment that favours the previously disadvantaged sectors of society.

The measures that bring about transformation will inevitably affect some members of the society adversely, particularly those coming from the previously advantaged communities. It may well be that other considerations may have to yield in favour of achieving the goal we fashioned for ourselves in the Constitution. What is required, though, is that the process of transformation must be carried out in accordance with the Constitution.<sup>119</sup>

Also linked to dignity is the right to *life*, which, as previously mentioned,<sup>120</sup> goes beyond the right to a mere existence:

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<sup>115</sup> Liebenberg (note 108) at 13-14.

<sup>116</sup> Liebenberg (note 108) at 17.

<sup>117</sup> Liebenberg (note 108) at 15.

<sup>118</sup> Liebenberg (note 108) at 14-15. See also *The bill of rights handbook* (note 108) at 232-233.

<sup>119</sup> *Bata Star Fishing (Pty) Ltd v The Minister of Environmental Affairs and Tourism and Others* 2004 (4) SA 490 (CC) at para [74] also cited in *The bill of rights handbook* (note 108) at 234.

<sup>120</sup> See § 4.3.3.

[i]t is not life as mere organic matter that the Constitution cherishes, but the right to human life: the right to live as a human being, to be part of a broader community, to share in the experience of humanity.... The right to life is more than existence, it is a right to be treated as a human being with dignity.<sup>121</sup>

Dignity, in particular as a community-linked value, inheres in cultural and traditional practices such as those which occur in traditional medicine and agriculture and which often involve access to plant resources.<sup>122</sup> The denial or restriction of access to such resources may impact on dignity, a value which is further protected in a more concrete ways through the rights to culture, development and the so-called farmers' rights.

#### 5.3.4 *Rights to culture, development and farmers' rights*

The right to culture involves the right to take part in cultural life (to practice tradition) and is protected in domestic,<sup>123</sup> regional<sup>124</sup> and international<sup>125</sup> law instruments. Linked to this is the right to share in scientific advancement which is usually juxtaposed in provisions expressing the protection of intellectual property.<sup>126</sup>

The African Charter on Human and Peoples' Rights recognises the notion of 'peoples' rights,' and 'third generation rights, including the right to development'.<sup>127</sup> In other words, in addition to the more universal civil,

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<sup>121</sup> *S v Makwanyane* 1995 (3) SA 391 (CC) paras [326-7] cited in Liebenberg (note 108) at 11.

<sup>122</sup> See for example Rosemary J Coombe 'Intellectual property, human rights and sovereignty: new dilemmas in international law posed by the recognition of indigenous knowledge and the conservation of biodiversity' (1998) 6 *Indiana Journal of Global Legal Studies* 59-115; Remigius N Nwabueze *Biotechnology and the challenge of property* (2007) 233-95; and Biber-Klemm and Cottier (eds) *Rights to plant genetic resources and traditional knowledge: basic issues and perspectives* (2005).

<sup>123</sup> Section 30 of the Constitution (see annexure A). See also the decision in *Nthlabathi v Fick* 2003 (7) BCLR 806 (LCC) discussed in § 2.2.1.

<sup>124</sup> See the African Charter on Human and Peoples' Rights, 1981, 21 *ILM* 58 (1982), acceded to by South Africa on 9 July 1996. See also the Cultural Charter for Africa (1976), which has been neither signed nor ratified by South Africa.

<sup>125</sup> The UDHR (Article 27), ICESCR (Article 15), and the African Charter on Human and Peoples' Rights (Article 22).

<sup>126</sup> See notes 90 and 91 above.

<sup>127</sup> Dugard (note 10) at 548. Development encompasses the idea of advancements to improve the well-being of the population.

political<sup>128</sup> and socio-economic rights,<sup>129</sup> the Charter also recognises collective or group rights by providing that ‘peoples’ have the right to equality,<sup>130</sup> the right to self-determination,<sup>131</sup> to freely dispose of their wealth and national resources,<sup>132</sup> and the right to development<sup>133</sup> and ‘a generally satisfactory environment’.<sup>134</sup>

Development has been defined to involve ‘a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well-being of the entire population and of all individuals on the basis of their active, free and meaningful participation in development and in the fair distribution of benefits resulting therefrom’.<sup>135</sup>

Although development is not specifically listed as a right in the South African Constitution, the constitutional imperative to transform the lives of previously disadvantaged persons necessarily entails some notion of development. In this regard, the UN Declaration on the Right to Development specifically indicates ‘that the elimination of the massive and flagrant violations of the human rights of the peoples and individuals affected by situations such as those resulting from colonialism, neo-colonialism, apartheid, all forms of racism and racial discrimination ... would contribute to the establishment of circumstances propitious to the development of a great part of mankind’ and

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<sup>128</sup> The Charter recognises: the right to freedom from discrimination (Article 2 and 18(3)), equality (Article 3), life and personal integrity (Article 4), dignity (Article 5), freedom from slavery (Article 5), freedom from cruel, inhuman or degrading treatment or punishment (Article 5), rights to due process concerning arrest and detention (Article 6), the right to a fair trial (Article 7 and 25), freedom of religion (Article 8), freedom of information and expression (Article 9), freedom of association (Article 10), freedom to assembly (Article 11), freedom of movement (Article 12), freedom to political participation (Article 13), and the right to property (Article 14).

<sup>129</sup> The Charter recognises right to work (Article 15), the right to health (Article 16), and the right to education (Article 17).

<sup>130</sup> Article 19.

<sup>131</sup> Article 20.

<sup>132</sup> Article 21. At point, Article 21(4)(i) provides that ‘State Parties to the present Charter shall undertake to eliminate all forms of foreign exploitation particularly that practised by international monopolies so as to enable their peoples to fully benefit from the advantages derived from their national resources’.

<sup>133</sup> Article 22.

<sup>134</sup> The Charter also recognises the family as the ‘natural unit and basis of society’ that ‘shall be protected by the State’ (Article 18).

<sup>135</sup> Preamble to the UN Declaration on the Right to Development adopted by the United Nations General Assembly resolution 41/128 of 4 December 1986.

recognises 'that the creation of conditions favourable to the development of peoples and individuals is the primary responsibility of their States.'<sup>136</sup>

Development as a universal and inalienable human right is endorsed in the Vienna Declaration and Programme of Action.<sup>137</sup> These instruments recognise that rights are 'indivisible, interdependent and interrelated', thus protection of one right may not eclipse another right. Limitations may be imposed in order to enhance the totality of the bundle of indivisible, interdependent and interrelated human rights.

#### 5.3.4.1 Farmer's rights in international law

Member States<sup>138</sup> of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)<sup>139</sup> are provided with a multilateral system of access and benefit sharing in respect of the listed species<sup>140</sup> and the opportunity to limit IP rights<sup>141</sup> in respect of these species. In addition members may rely on the treaty to implement a regime for the protection of farmers' rights. Farmers' rights, 'the right of farmers to use, exchange, and sell farm-saved seeds of traditional, as well as improved varieties'<sup>142</sup> are however left to the discretion of governments.

Article 9 of the ITPGRFA provides as follows:

<sup>136</sup> Ibid.

<sup>137</sup> Vienna Declaration and Programme of Action, adopted at the World Conference on Human Rights on 25 June 1993.

<sup>138</sup> South Africa is not a member of the treaty.

<sup>139</sup> International Treaty on Plant Genetic Resources for Food and Agriculture, approved during the FAO Conference (31st Session resolution 3/2001) on 3 November 2001, entered into force 29 June 2004. See generally in this regard H David Cooper 'The International Treaty on Plant Genetic Resources for Food and Agriculture' (2002) 11(1) *RECIEL* 1-16. The ITPGRFA seeks to regulate the conservation and sustainable use of certain listed PGRs specifically for agriculture and food security, as well as the fair and equitable sharing of the benefits arising out of such use through a multilateral system of access and benefit-sharing. On mechanisms for achieving access and benefit sharing, see Edgar Tabaro 'Negotiating a standard material transfer agreement under the International Treaty on Plant Genetic Resources for Food and Agriculture: issues and concerns for Africa' (2006) *CILSA* 309-332.

<sup>140</sup> Article 1.1. The treaty lists (in annex I) numerous crops covered under the multilateral system, including oat, beet, chickpea, citrus, coconut, carrot, yams, strawberry, sunflower, barley, sweet potato, lentil, apple, cassava, banana, rice, beans, pea, rye, potato, eggplant, sorghum, wheat, and maize.

<sup>141</sup> In so far as IP rights in respect of material obtained through the multilateral exchange system is concerned, the ITPGRFA prohibits such rights, although it does not necessarily prohibit IP protection over derivatives thereof (Article 12.3(d)).

<sup>142</sup> Keith Aoki and Kennedy Luvai 'Reclaiming "common heritage" treatment in the international plant genetic resources regime complex' 2007 *Mich St L Rev* 35 at 53.

- 9.1 The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.
- 9.2 The Contracting Parties agree that the responsibility for realizing Farmers' Rights as they relate to plant genetic resources for food and agriculture rests with national governments. In accordance with their needs and priorities, each Contracting Party should, as appropriate, and subject to its national legislation, take measures to protect and promote Farmers' Rights, including:
- (a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture;
  - (b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and
  - (c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.
- 9.3 Nothing in this Article shall be interpreted to limit any rights that farmers have to save, use, exchange and sell farm-saved seed/propagating material, subject to national law and as appropriate.

The idea of protecting traditional knowledge, and for providing for appropriate rewards in this regard is fraught with difficulties and the protection of rights in seed, unless specifically legislated, is overcome by the granting of patents. The prevailing sentiment is that the concept of farmers' rights 'remains an empty shell'.<sup>143</sup> In any event cotton is not a listed crop and South Africa is not a member state.

Closer to home, the African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access

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<sup>143</sup> Biber-Klemm and Cottier (note 454) at xxv.

to Biological Resources<sup>144</sup> also provides a mechanism for protection of farmers' and other community rights.

#### 5.3.4.2 Community and farmers' rights in regional law

The African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources (the Model Law) provides Africa with 'a legislative means to overcome the inequities of TRIPS'.<sup>145</sup> The Model Law acknowledges the rights of local communities over their biological resources and that the technologies that have evolved over generations are of a collective nature and are *a priori* rights which take precedence over rights based on private interests.

The Model Law endeavours to implement the relevant provisions of the CBD<sup>146</sup> and applies to biological resources in both *in situ* and *ex situ* conditions; the derivatives of the biological resources; community knowledge and technologies; local and indigenous communities,<sup>147</sup> and plant breeders.<sup>148</sup> Access to such biological resources, knowledge or technologies of local communities is by way of an application for prior informed consent (PIC) and written permit.<sup>149</sup> The application (to the National Competent Authority)<sup>150</sup> must disclose full details of the project for which the resource is required, including the purpose for which access to the resource is requested, the risks to biological diversity and the proposed mechanisms and arrangements for benefit sharing.<sup>151</sup> The sharing of benefits based upon customary practices of

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<sup>144</sup> African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources, 2000.

<sup>145</sup> Andrew T Mushita and Carol B Thompson 'Patenting biodiversity? Rejecting WTO/TRIPS in southern Africa' (2002) 2:1 *Global Environmental Politics* 65-82 at 77.

<sup>146</sup> Preamble of the Model Law.

<sup>147</sup> The legislation however does not affect the traditional systems of access, use or exchange of biological resources. Article 2 of the Model Law.

<sup>148</sup> Article 2 of the Model Law.

<sup>149</sup> Article 3 of the Model Law.

<sup>150</sup> The 'National Competent Authority is the entity authorised by the State to supervise and watch over the implementation of one or more of the components of the present law.' Article 1 of the Model Law.

<sup>151</sup> A formula for 'benefit-sharing' is provided for in Article 12 of the Model Law. In addition to a share of the actual earning derived from the biological resource or knowledge, a 'permit fee' is also payable up front based on whether or not the collection is to be used for commercial purposes, and the number of samples, the area and duration of collecting and whether the collector is granted exclusive rights.

local communities does not apply to persons not living in the traditional and customary way of life.<sup>152</sup>

Prior informed consent is also required from the concerned local community including its womenfolk<sup>153</sup> and the granting of an access permit is by way of a signed written agreement between the three parties: the National Competent Authority; the community or communities concerned; and the applicant or collector.<sup>154</sup> The contents of this tripartite agreement are regulated by Article 8 of the Model Law. Specifically, the agreement requires the collector to contribute economically to the efforts of the State and communities concerned in the regeneration and conservation of the biological resource; and the collector may only apply for IP protection of the biological resource or parts or derivatives thereof or in respect of a community knowledge or technology with the additional prior informed consent of the original providers. Article 9 then goes on to provide that patents over life forms and biological processes will not be recognized and cannot be applied for; although it does provide for plant breeders' rights.

The Model Law recognises and protects community rights,<sup>155</sup> farmers' rights,<sup>156</sup> and plant breeders' right,<sup>157</sup> and calls into question the suitability of intellectual property protection systems, particularly patent law, for developing countries where the battle is at the level of securing food and fighting abject poverty.<sup>158</sup> Farmers' rights in the context of IP law is discussed further in § 5.5.4.

South Africa has neither ratified the ITPGRFA nor adopted the Model Law.

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<sup>152</sup> Article 2 of the Model Law.

<sup>153</sup> Article 5 of the Model Law.

<sup>154</sup> Article 7 of the Model Law.

<sup>155</sup> Part IV of the Model Law.

<sup>156</sup> Part V of the Model Law.

<sup>157</sup> Part VI of the Model Law.

<sup>158</sup> See Mushita and Thompson (note 145).

### 5.3.4.3 Community and farmers' rights in domestic law

Farmers' rights are not explicitly protected in domestic law except to the limited extent provided for in terms of plant varieties protected in terms of the Plant Breeders' Act.<sup>159</sup>

Certain farmers' rights may be extrapolated on a purposive reading of the Bill of Rights, in particular socio-economic rights and the rights to dignity and culture. The environmental right and agricultural law provide some guidance in this regard.

## 5.4 Environmental and agricultural law

Under the banner of agricultural law, the Plant Breeders' Rights Act,<sup>160</sup> Conservation of Agricultural Resources Act,<sup>161</sup> and Genetically Modified Organisms Act,<sup>162</sup> among others, all play a role in circumscribing the extent to which rights in PGRs may be exercised and exploited. Although an instrument of agricultural law in South Africa, the Plant Breeders' Rights Act will be discussed under IP below. Biosafety law will be discussed at § 5.4.2.

Environmental law has in recent years come into its own as a legal discipline.<sup>163</sup> Focus has mounted on the deterioration of the planet and the realisation that the resources of the earth and the environment need protection. Protection for the environment is often couched in the human rights paradigm. For example, the African Charter on Human and Peoples' Rights adopted in 1981, which has been described as one of the first international instruments of this kind, expressly provides for the right to a general satisfactory environment as a human right.<sup>164</sup> Such protection is mirrored in s 24 of the South African which specifically provides that:

24. Everyone has the right-

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<sup>159</sup> Act 15 of 1976. See § 4.4.1.

<sup>160</sup> Act 14 of 1976.

<sup>161</sup> Act 43 of 1983.

<sup>162</sup> Act 15 of 1997.

<sup>163</sup> See *Environmental law in South Africa* (note 75) at 5-6.

<sup>164</sup> Article 24.

- (a) to an environment that is not harmful to their health or well-being;  
and
- (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-
  - (i) prevent pollution and ecological degradation;
  - (ii) promote conservation; and
  - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

Section 24 embodies rights and duties involving the protection and management of the environment.<sup>165</sup> Duties are imposed on the state to take measures to *inter alia* secure ecologically sustainable development<sup>166</sup> and use of natural resources while promoting justifiable economic and social development. The provisions of s 24, in particular s 24(b)(iii), make a consideration of the environment unavoidable when implementing social and economic development and vice versa when implementing environmental measures, consideration must be given to its impact on socio-economic development. In other words, the environment, social, and economic development are intertwined and due regard must be given to each. Development must be socially, environmentally and economically sustainable.<sup>167</sup>

#### 5.4.1 Sustainable development<sup>168</sup>

In *Director: Mineral Development Gauteng Region and Another v Save the Vaal Environment and Others*<sup>169</sup> the Court had to consider whether parties who wished to oppose an application for a mining licence were entitled to

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<sup>165</sup> For a definition of 'environment' see chapter 2, note 277.

<sup>166</sup> Sustainable development is defined in s 1(1) of NEMA as meaning 'the integration of social, and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.'

<sup>167</sup> Section 2(3) of NEMA.

<sup>168</sup> See generally Paterson, Alexander 'Fuelling the sustainable development debate in South Africa' 2006 *SALJ* 53-62. Note in particular the important role to be played by environmental impact assessments. On sustainable development more generally see Klaus Bosselmann *The principle of sustainability: transforming law and development* (2008).

<sup>169</sup> 1999 (2) SA 709 (SCA).

raise environmental objections. The Supreme Court of Appeal pronounced that:

[o]ur Constitution, by including environmental rights as fundamental, justiciable human rights, by necessary implication requires that environmental considerations be accorded appropriate recognition and respect in the administrative processes in our country. Together with the change in the ideological climate must also come a change in our legal and administrative approach to environmental concerns.<sup>170</sup>

The approach of the Supreme Court of Appeal was reaffirmed in *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs*<sup>171</sup> (*BP*) where the Witwatersrand Local Division of the High Court reiterates the centrality of the Bill of Rights in South African law,<sup>172</sup> and affirms that 'all statutes must be interpreted through the prism of the Bill of Rights,'<sup>173</sup> in terms of which:

the constitutional right to environment is on a par with the rights to freedom of trade, occupation, profession and property entrenched in ss 22 and 25 of the Constitution. In any dealings with the physical expressions of property, land and freedom to trade, the environmental rights requirements should be part and parcel of the factors to be considered without any *a priori* grading of the rights. It will require a balancing of rights where competing interests and norms are concerned.<sup>174</sup>

The concept of sustainable development, according to the Court in *BP*,<sup>175</sup> is the fundamental building block around which environmental legal norms have been fashioned internationally and in South Africa. 'Pure economic principles

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<sup>170</sup> At para [20].

<sup>171</sup> 2004 (5) SA 124 (W).

<sup>172</sup> *BP* (note 171) at 144, quotes s 7(1) of the Constitution which provides that the Bill of Rights is 'the cornerstone of democracy in South Africa.'

<sup>173</sup> *BP* (note 171) at 141, citing *Investigating Directorate: Serious Economic Offences and Others v Hyundai Motor Distributors (Pty) Ltd and Others: In re Hyundai Motor Distributors (Pty) Ltd and Others v Smit NO and Others* 2001 (1) SA 545 (CC) at 558E-F.

<sup>174</sup> *BP* (note 171) at 143.

<sup>175</sup> *BP* (note 171) at 144.

will no longer determine, in an unbridled fashion, whether a development is acceptable.<sup>176</sup>

The Court in *BP* refused an application for authorisation to develop a filling station on the basis of the constitutionally imposed duty to protect the environment for the benefit of present and future generations, stating that ‘the department is obliged to develop an integrated environmental management programme, which takes cognisance of a wide spectrum of considerations, including international conventions and approaches as a result of the broad and extensive definition in the [Environmental Conservation Act],<sup>177</sup> which, *inter alia*, includes the consideration of socio-economic conditions.’<sup>178</sup>

The concept of sustainable development was considered further when s 24 of the Constitution was invoked in the Constitutional Court in *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others (Fuel Retailers)*<sup>179</sup> a case which, like the *BP* matter, involved the application for the development of a filling station. On the obligation imposed on organs of the State to consider socio-economic conditions when making decisions that may impact on the environment, Ngcobo J states that:<sup>180</sup>

[t]he need to protect the environment cannot be gainsaid. So too is the need for social and economic development. How these two compelling needs interact, their impact on decisions affecting the environment and the obligations of environmental authorities in this regard, are important constitutional questions.<sup>181</sup>

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<sup>176</sup> *BP* (note 171) at 144.

<sup>177</sup> Act 73 of 1989, which, in s 1, states that ‘environment’ means the aggregate of surrounding objects, conditions and influences that influence the life and habits of man or any other organism or collection of organisms.

<sup>178</sup> *BP* (note 171) at 150.

<sup>179</sup> 2007 (6) SA 4 (CC) (*Fuel Retailers*).

<sup>180</sup> Ngcobo J states at para [4] that ‘[o]ne of the declared purposes of NEMA is to establish principles that will guide organs of State in making decisions that may affect the environment. One of these principles requires environmental authorities to consider the social, economic and environmental impact of a proposed activity including its “disadvantages and benefits”.’ (Footnotes omitted).

<sup>181</sup> *Fuel Retailers* (note 179) at para [41].

Importantly, the Court indicates two things: first, that s 24(b)(iii) explicitly obliges the promotion of justifiable economic and social development; and second, that socio-economic rights are vital to the enjoyment of other constitutionally protected human rights.<sup>182</sup> As mentioned above, development entails ‘a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well-being of the entire population’.<sup>183</sup> However, although development is necessary, it may have a detrimental effect on the environment, and the key to balancing the tensions between development and the environment is sustainable development: an ‘evolving concept of international law’,<sup>184</sup> defined in the Report of the World Commission on Environment and Development (the *Brundtland Report*)<sup>185</sup> as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’. The concept of sustainable development, according to the Court, has received ‘considerable endorsement by the international community’,<sup>186</sup> including approval of the International Court of Justice in the *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*<sup>187</sup> matter.

The three pillars of sustainable development are economic development, social development and the protection of the environment. Sustainable development is the conceptual tool that mediates between these three considerations.<sup>188</sup> The concept of sustainable development is evident in a

<sup>182</sup> As was recognised by the Constitutional Court in *Government of the Republic of South Africa and Others v Grootboom and Others* 2001 (1) SA 46 (CC). *Fuel Retailers* (note 179) at para [44].

<sup>183</sup> *Fuel Retailers* (note 179) footnote 38 citing the UN Declaration on the Right to Development. Article 1 asserts that ‘[t]he right to development is an inalienable human right’.

<sup>184</sup> *Fuel Retailers* (note 179) at para [46].

<sup>185</sup> World Commission on Environment and Development *Our Common Future* (Brundtland Report) General Assembly 42<sup>nd</sup> Session (1987). *Fuel Retailers* (note 179) at para [47].

<sup>186</sup> *Fuel Retailers* (note 179) at para [46].

<sup>187</sup> 37 *ILM* 162 (1998). Ngcobo J, in *Fuel Retailer* (note 179) quotes the following passage (at 204) from the Separate Opinion of Vice-President Weeramantry:

‘The Court must hold the balance even between the environmental considerations and the development considerations raised by the respective parties. The principle that enables the Court to do so is the principle of sustainable development.’ (*Fuel Retailers* at para [55].

<sup>188</sup> Sustainable development, in terms of chapter 1 of NEMA requires the consideration of all relevant factors including the following:

- (i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

number of sources of international law,<sup>189</sup> and in South Africa sustainable development is underpinned by the Constitution and located in statute, in particular the National Environmental Management Act<sup>190</sup> (NEMA).

NEMA applies to the actions of all organs of State that may impact on the environment. The preamble recognises that 'the State must respect, protect, promote and fulfil the social, economic and environmental rights of everyone and strive to meet the basic needs of previously disadvantaged communities.' In elaboration, NEMA provides national environmental management principles which require that environmental management 'place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.'<sup>191</sup>

Key provisions in NEMA are contained in chapter 1, the national environmental management principles, and in s 23 dealing with integrated environmental management. These provisions reveal the substance of the domestic approach. Importantly, the provisions of chapter 1 require, *inter alia* that:

- Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and

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- (iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
  - (iv) that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
  - (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
  - (vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
  - (vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
  - (viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

<sup>189</sup> Even in international trade law. See for example the preamble to the Agreement Establishing the World Trade Organisation, (Marrakesh Agreement) 1867 UNTS 154; 33 *ILM* 1144 (1994) in § 5.2.4 above.

<sup>190</sup> Act 107 of 1998.

<sup>191</sup> Section 2 of NEMA.

special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.<sup>192</sup>

- Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.<sup>193</sup>
- Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.<sup>194</sup>
- The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.<sup>195</sup>
- The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.<sup>196</sup>

These are substantive provisions in law, requiring co-ordination and mobilisation of state resources, as suggested in chapter 7.

In so far as balancing socio-economic development and environmental interests are concerned, the Court in *Fuel Retailers* indicates that '[t]he principle that enables the environmental authorities to balance developmental needs and environmental concerns is the principle of sustainable development.'<sup>197</sup>

Sachs J appears to be more cautious in his approach to the trilogy involving social and economic development vis-à-vis the environment. In his dissenting judgment in the *Fuel Retailers* case, Sachs J is of the opinion that '[w]hen economic development potentially threatens the environment it becomes relevant to NEMA. Only then does it become a material ingredient to put in the scales of a NEMA evaluation.'<sup>198</sup> However, he is generous in his interpretation

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<sup>192</sup> Section 2(4)(d).

<sup>193</sup> Section 2(4)(g).

<sup>194</sup> Section 2(4)(h).

<sup>195</sup> Section 2(4)(i).

<sup>196</sup> Section 2(4)(o).

<sup>197</sup> *Fuel Retailers* (note 179) at para [93].

<sup>198</sup> *Fuel Retailers* (note 179) at para [113].

of the environment, thus again widening the scope of matters for scrutiny, where he states that:

[i]n my view, commercial sustainability only becomes a relevant factor under NEMA when it touches on actual or potential threats to the environment. Thus, if there were a genuine risk that the introduction of a new industry would be ruinous to traditional forms of livelihood, thereby dramatically changing the character of the neighbourhood, that could be a significant socio-economic environmental factor.<sup>199</sup>

He concludes thus, that 'an enterprise that promised long-term employment and major social upliftment at relatively small cost to the environment, with damage reduced to a minimum, could well be compatible with NEMA. On the other hand to allow a fly-by-night- undertaking either to spoil a pristine environment, or to use up scarce resources, or to introduce undue health hazards, will probably be in conflict with NEMA.'<sup>200</sup>

The Constitutional Court once again had the opportunity to consider the relationship between development and the environment in *MEC, Department of Agriculture, Conservation and Environment and Another v HTF Developers (Pty) Ltd*<sup>201</sup> In the majority judgment, Skweyiya J again indicates that a 'balancing act' is to be performed by the concept of sustainable development.

Environmental management, as considered by NEMA, is a process that induces tension with other rights contained in the Bill of Rights, most notably property rights and the right to freedom of trade and occupation.<sup>202</sup> While the environmental right is a collective right, it does not supersede or eclipse other rights.<sup>203</sup>

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Where more than one right comes into play, they must be appropriately balanced by the courts, which have a vital role to play in environmental matters in pursuit of sustainable development.<sup>204</sup>

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<sup>199</sup> *Fuel Retailers* (note 179) at para [116].

<sup>200</sup> *Fuel Retailers* (note 179) at para [117].

<sup>201</sup> 2008 (2) SA 319 (CC). In this case, the government sought to halt the Respondent's development of property identified as 'virgin ground' until such time as the Respondent had obtained written authorisation to do so.

<sup>202</sup> Section 22 of the Constitution.

<sup>203</sup> Citing *Fuel Retailers* (note 179) at para [93] and [102].

<sup>204</sup> At para [28].

The case reiterates the principle of sustainable development and its location within South African law.

Law and policy around new developments require robust environmental impact assessment.<sup>205</sup> While it is more tricky to curtail established rights<sup>206</sup> it may be necessary to do so where developments become unsustainable.<sup>207</sup> Sustainable development in the context of the GM cotton case study is discussed in chapter 6.

Sustainable development should also inform the parameters of biosafety law.

#### 5.4.2 Biosafety law

Biosafety law may be defined as the law regulating 'the safe transfer, handling and use of living modified organisms ... that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health'.<sup>208</sup> In a narrower sense, biosafety is defined as 'the level of safety when risk management measures must be taken to avoid potential risk to human and animal health and safety and to the conservation of the environment, as a result of exposure to activities with genetically modified organisms'.<sup>209</sup> Biosafety law is therefore statutory law that may impact on the nature and extent of property rights in genetically modified PGRs.

Biosafety is a relatively new concept in law, necessitated by scientific and technological advances. Modern biotechnologies allow scientists to create novel plants, animals and micro-organisms with properties that they are unable to acquire naturally.<sup>210</sup> Biosafety law seeks to establish and maintain a balance between the benefits and risks associated with modern

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<sup>205</sup> See Paterson (note 168) at 55.

<sup>206</sup> See Bruce Ziff 'The irreversibility of commodification' 2005 *Stell LR* 283-301

<sup>207</sup> It is recognised that while 'intellectual property is an indispensable tool for development ... [it] may also hamper sustainable development'. Tana Pistorius 'The impact of intellectual property law and policy on sustainable development' 2007 *SAYIL* 376-95 at 387.

<sup>208</sup> Article 1 of the Protocol.

<sup>209</sup> Section 1(a) of the Genetically Modified Organisms Amendment Act 23 of 2006.

<sup>210</sup> Robert Walgate *Miracle or menace? Biotechnology and the third world* (1990) at 2. See Collier and Moitui 'Africa's regulatory approach to biotechnology in agriculture: an opportunity to seize socio-economic concerns' (2009) 17 *RADIC* 29 at 32.

biotechnology.<sup>211</sup> Regulation is seen as necessary to protect the environment (biodiversity) and humans from the potential risks associated with the technology.

International biosafety law takes a limited approach to the socio-economic consequences of the use of agricultural biotechnology.<sup>212</sup> More extensive attention is paid to socio-economic concerns in a recent study prepared for the Dutch government in which the elements set out below were identified as the 'building blocks in an assessment framework on the socio-economic and sustainability aspects of GMOs':<sup>213</sup>

1. Benefit to society;
2. Economics and prosperity;
3. Health and welfare;
4. Local and general food supply;
5. Cultural heritage;
6. Freedom of choice;
7. Safety;
8. Biodiversity; and
9. Environmental quality.

GM cotton in the Makhathini Flats is assessed against these criteria in chapter 6.

Figure 3 in chapter 3 shows that by 2008 only 25 countries were growing GM crops commercially, indicating that globally there is a cautious approach to the

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<sup>211</sup> See in this regard Genetically Modified Organisms Act: Guideline document for work with genetically modified organisms: Notice 1046 of 11 June 2004 (*Government Gazette* 26422) and Genetically Modified Organisms Act: Guideline document for use by the Advisory Committee when considering proposals / applications for activities with genetically modified organisms: Notice 1047 of 11 June 2004 (*Government Gazette* 26422).

<sup>212</sup> Article 26 of the Protocol is limited to socio-economic considerations arising from the impact of LMOs on the conservation and sustainable use of biological diversity, especially with regard to the value of biological diversity to indigenous and local communities. Other possible consequences might include a negative impact on small-scale and subsistence farmers coupled with the displacement of traditional or cash crops or traditional crops. Ruth Mackenzie et al *An explanatory guide to the Cartagena Protocol on Biosafety* IUCN (2003) at 8.

<sup>213</sup> COGEM Report 'Socio-economic aspects of GMOs: building blocks for an EU sustainability assessment of genetically modified crops' CGM/090929-01 at 7.

deployment of modern biotechnology in agriculture. Consumer attitudes<sup>214</sup> toward GM crops compound the difficulty in regulating the technology and suggest that public participation<sup>215</sup> is a vital component of the regulatory framework.

South Africa is a signatory to the two major instruments of international environmental law that regulate biosafety law, namely the Convention on Biological Diversity<sup>216</sup> (the CBD) and the Cartagena Protocol on Biosafety to the Convention on Biological Diversity<sup>217</sup> (the Cartagena Protocol). The CBD came into effect in December 1993, and has as its objectives the conservation of biological diversity, and the sustainable use and fair and equitable sharing of the benefits arising out of the use of genetic resources.<sup>218</sup> The Cartagena Protocol, which entered into force on 11 September 2003, provides substance to the objectives of the CBD by laying down an international regulatory framework for the transfer, handling, and use of living modified organisms resulting from modern biotechnology.<sup>219</sup> The relevant provisions of the CBD and its Protocol are discussed below.

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<sup>214</sup> Several consumer surveys have been conducted in South Africa. Consumer attitudes are mixed. Most consumers indicated that they did not understand the term biotechnology. These surveys are discussed in Viljoen et al 'Detection of GMO in food products in SA: implications of GMO labelling' (2006) 5(2) *African Journal of Biotechnology* 73-82. Viljoen indicates that there is strong consumer opposition to GM foods in the EU and Japan.

<sup>215</sup> Public participation is addressed in Article 23 which states that the parties shall:

- 1(a) Promote and facilitate public awareness, education and participation concerning the safe transfer, handling and use of living modified organisms in relation to the conservation and sustainable use of biological diversity, taking also into account risks to human health. In doing so, the Parties shall cooperate, as appropriate, with other States and international bodies;
- (b) Endeavour to ensure that public awareness and education encompass access to information on living modified organisms identified in accordance with this Protocol that may be imported.

2. The Parties shall, in accordance with their respective laws and regulations, consult the public in the decision-making process regarding living modified organisms and shall make the results of such decisions available to the public, while respecting confidential information in accordance with Article 21'.

<sup>216</sup> Convention on Biological Diversity, 1992, 31 *ILM* 818 (1992).

<sup>217</sup> Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 2000, 39 *ILM* 1027 (2000).

<sup>218</sup> Article 1 of the CBD.

<sup>219</sup> Article 1 of the Protocol.

#### 5.4.2.1 The CBD

The CBD was negotiated under the auspices of the United Nations Environment Programme (UNEP). Although a party to the CBD, which South Africa ratified on 2 November 1995, South Africa was not an active participant in the negotiations leading up to the Convention, and was largely isolated from the discussions.<sup>220</sup> Provisions of the CBD have subsequently been implemented into South Africa's national law, largely through the National Environmental Management: Biodiversity Act<sup>221</sup> (the Biodiversity Act) and Regulations<sup>222</sup> in terms of the Biodiversity Act.

The CBD has three primary objectives which it seeks to balance, being the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of the benefits arising from the use of genetic resources.<sup>223</sup> To control the risk that modern biotechnologies may pose to biodiversity, the CBD requires parties to provide the mechanism for regulating and managing the potential risks to human health and the conservation and sustainable use of biological diversity attendant on the release of LMOs.<sup>224</sup> For example, if the introduction of GM cotton crops in South Africa poses a threat to the existence of a naturally-occurring wild species of cotton, that would be an issue the authorities should address in the decision-making process.

In so far as property rights are concerned, the CBD provides that 'States have ... the sovereign right to exploit their own resources'<sup>225</sup> and that access to plant genetic resources shall be subject to the 'prior informed consent'<sup>226</sup> of the country providing such resources and 'shall be on mutually agreed

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<sup>220</sup> Department of Environmental Affairs and Tourism, media statement at [www.deat.gov.za/PolLeg/Conventions/biodiversity.htm](http://www.deat.gov.za/PolLeg/Conventions/biodiversity.htm) [Accessed 3 July 2009].

<sup>221</sup> Act 10 of 2004.

<sup>222</sup> See the Bio-Prospecting, Access and Benefit-Sharing Regulations in terms of the National Environmental Management: Biodiversity Act: GNR 138 of 8 February 2008 (*Government Gazette* No 30739).

<sup>223</sup> Article 1 of the CBD. See generally Glowka, Burhenne-Guilmin and Synge *A guide to the Convention on Biological Diversity* IUCN at 15.

<sup>224</sup> Article 8(g) of the CBD.

<sup>225</sup> Article 3 of the CBD.

<sup>226</sup> Article 15(5) of the CBD.

terms.<sup>227</sup> These provisions are implemented in domestic law through the Regulations on Bio-Prospecting, Access and Benefit-Sharing<sup>228</sup> enacted in terms of the Biodiversity Act and are given substance by recent amendments<sup>229</sup> to the Patents Act<sup>230</sup> which require an applicant for a patent to furnish information relating to any role played by an indigenous biological resource, a genetic resource or traditional knowledge or use in an invention to the Patents Act. These provisions recognise collective rights which may be invoked to limit private rights.

The flipside of access to PGRs is access to and the transfer of technology, particularly biotechnology. The CBD provides that parties shall implement measures to provide access to and transfer of technology, particularly to developing countries that provide the PGRs, including technology protected by patents and other intellectual rights, subject to national legislation and international law.<sup>231</sup> The transfer of technology, not only a concern of the CBD but indeed one of the pillars of the justification for intellectual property remains an unrequited goal.<sup>232</sup>

The CBD requires members, subject to national legislation, to:

respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices...<sup>233</sup>

Hence private property rights in PGR must not infringe on community rights. This provision in the CBD would appear to align with the more general

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<sup>227</sup> Article 15(4) of the CBD.

<sup>228</sup> GNR 138 of 8 February 2008 (*Government Gazette* No 30739), which Regulations came into effect on 1 April 2008 (GNR 137 of 8 February 2008: Commencement of Bio-Prospecting, Access and Benefit-Sharing Regulations, 2008 (*Government Gazette* No 30739).

<sup>229</sup> Patents Amendment Act 20 of 2005.

<sup>230</sup> Act 57 of 1978.

<sup>231</sup> Article 16.

<sup>232</sup> Christopher May and Susan Sell *Intellectual property rights: a critical history* (2006) at 185-9.

<sup>233</sup> Article 8(j) of the CBD.

provision for collective or peoples' rights contained in the African Charter on Human and Peoples' Rights.<sup>234</sup>

In so far as genetically engineered PGRs are concerned, the CBD requires its parties to consider a protocol to the CBD to establish the appropriate procedures, specifically those relating to advance informed agreement, for the safe transfer, handling and use of living modified organisms.<sup>235</sup>

In 1994 the first meeting of the Conference of the Parties to the CBD considered the need for a protocol on biosafety and in 1995 an *ad hoc* Group of Experts on Biosafety recommended the establishment of a protocol on biosafety.<sup>236</sup> The subsequent negotiations and the process leading to the adoption of the protocol were difficult and drawn-out, largely as a result of heavy commercial interests and conflict with the system of international trade rules.<sup>237</sup>

#### 5.4.2.2 Key provisions of the Cartagena Protocol on Biosafety

South Africa was a participant in the negotiations of the Cartagena Protocol, ratifying the Protocol on 15 August 2003 and hence its provisions, which entered into force on 11 September 2003, are binding on the Republic.<sup>238</sup> The groupings involved during the negotiations include the Miami Group,<sup>239</sup> the Like-Minded Group,<sup>240</sup> the European Union,<sup>241</sup> the Compromise Group,<sup>242</sup> and

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<sup>234</sup> See § 5.2.2.

<sup>235</sup> Article 19(3) of the CBD.

<sup>236</sup> Mackenzie et al (note 212) at 2.

<sup>237</sup> Aaron Cosbey and Stas Burgiel *The Cartagena Protocol on Biosafety: An analysis of results* An IISD Briefing Note, International Institute for Sustainable Development (2000) at 1.

<sup>238</sup> Department of Environmental Affairs and Tourism media statement (19 January 2004) at [www.environment.gov.za](http://www.environment.gov.za) [Accessed July 2008].

<sup>239</sup> Consisting of Argentina, Australia, Canada, Chile, the US and Uruguay, who are the major exporters of GM seed and crops and thus sought to have GMOs for food, feed or processing exempt from the advance informed agreement provisions and to limit the use of the precautionary principle and socio-economic considerations in national decision making. Cosbey and Burgiel (note 237).

<sup>240</sup> Consisting of the majority of developing countries. The like-minded group were in favour of a strong Protocol in view of the unknown environmental and human-health impact of GMOs; and also to protect countries without the necessary capacity from becoming the guinea pigs for field trials. Cosbey and Burgiel (note 237).

<sup>241</sup> The EU argued for the inclusion of GMOs intended for food, feed or processing and supported the inclusion of the precautionary principle. Cosbey and Burgiel (note 237).

<sup>242</sup> Japan, Mexico, Norway, Singapore, South Korea, Switzerland, and New Zealand. The Compromise Group, which consisted of countries with high levels of biodiversity and of countries

the Central and Eastern European bloc of countries (CEE)<sup>243</sup> and thus the final result is a compromise of the interests represented by the diverse parties to the negotiations.<sup>244</sup> Although the Biosafety Protocol is in force, the major producers of GMOs (the USA, which has yet to even ratify the CBD, Canada, Argentina, Australia) notwithstanding their involvement in the negotiations, are not members.

The Protocol provides a technical framework which applies when LMOs (such as GM cotton) are handled, used, released or moved from one Party to another Party (transboundary movement),<sup>245</sup> and the overriding responsibility of members is to ensure that these activities 'are undertaken in a manner that prevents or reduces the risks to biological diversity, taking also into account risks to human health'.<sup>246</sup> The framework provided by the Protocol sets in place some parameters for the state's so-called 'police powers' to regulate property in PGRs and thus the provisions of the Protocol are discussed in some detail below.

To facilitate the operation of the Protocol, a Biosafety Clearing-House<sup>247</sup> (BCH) and an advance informed agreement (AIA) procedure have been established to ensure that countries are provided with the information necessary to make informed decisions before agreeing to the import of LMOs. Parties must designate a focal point to liaise with the Protocol's Secretariat and one or more national authorities responsible for the administration required by the Protocol.<sup>248</sup> Parties are required to deposit their domestic biosafety laws with the BCH as well as any bilateral, regional and multilateral

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with advanced biotech industries, was generally supportive of a comprehensive scope of the Protocol and of the precautionary group. Cosby and Burgiel (note 237).

<sup>243</sup> The CEE generally took a middle-of-the-road approach, often in line with the EU or the like-minded group and was supportive of an inclusive approach to GMOs for food, feed and processing and for the precautionary principle. Cosby and Burgiel (note 237).

<sup>244</sup> Cosby and Burgiel (note 237).

<sup>245</sup> Articles 17 and 24 of the Biosafety Protocol apply to the movement of LMOs between Parties and non-Parties.

<sup>246</sup> Article 2(2) of the Biosafety Protocol.

<sup>247</sup> Article 20 of the Biosafety Protocol establishes the Biosafety Clearing-House (BSH) as part of the clearing-house mechanism to promote technical and scientific cooperation in terms of Article 18(3) of the CBD. In this regard, see [bch.biodiv.org](http://bch.biodiv.org). The BCH is required to assist Parties (particularly developing countries) with implementation of the Protocol (Article 20(1)(b)).

<sup>248</sup> Article 19 of the Protocol provides that one entity may be designated to fulfil the functions of both focal point and competent national authority.

agreements, decisions taken on the import of LMOs and summaries of risk assessments conducted in terms of the regulatory process.<sup>249</sup> Implementing the Protocol can therefore place a significant resource burden on members, particularly developing countries and the Protocol therefore provides for capacity-building in developing countries.<sup>250</sup>

The informed agreement (AIA) procedure<sup>251</sup> is the backbone of the Protocol,<sup>252</sup> and requires the Party of export to notify the competent national authority of the Party of import of the intended transboundary movement, *prior* to such movement, on the first occasion of LMOs destined for 'intentional introduction into the environment' of the Party of import. Products for the 'intentional introduction into the environment' include products such as GM seeds and micro-organisms and expressly excludes LMOs intended for direct use as food or feed, or for processing, which are dealt with elsewhere in the Protocol.<sup>253</sup> The Party of import is then required to acknowledge receipt and to inform the exporter whether the exporter should proceed in terms of the Party

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<sup>249</sup> Article 20(3) of the Protocol.

<sup>250</sup> Article 22 of the Protocol. Many developing countries are receiving assistance in their endeavours to comply with the biosafety protocol from the UNEP-GEF project for the development of national biosafety frameworks. See for example the Operational Handbook For Participating in the UNEP-GEF Project for effective Participation in the Biosafety Clearing-House (BCH) available online at [www.unep.org](http://www.unep.org) [Accessed on 12 June 2008].

<sup>251</sup> The AIA procedure is generally not applicable to LMOs in transit (Article 6(1)) or the transboundary movement of LMOs intended for contained use by, and in terms of the standards of, the importing Party (Article 6(2)). The procedure also does not apply to the transboundary movement of LMOs which have been identified by a decision of the Parties of the Protocol as being unlikely to pose a risk to human health or the conservation and sustainable use of biological diversity. The transboundary movement of LMOs that are pharmaceuticals and are regulated by other international arrangements are also excluded from the operation of the Protocol (Article 5).

<sup>252</sup> Aaron Cosbey and Stas Burgiel (note 237).

<sup>253</sup> Article 7(2). The procedure for LMOs intended for direct use as food or feed or for processing is established by Article 11 which allows Parties to take a decision on LMOs intended for direct use as food or feed or for processing in terms of its domestic regulatory framework, provided that it is consistent with the objectives of the Protocol. Parties are required to make available to the BCH 'copies of any national laws, regulations and guidelines applicable to the import of living modified organisms intended for direct use as food or feed, or for processing, if available.' (Article 11(5)). In the absence of a domestic framework, a Party may declare through the BCH that it will base its decision on a risk assessment in terms of the Protocol, bearing in mind the application of the precautionary principle. (Article 11 (6) and Article 11 (8)).

of import's domestic regulatory framework<sup>254</sup> or in terms of the *Article 10* procedure, which is discussed below.<sup>255</sup>

In so far as decisions in terms of the Protocol are concerned, the *Article 10* procedure requires the Party of import to base any decisions it makes on risk assessment.<sup>256</sup> Such risk assessment must be carried out in a 'scientifically sound way'<sup>257</sup> and at a minimum, may be based on the information provided by the Party of export in its notification. The Party of import must ensure that the risk assessment is carried out, but may require the Party of export to execute, and pay, for the assessment. The requirements for risk assessment appear to incorporate a version of the precautionary approach to the extent that '[l]ack of scientific knowledge or scientific consensus should not necessarily be interpreted as indicating a particular level of risk, an absence of risk, or an acceptable risk'.<sup>258</sup> The Protocol, purporting to be flexible, also provides that '[n]othing in this Protocol shall be interpreted as restricting the right of a Party to take action that is more protective of the conservation and sustainable use of biological diversity than that called for in this Protocol'.<sup>259</sup> This flexibility is however curtailed by the rider: 'provided that such action is consistent with the objective and the provisions of this Protocol and is in accordance with that Party's other obligations under international law'.<sup>260</sup> These 'other obligations under international law' would include a party's WTO

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<sup>254</sup> This framework must comply with the provisions of the Protocol.

<sup>255</sup> In the case of Monsanto's GM cotton, Monsanto would have proceeded in terms of South Africa's domestic regulatory framework which has been operative since 1999. See § 5.4.2.4 on the domestic framework in South Africa.

<sup>256</sup> The requirements for risk assessment are set out in Article 15 and Annexure III of the Protocol. The Party of import must then inform the notifier (and the Biosafety-Clearing-House) within 270 days of receiving the notification whether the import of the LMOs is prohibited (Article 10(3)(b)); or approved (Article 10(3)(a)) (with or without conditions); or if additional information in terms of the importing Party's domestic regulatory regime or Annex 1 of the Protocol, or more time (Article 10(3)(d)), is required before a decision can be taken by the importing party. Reasons for the decision, unless the decision is an unconditional approval, must be given by the Party of import (Article 10(4)).

<sup>257</sup> Article 15 of the Protocol.

<sup>258</sup> Annexure III of the Protocol, item 4. The precautionary approach is embedded in principle 15 of the UN Declaration on Environment and Development, 1992, 31 *ILM* 876 (1992) (the Rio Declaration) and provides that a lack of scientific certainty is not a reason to postpone cost effective measures to prevent environmental damages where there is a threat of serious or irreversible harm. See Philippe Sands *Principles of international environmental law* (2003) at 266-279.

<sup>259</sup> Article 2(4) of the Protocol.

<sup>260</sup> *Ibid.*

obligations which are discussed below in the context of the *Biotech Products*<sup>261</sup> dispute.

In addition to providing the foundations for a precautionary approach, the Protocol also provides for a party to take into account, in a limited way,<sup>262</sup> socio-economic considerations,<sup>263</sup> in particular with regard to indigenous and local communities in reaching a decision on import under the protocol.<sup>264</sup> The socio-economic considerations aspect of the Protocol was a contentious issue in the negotiations and negotiators were divided on their inclusion.<sup>265</sup> Parties generally against the inclusion (predominantly the developed countries) of socio-economic considerations agreed to allow its inclusion on the proviso that such considerations must be consistent with existing international obligations; in other words, the trade obligations of the Parties.<sup>266</sup> Negotiators in favour of the inclusion of socio-economic considerations were concerned that the import of LMOs may 'undermine the livelihoods of their farmers, and indigenous and local communities through the possible displacement of local varieties, loss of markets and employment, and [may pose a] ... threat to their cultural and ethical values.'<sup>267</sup> Some middle-ground might be found in the WTO preamble, cited above, which recognises trade as a means to raise standards of living, ensure full employment and which also seeks to allow for

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<sup>261</sup> *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* (note 79). See § 5.5.1 below.

<sup>262</sup> Article 26 of the Protocol, which was a compromise arrangement, provides that:

1. The Parties, in reaching a decision on import under this Protocol or under its domestic measures implementing the Protocol, may take into account, consistent with their international obligations, socio-economic considerations arising from the impact of living modified organisms on the conservation and sustainable use of biological diversity, especially with regard to the value of biological diversity to indigenous and local communities.
2. The Parties are encouraged to cooperate on research and information exchange on any socio-economic impacts of living modified organisms, especially on indigenous and local communities.'

<sup>263</sup> Socio-economic considerations may include concerns around poverty, unemployment, impact on cultural and traditional practices and knowledge, loss of biodiversity, etc. see further Collier and Moitui (note 210) at 39-40. See also the COGEM Report (note 213).

<sup>264</sup> Article 26 of the Protocol.

<sup>265</sup> Mackenzie et al (note 212) at 163; Convention on Biological Diversity note by the Executive Secretary 'Socio-economic considerations: cooperation on research and information exchange (Article 26, paragraph 2)' ('CBD Note') UNEP/BS/COP-MOP/2/12, Montreal, 20 May-3 June 2005 at 2.

<sup>266</sup> Mackenzie et al (note 212) at 163.

<sup>267</sup> CBD Note (see note 265) at 2. The compromise arrangement, Article 26 of the Protocol, is set out in footnote 262.

the optimal use of the world's resources in a manner that supports sustainable development, a concept which embraces both social and economic development, and which seeks to also preserve the environment, in a manner 'consistent with their respective needs and concerns at different levels of economic development.'

Deliberations and national decisions within the broader biosafety framework are an exercise of 'police power' and as such impact on property rights in genetically modified PGRs. In making these decisions, parties should also be guided by their obligation to take measures to prevent unintentional transboundary movements of LMOs.<sup>268</sup> In the event of an illegal transboundary movement,<sup>269</sup> the affected Party may request the Party of origin, at its cost, to remedy the transgression.<sup>270</sup> Parties should also bear in mind any other relevant international rules and standards<sup>271</sup> regarding the handling, transport, packaging and identification of LMOs.<sup>272</sup> The issue of liability in the event of adverse effects due to LMOs is also an important consideration.<sup>273</sup> Although the issue of liability and redress was raised during the negotiation of the treaty, the resulting provision<sup>274</sup> merely provides for a process of engagement on liability and redress and, as yet, no resolution has been reached.<sup>275</sup> Although the Protocol does not specifically regulate dispute resolution in the event of a dispute between Parties, the parent treaty, the

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<sup>268</sup> Article 16(3) of the Protocol.

<sup>269</sup> That is, the transboundary movement of LMOs in contravention of its regulatory framework that implements the Protocol (Article 25(1)).

<sup>270</sup> Article 25(2).

<sup>271</sup> Mackenzie et al (note 212) at 128 indicate that 'there are a number of existing rules and standards that would cover aspects of handling, packaging, transport and identification of LMOs and several international organizations are in the process of developing more relevant rules and standards such as the Codex Alimentarius Commission, the OECD, the Interim Commission on Phytosanitary Measures (under the International Plant Protection Convention) and the United Nations Economic Commission for Europe.'

<sup>272</sup> Article 18 of the Protocol.

<sup>273</sup> In *Hoffman v Monsanto Canada Inc* [2005] 7 WWR 665 organic farmers in Canada (unsuccessfully) sought redress, in the Queen's Bench of Saskatchewan, from Monsanto for the contamination of organic crops by stray GMOs. Access to lucrative organic and GMO-free markets could be lost by the release of GMOs into the environment. An application for leave to appeal to the Supreme Court of Canada was dismissed.

<sup>274</sup> The Article on Liability and Redress (Article 27) is reproduced in chapter 4, note 224.

<sup>275</sup> At the first meeting of the Parties an ad hoc, open ended working group on liability and redress was established and has since met on a number of occasions to consider liability and redress, although no definitive resolutions have been taken. See also chapter 4, note 225.

CBD provides for the settlement of disputes by way of alternative dispute resolution.<sup>276</sup>

The Protocol also makes provision for bilateral, regional and multilateral agreements and arrangements.<sup>277</sup> Parties may, through such mechanisms, make arrangements for the transboundary movements of LMOs provided that such agreements do not result in a lower level of protection than that provided for in the Protocol.<sup>278</sup> Parties may also determine that their domestic regulations apply in respect of imports to that country.<sup>279</sup> One of the objectives of South Africa's draft Biosafety Policy<sup>280</sup> published for comment in 2005 is:

to cooperate with other developing countries, especially countries in the region with overlapping borders, in harmonizing regulatory oversight in biosafety. Special attention must be given to developments within the Southern African Customs Union (SACU)<sup>[281]</sup> and the Southern African Development Community (SADC).<sup>[282]</sup>

Many of South Africa's regional neighbours have however generally adopted a more cautious approach to GMOs than South Africa has.<sup>283</sup> Some, for example, Namibia,<sup>284</sup> are concerned that allowing GMO imports will constrain export options to the EU.<sup>285</sup> Little headway has been made in setting up a regional arrangement.

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<sup>276</sup> Article 27 provides for solution by negotiation, and if that fails, by mediation, and if that fails, by arbitration. Article 27 explicitly applies to any protocol, unless the protocol provides otherwise.

<sup>277</sup> Article 14 of the Protocol.

<sup>278</sup> Article 14(1).

<sup>279</sup> Article 14(4).

<sup>280</sup> Draft Biosafety Policy for comments 2005, *Government Gazette* No 27913, Notice No 1576 of 2005.

<sup>281</sup> The SACU countries are Botswana, Lesotho, Namibia, South Africa, and Swaziland.

<sup>282</sup> The SADC countries are Angola, Zambia, Malawi, Namibia, Botswana, Zimbabwe, Mozambique, South Africa, Lesotho and Swaziland, Democratic Republic of Congo, the United Republic of Tanzania and Mauritius.

<sup>283</sup> See Debbie Collier 'Access to and control over plant genetic resources for food and agriculture in South and Southern Africa: how many wrongs before a right?' (2006) 7 *Minnesota Journal of Law, Science and Technology* at 530-1.

<sup>284</sup> Namibia's Biosafety Act 7 of 2006 requires a minister to refuse a permit if it would not be in the public interest. Factors to be taken into account in determining public interest include whether or not the GMO product is likely to: (a) contribute to sustainable development; (b) undermine indigenous knowledge or technology; or (c) affect the social and economic advancement of people and society including a particular community. (Section 25(4)).

<sup>285</sup> See for example the NEPRU Policy Brief, Issue 06 (December 2003) 'The SACU-USA Free Trade Agreement: what is in it for Namibia?'

Another initiative under the auspices of the African Union<sup>286</sup> is the Model Law on Safety in Biotechnology.<sup>287</sup>

#### 5.4.2.3 African Model Law on Safety in Biotechnology<sup>288</sup>

In 2001 the Organization of African Unity (OAU) finalised a model law to support its Member States in their efforts to regulate biosafety. After the transition from the OAU to the AU, the AU Executive Council, at the July 2003 Maputo Meeting of the Council, adopted a decision<sup>289</sup> urging Member States, 'in abiding by the provisions of the Cartagena Protocol, to use the African Model Law in Biosafety ... as a basis for drafting their national legal instruments in Biosafety, taking into account their national peculiarities, in order to create a harmonized Africa-wide space and system in Biosafety for the regulation of Genetically Modified Organisms movement, transportation and importation in Africa'. The decision requests the AU commission to 'convene a meeting of experts and civil society organizations to give further consideration to this issue and come out with proposals for an African common position for adoption by the policy organs of the African Union'. The experts have subsequently met and revisions to the Model Law have been proposed.

The Model Law provides a framework of biosafety regulations designed to protect Africa's rich biodiversity and animal and human health from the risks inherent in modern biotechnology.<sup>290</sup> The Model Law proposes strict regulations for the import, export, transit, contained use, release and placing on the market of any genetically modified organism, a product of

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<sup>286</sup> The AU Commission has a special project on biosafety (see [www.africa-union.org](http://www.africa-union.org)). The activities of the AU in this regard include a High Level Panel on Biotechnology and Capacity Building for an Africa-Wide Biosafety System.

<sup>287</sup> There is a Phyto-Sanitary Convention for Africa, 1967 (CAB/LEG/24.4/11). The treaty has not been signed by South Africa and has not entered into force.

<sup>288</sup> The African Model Law available at [www.africa-union.org](http://www.africa-union.org) is dated April 2001. The Model Law is currently under revision. The recommended revisions are detailed in the annex of the report from the Experts meeting on the revised African Model Law on Safety in Biotechnology, August 20-23, 2007, Addis Ababa, Ethiopia as presented at the African Ministerial Conference on Science and Technology (AMCOST III) Third Ordinary Session, 12-16 November 2007, Mombasa, Republic of Kenya, AUEXP/ST/17(III).

<sup>289</sup> Decision on the report of the interim Chairperson on the Africa-wide capacity building in biosafety, EX/CL/Dec.26(III).

<sup>290</sup> Mariam Mayet 'Why Africa should adopt the OAU African Model Law on Safety in Biotechnology' (2003) African Centre for Biosafety.

biotechnology, whether intended for use as a pharmaceutical, for food, feed or processing.<sup>291</sup> It requires decision-making to be based on the precautionary principle, and provides for 'public participation and access to information as important and indispensable components of environmental governance.'<sup>292</sup> In terms of the Model Law,<sup>293</sup> no approval for a GMO-related activity shall be given unless it is considered and determined by the Competent Authority that 'the import, transit, contained use, release or placing on the market of the genetically modified organism or the product of a genetically modified organism will:

- (a) benefit the country without causing any risk/significant risk to human health, biological diversity and in general the environment;
- (b) contribute to sustainable development;
- (c) not have adverse socio-economic impacts; and
- (d) accord with the ethical values and concerns of communities and does not undermine community knowledge and technologies'.

The Model Law defines a 'socio-economic impact' as:

the direct or indirect effect of a genetically modified organism, or a product of a genetically modified organism on the economy or on social or cultural conditions or on the livelihood or indigenous knowledge systems or technologies of a community or communities, including on the economy of the country.

The approach to socio-economic impacts in South Africa's GMO Act, discussed in the section below, is narrower than that of the Model Law. Although the proposed policy in South Africa is to co-operate on a regional level, the South African authorities do not appear to have deliberated on the provisions of the Model Law. This may be as a result of the fact that South Africa's Genetically Modified Organisms Act<sup>294</sup> (the GMO Act) was enacted (in 1997) prior to both the drafting of the Model Law and ratification of the

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<sup>291</sup> Article 2 of the Model Law. See Mayet (note 290).

<sup>292</sup> Mayet (note 290) at 9.

<sup>293</sup> Article 6(9) of the Model Law.

<sup>294</sup> Act 15 of 1997.

Biosafety Protocol. Although an opportunity to consider the Model Law presented itself when the GMO Act was subsequently amended, these amendments, discussed in the section below, appear only to give effect to the Biosafety Protocol.

#### *5.4.2.4 National biosafety law (The GMO Act) and related legislation*

The GMO Act, the key biosafety law in South Africa, is administered by the Department of Agriculture, and establishes the procedures and institutions for the regulation of 'specific activities involving the use of genetically modified organisms'. The GMO Amendment Act<sup>295</sup> enacted to, amongst other things, give effect to the Protocol. South Africa's department of foreign affairs has indicated that South Africa's positions under the Cartagena Protocol have been informed 'by the policy imperatives of eradicating poverty, food security, the NEPAD goals, and the promotion of the sustainable development agenda and the Millennium Development Goals. South Africa is also guided by the need to promote multilateralism, fair and equitable global governance and trade systems.'<sup>296</sup>

The Act establishes an Executive Council of Genetically Modified Organisms ('Council')<sup>297</sup> that advises the Minister of Agriculture on 'all aspects concerning the development, production, use, application and release of genetically modified organisms, and to ensure that all activities with regard to the development, production, use, application and release of genetically modified

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<sup>295</sup> Act 23 of 2006. See also the guidelines contained in See in this regard Genetically Modified Organisms Act: Guideline document for work with genetically modified organisms: Notice 1046 of 11 June 2004 (*Government Gazette* 26422) and Genetically Modified Organisms Act: Guideline document for use by the Advisory Committee when considering proposals / applications for activities with genetically modified organisms: Notice 1047 of 11 June 2004 (*Government Gazette* 26422).

<sup>296</sup> [www.dfa.gov.za/foreign/Multilateral/inter/cbd.htm](http://www.dfa.gov.za/foreign/Multilateral/inter/cbd.htm) [Accessed 1 July 2009].

<sup>297</sup> Section 3. The following national departments of State must be represented in the Council: (i) The Department of Agriculture; (ii) the Department of Arts, Culture, Science and Technology; (iii) the Department of Environmental Affairs and Tourism; (iv) the Department of Health; (v) the Department of Labour; and (vi) the Department of Trade and Industry. The 2006 amendments, when operative, expand the Council, requiring representatives from: (i) The Department of Agriculture; (ii) the Department of Science and Technology; (iii) the Department of Environmental Affairs and Tourism; (iv) the Department of Health; (v) the Department of Labour; (vi) the Department of Trade and Industry; (vii) the Department of Arts and Culture; and (viii) the Department of Water Affairs and Forestry.

organisms are performed in accordance with the provisions of the Act.<sup>298</sup> In addition to the Council, the Act also establishes an Advisory Committee<sup>299</sup> which acts as a national advisory body to the Minister of Agriculture, the Council and also other Ministers or other appropriate bodies, 'on matters concerning the genetic modification of organisms'.<sup>300</sup> The Advisory Committee is required to 'liaise through the relevant national departments with international groups or organisations concerned with biosafety'.<sup>301</sup> General administration of the Act, including the issuing (amendment and withdrawal) of permits<sup>302</sup> in terms of the Act, is entrusted to a registrar appointed by the Minister of Agriculture.<sup>303</sup>

The Act makes provision for regulations<sup>304</sup> to be made for, among other things, the application procedure and requirements for permits. Such regulations, issued in November 1999,<sup>305</sup> require a permit from the Council in order to 'import to or export from the Republic of South Africa, or develop, produce, use, release or distribute any genetically modified organism in the Republic of South Africa'.<sup>306</sup> A permit is *not* required for organisms intended for contained use in academic and research facilities or for specified GMOs<sup>307</sup> (which includes a strain of insect resistant cotton where a permit has already been issued) that have been cleared for commercial release and / or for food and animal feed.<sup>308</sup>

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<sup>298</sup> Section 4.

<sup>299</sup> In terms of s 10 of the GMO Act 1997, the Advisory Committee shall consist of not more than ten persons, of whom not more than eight members shall be knowledgeable persons in those fields of science applicable to the development and release of GMOs. The remaining two persons shall be from the public sector and shall have knowledge of ecological matters and GMOs. The 2006 amendments require the two persons from the public sector, to be one person with knowledge of ecological matters and GMOs, and the other person shall have knowledge of the potential impact of GMOs on human and animal health.

<sup>300</sup> Section 11(1)(b).

<sup>301</sup> Section 11(1)(c).

<sup>302</sup> Section 9.

<sup>303</sup> Section 8.

<sup>304</sup> Section 20.

<sup>305</sup> GMO Regulations in terms of the Genetically Modified Organisms Act: GNR 1420 of 26 November 1999, as amended. New regulations, published for comment, are the Proposed GMO Regulations GNR 321 of 28 March 2008 (*Government Gazette* No 30892). Should these become operative, they will replace the existing regulations.

<sup>306</sup> Regulation 2(1).

<sup>307</sup> These specified GMOs are contained in table 3 of the Annexure to the Regulations.

<sup>308</sup> Regulation 2 (2).

In so far as risk assessment is concerned,<sup>309</sup> the current regulations provide that '[n]o person shall undertake any activity involving genetic modification unless a suitable and sufficient assessment of the risks created thereby to the environment and human health has been made.'<sup>310</sup> The regulations invoke the precautionary principle by providing that '[l]ack of scientific knowledge or consensus on the safe use of genetically modified organisms shall not be interpreted as indicating a particular level of risk, an acceptable risk or an absence of risk.'<sup>311</sup> The regulations require the applicant for a permit to notify the public by way of notice in the 'printed media' (at least three newspapers circulating in the area where the proposed release is to take place) of any proposed release (including the planting) of GMOs prior to the application for a permit. Any objections are referred to the Council for consideration along with the application for a permit. In addition to scientific assessment, in terms of the GMO Amendment Act (which is not yet operative) the Council *must* determine whether an applicant is required to submit an assessment 'of the impact on the environment and an assessment of the socio-economic considerations of such activities',<sup>312</sup> and, in making a decision on an application for a permit, the Council *may* consider public input, the environmental impact assessment, or the potential socio-economic impact of such activities.<sup>313</sup> The draft Regulations<sup>314</sup> which are likely to replace the existing Regulations give effect to these amendments by indicating that the Council may require an environmental impact assessment and an assessment of the socio-economic considerations of the activity.<sup>315</sup>

In so far as the determination of liability is concerned, the Act imposes a statutory duty of care on *users*<sup>316</sup> 'to ensure that appropriate measures are

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<sup>309</sup> See generally Nadine Barron 'A Case of throwing caution to the wind; a critical analysis of the EIA provisions contained in the Genetically Modified Organisms Act of South Africa' (2003) 10 *South African Journal on Environmental Law and Policy* 93-110 and L Feris 'Risk Management and liability for environmental harm caused by GMOS – The South African regulatory framework' (2006) (1) *PER* 1-26.

<sup>310</sup> Regulation 3 (1).

<sup>311</sup> Regulation 3 (2).

<sup>312</sup> Section 4 of the Amendment Act which substitutes s 5 of the GMO Act.

<sup>313</sup> *Ibid.*

<sup>314</sup> Proposed GMO Regulations GNR 321 of 28 March 2008 (*Government Gazette* No 30892).

<sup>315</sup> Regulations 5 and 6 of the proposed Regulations (*ibid.*).

<sup>316</sup> The term 'user' is defined in s 1 of the GMO Act to mean 'any natural or legal person or institution responsible for the use of genetically modified organisms and includes an end-user or consumer.'

taken to avoid an adverse impact on the environment [and human and animal health]<sup>317</sup> which may arise from the use of genetically modified organisms.<sup>318</sup> The user will be liable for damage caused by the use or release of a GMO.<sup>319</sup> To date there are no incidences of litigation in the South African courts on this point.

The draft Biosafety Policy<sup>320</sup> points out that factors *not directly related to biosafety* may be taken into account and gives some guidance on the kinds of factors and laws that may be taken into account in the decision-making process involved in GMO-related activities.<sup>321</sup> The draft policy provides that GMO-related activities 'are accompanied with potential risks in various sectors, including agriculture, health, environment, labour, science and technology, and trade and industry', rendering it necessary to consider 'national or even international agreements or legislative requirements pertaining to the sector'. To this end, the draft policy lists the statutes set out below which should be included in such a consideration. Although not all of the statutes are relevant for the immediate purpose of this thesis, they are included for the sake of completeness.<sup>322</sup>

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This definition is substituted in the GMO Amendment Act to read 'a person who conducts an activity with a genetically modified organism'. (Section 1 of the Amendment Act).

<sup>317</sup> As amended by s 11 of the Amendment Act.

<sup>318</sup> Section 17(1). The Amendment Act (s 11) substitutes the term 'use and release of' with the term 'activities relating to', and inserts s 17A which provides for the recovery of costs incurred by Council (in terms of a new s 17(3) provision for Council to remedy damage.

<sup>319</sup> Section 17(2).

<sup>320</sup> Draft Biosafety Policy for comments 2005, *Government Gazette* No 27913, Notice No 1576 of 2005.

<sup>321</sup> Para 3.6. Regulation 5 of the proposed Regulations lists factors which may be considered in a socio-economic assessment, such as the impact on the range of diversity of biological resources, loss of access to genetic and other natural resources previously available to local communities, loss of traditions, knowledge and practices, loss of income, competitiveness or economic markets, and the loss of food security. Proposed GMO Regulations GNR 321 of 28 March 2008 (*Government Gazette* No 30892).

<sup>322</sup> In addition to those listed, the Plant Improvement Act 53 of 1976 provides for the registration of premises from which the sale of certain plants or propagating material may take place and the conditions subject to which such plants or propagating material may be sold for the purposes of cultivation; and for the recognition of certain varieties of plants; a system of certification of plants with the object of maintaining the quality and ensuring the usefulness of the products thereof for agricultural and industrial purposes; and for the control of the import and export of certain plants and propagating material.

1. The Genetically Modified Organisms Act,<sup>323</sup> which has been discussed above.
2. The Environmental Conservation Act<sup>324</sup> (the ECA). The ECA (now largely repealed) contained provisions in terms of which the Minister may identify potentially detrimental activities which require an impact assessment and the Minister's authorisation.<sup>325</sup> Regulations in terms of the Act had identified '[t]he genetic modification of any organism with the purpose of fundamentally changing the inherent characteristics of that organism' as a potentially detrimental activity.<sup>326</sup> These provisions have been replaced by the NEMA regime for impact assessment.<sup>327</sup>
3. The National Environmental Management Act (NEMA).<sup>328</sup> NEMA embodies both the precautionary principle and the concept of sustainable development. The impact assessment regime<sup>329</sup> in terms of NEMA regulates listed activities<sup>330</sup> which make no reference to GMO related activities and thus the prevailing regime for impact assessment is that contained in the GMO Act and its Regulations.
4. The National Environmental Management: Biodiversity Act<sup>331</sup> (the Biodiversity Act). The Biodiversity Act gives effect to the CBD and aims to provide for the 'sustainable use of indigenous biological resources;

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<sup>323</sup> Act 15 of 1997, as amended.

<sup>324</sup> Act 73 of 1998.

<sup>325</sup> Sections 21 and 22, which are to be repealed by s 50(2) of NEMA from a date still to be published.

<sup>326</sup> Regulations regarding the identification under s 21 of activities which may have a substantial detrimental effect on the environment: GNR 1182 of 5 September 1997 (*Government Gazette* No 18261). See generally Jan Glazewski *Environmental law in South Africa* (2005) at 237. On the limitations of these (now repealed) provisions see L Feris 'Risk Management and liability for environmental harm caused by GMOS – The South African regulatory framework' (2006) (1) *PER* 1 at 13-14.

<sup>327</sup> Environmental Impact Assessment Regulations in terms of the National Environmental Management Act: GNR 385 of 21 April 2006 (*Government Gazette* No 28753).

<sup>328</sup> Act 107 of 1998.

<sup>329</sup> Environmental Impact Assessment Regulations in terms of the National Environmental Management Act: GNR 385 of 21 April 2006 (*Government Gazette* No 28753).

<sup>330</sup> List of activities and competent authorities identified in terms of ss 24 And 24D of the National Environmental Management Act, 1998: GNR 386 of 21 April 2006 (*Government Gazette* 28753); and List of activities and competent authorities identified in terms of ss 24 And 24D of the National Environmental Management Act, 1998: GNR 387 of 21 April 2006 (*Government Gazette* 28753).

<sup>331</sup> Act 10 of 2004.

[and] the fair and equitable sharing of benefits arising from bioprospecting involving indigenous biological resources.’<sup>332</sup>

Section 78(1) of the National Environmental Management: Biodiversity Act provides that:

[i]f the Minister has reason to believe that the release of a genetically modified organism into the environment under a permit applied for in terms of the Genetically Modified Organisms Act, 1997 (Act No. 15 of 1997), may pose a threat to indigenous species of the environment, no permit for such release may be issued in terms of that Act unless an environmental assessment has been conducted in accordance with Chapter 5 of the National Environmental Management Act as if such release were a listed activity contemplated in that Chapter.

The Minister of Environmental Affairs and Tourism may thus veto decision-making in terms of the GMO Act.

5. The Foodstuffs, Cosmetics and Disinfectants Act.<sup>333</sup> This Act aims to control the sale, manufacture and importation of foodstuffs, cosmetics and disinfectants. Although not impacting directly on GM cotton, the Act may be extended to apply to GMOs in foodstuffs. The Act prohibits both the sale of certain goods and the false description of any foodstuffs, cosmetics or disinfectants.
6. The Animal Diseases Act.<sup>334</sup> Now repealed, the Act was to provide for the control of animal diseases and parasites and measures to promote animal health. Its replacement, the Animal Health Act,<sup>335</sup> would need to be considered in the event that animal health is negatively implicated by the release of particular GMOs.

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<sup>332</sup> Preamble. Bioprospecting involves ‘any research on, or development or application of, indigenous biological resources for commercial or industrial exploitation, and includes – (a) the systematic search, collection or gathering of such resources’ (section 1).

<sup>333</sup> Act 54 of 1972.

<sup>334</sup> Act 35 of 1984.

<sup>335</sup> Act 7 of 2002.

7. The Agricultural Pests Act.<sup>336</sup> This Act, amongst other things, regulates the importation of controlled goods including plants.<sup>337</sup>
8. The Fertilizers, Farm Feed, Agricultural Remedies and Stock Remedies Act.<sup>338</sup> This Act controls and regulates these matters.
9. The Medicines and Related Substances Amendment Control Act.<sup>339</sup> This Act provides for the registration of medicines and related substances intended for human or animal use. The Act, which regulates the generic substitution of medicines and establishes a pricing committee, may apply when PGRs are used for medicinal purposes.
10. The Promotion of Access to Information Act<sup>340</sup> (PAIA). PAIA gives effect to the constitutional right to information<sup>341</sup> and establishes procedures by which a citizen can access information relevant to a particular matter that affects that citizen. In *Trustees, Biowatch Trust v The Registrar: Genetic Resources*<sup>342</sup> (although PAIA was not yet operative) the court, within the framework of the right to information, held that citizens are entitled to information regarding GMO-related activities including information relating to (existing and pending) GMO permits, risk assessment and compliance with public participation requirements. This right of access to information is affirmed by the provisions in PAIA. Some information, such as trade secrets, need not be disclosed.<sup>343</sup>

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<sup>336</sup> Act 36 of 1983.

<sup>337</sup> Measures in terms of this Act include the Control measures relating to cotton, GNR 1902 of 12 September 1986 (*Government Gazette* No 10431), which required the destruction of the top growth in certain cotton fields and the control of regrowth and the destruction of cotton plants in certain areas.

<sup>338</sup> Act 36 of 1947.

<sup>339</sup> Act 90 of 1997.

<sup>340</sup> Act 2 of 2000.

<sup>341</sup> Section 32 of the Constitution.

<sup>342</sup> *Trustees, Biowatch Trust v The Registrar: Genetic Resources* (TPD) 2005 (4) SA 111 (T).

<sup>343</sup> For the limits on the duty to disclose see for example *Transnet and Another v SA Metal Machinery Company* 2006 (6) SA 285 (SCA).

11. The Promotion of Administrative Justice Act<sup>344</sup> (PAJA). PAJA which gives effect to the Constitutional right to fair administrative justice,<sup>345</sup> states that ‘everyone whose rights have been adversely affected by administrative action has the right to be given written reasons.’<sup>346</sup> In terms of PAJA, ‘an administrator...must give a person [whose rights will be adversely affected] firstly, adequate notice of the nature and purpose of the proposed administrative action; secondly, reasonable opportunity to make representations; thirdly, a clear statement of the administrative action; fourthly, adequate notice of the right to request reasons’.<sup>347</sup> Where administrative action will affect the public, the administrator must firstly, hold a public inquiry; secondly, follow a notice and comment procedure; thirdly, follow both the above procedures; or follow another procedure which is fair.<sup>348</sup>

The socio-economic considerations are, as yet, an unsettled aspect of property rights analysis and an important factor influencing the scope of the State’s regulatory powers over rights in GM cotton.<sup>349</sup> In this regard three questions arise for further consideration:

- Firstly, how broadly will socio-economic impacts be defined;
- Secondly, whether objections may be raised on socio-economic grounds linked to *existing permits* (and thus have such permits revoked or the conditions amended);<sup>350</sup> and
- Thirdly, whether decisions of the Council based on socio-economic grounds would stand up to WTO scrutiny in light of the outcome of the *Biotech Products*<sup>351</sup> dispute.

<sup>344</sup> Act 3 of 2000. On the application of PAJA in matters involving natural resources and the environment see for example *Bato Star Fishing v Minister of Environmental Affairs and Others* 2004 (4) 490 (CC) and *Earthlife Africa (Cape Town) v Director-General: Department of Environmental Affairs and Tourism and Eskom Holdings Limited* 2005 (3) SA 156 (C).

<sup>345</sup> Section 33 of the Constitution.

<sup>346</sup> Section 33(2) of the Constitution the PAJA preamble.

<sup>347</sup> Section 3(2)(b).

<sup>348</sup> Section 4(1)(a)-(d).

<sup>349</sup> The proposed regulations (note 321) do provide a list of factors to be considered. These are however not mandatory.

<sup>350</sup> The issue of compensation or breach of the TRIPS Agreement may be raised.

<sup>351</sup> *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* (note 79) discussed at § 5.5.1.

With regard to the first enquiry – the scope of socio-economic concerns: the term ‘socio-economic’ is not defined by the GMO Amendment Act. Although the (amended) long title of the Act states that the purpose of the Act is ‘to lay down the necessary *requirements* and *criteria* for ... socio-economic consideration’ (emphasis added) the amended Act simply requires that the Council *must* (‘shall’) determine whether an applicant for a permit must submit an assessment of the socio-economic considerations and that the Council *may*, before making a decision regarding an application for a permit, consider, inter alia, the potential socio-economic impact of such activities. Regulation The proposed Regulations lists several factors which may be considered in a socio-economic assessment, such as the impact on the range of diversity of biological resources, loss of access to genetic and other natural resources previously available to local communities, loss of traditions, knowledge and practices, loss of income, competitiveness or economic markets, and the loss of food security.<sup>352</sup>

In so far as socio-economic issues are concerned, the constitutionally endorsed notion of sustainable development,<sup>353</sup> the principles in NEMA and related statutes, and the concept of *batho pele*,<sup>354</sup> unequivocally require a consideration of socio-economic concerns when deploying technology such as modern biotechnology.

Returning to the remaining two enquiries: the second is whether objections may be raised on socio-economic grounds linked to *existing permits* (and thus have such permits revoked or the conditions amended). The GMO Act,<sup>355</sup> as

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<sup>352</sup> Regulation 5 of the Proposed GMO Regulations GNR 321 of 28 March 2008 (*Government Gazette* No 30892).

<sup>353</sup> Section 24(b)(iii) of the Constitution. See the discussion on sustainable development in § 5.4.1.

<sup>354</sup> *Batho pele* is a Sesotho phrase meaning ‘People First’. The phrase is referred to in the judgment of Ngcobo J in *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others* 2007 (6) SA 4 (CC) at para [60] where Ngcobo J states that ‘[o]ne of the key principles of NEMA [s 2(2)] requires people and their needs to be place at the forefront of environmental management – “batho pele.” It requires all developments to be socially, economically and environmentally sustainable. In October 1997 government launched a *Batho Pele* campaign (aimed ultimately at improving access to government services to persons from disadvantaged societies.’

<sup>355</sup> There is an appeal procedure in s 19 of the GMO Act for appeals in respect of decisions or action taken by the Council; however, an appeal in terms of s 19 must be taken within 30 days of notification of the decision or action and is therefore only useful if a socio-economic impact can be anticipated.

amended, affords the Council the opportunity to reconsider any decision taken by the Council 'if the Council receives *new and scientific and technological evidence* about activities conducted in terms of the Act, which may have an impact on the factors referred to in ... paragraph (a)'.<sup>356</sup> (Emphasis added). Paragraph (a) refers to the following factors: (i) public input; (ii) the environmental impact assessment; or (iii) the potential *socio-economic impact* of such activities. Any socio-economic impact would thus have to be shown within the parameter of 'scientific and technological evidence'.

The third issue is whether amendments to the Act or decisions that negatively impact on the property rights in GMOs, based on socio-economic grounds, would stand up to WTO scrutiny in light of the *Biotech Products*<sup>357</sup> dispute. This is addressed in the next section which discusses the restrictions imposed on the State's regulatory powers by international trade law. Whereas international law measures are inherently infused with a sense of *laissez-faire* liberalism, biosafety law (and human and environmental rights) adopts a more interventionist, balancing approach.

## 5.5 Trade and IP law

South Africa is a member of the WTO and as such is bound by a series of WTO agreements,<sup>358</sup> including a 'package' of agreements particularly relevant to agriculture and trade in agricultural products, such as the Agreement on Agriculture,<sup>359</sup> which lays the foundation for the reform of trade in agriculture, the ultimate goal being to achieve 'substantial progressive reductions in agricultural support and protection ... resulting in correcting and preventing restrictions and distortions in world agricultural markets.'<sup>360</sup> The Agreement on Agriculture requires its Members (except least developed countries) to liberalise agricultural trade, in other words to improve market access and also

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<sup>356</sup> Section 4 of the Amendment Act, which substitutes s 5 of the GMO Act.

<sup>357</sup> *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* (note 79).

<sup>358</sup> The WTO website indicates that '[m]ost of the WTO agreements are the result of the 1986–94 Uruguay Round negotiations, signed at the Marrakesh ministerial meeting in April 1994. There are about 60 agreements and decisions totalling 550 pages'. At [www.wto.org/english/docs\\_e/legal\\_e/legal\\_e.htm](http://www.wto.org/english/docs_e/legal_e/legal_e.htm) [Accessed 1 September 2008].

<sup>359</sup> Agreement on Agriculture, Annex 1A to the Marrakesh Agreement, 1867 UNTS 3.

<sup>360</sup> Preamble of the Agreement on Agriculture.

reduce trade-distorting subsidies<sup>361</sup> (domestic support) in agriculture. In its preamble the agreement notes that commitments on market access should be made 'in an equitable way ... having regard to non-trade concerns, including food security and the need to protect the environment; having regard to the agreement that special and differential treatment for developing countries is an integral element of the negotiations'.

The Agreement on Agriculture is bolstered by the Agreement on Technical Barriers to Trade<sup>362</sup> (the TBT Agreement), which requires that Members' 'technical regulations and standards, including packaging, marking and labelling requirements, and procedures for assessment of conformity with technical regulations and standards *do not create unnecessary obstacles to international trade*'.<sup>363</sup> (Emphasis added). In addition, the Agreement on the Application of Sanitary and Phytosanitary Measures<sup>364</sup> (the SPS Agreement) requires that the measures taken by Members necessary to protect human, animal or plant life or health may not unfairly discriminate between Members or constitute '*disguised restrictions*' on international trade. (Emphasis added). These agreements (the Agreement on Agriculture, the SPS and TBT Agreements), together with the GATT 1994 Agreement,<sup>365</sup> formed the basis of the GM food dispute (the *Biotech Products*<sup>366</sup> dispute) between the United States, Argentina and Canada, on the one hand, and the European Union on the other, discussed in the section below.

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<sup>361</sup> Agreement on Subsidies and Countervailing Measures, Annex 1A to the Marrakesh Agreement (SCM Agreement). The SCM disciplines the use of subsidies and it regulates the actions countries can take to counter the effects of subsidies. Under the agreement, a country can use the WTO's dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Or the country can launch its own investigation and ultimately charge extra duty ('countervailing duty') on subsidized imports that are found to be hurting domestic producers.

<sup>362</sup> Agreement on Technical Barriers to Trade, Annex 1A to the Marrakesh Agreement, 1867 UNTS 3 (TBT Agreement).

<sup>363</sup> Preamble to the TBT.

<sup>364</sup> Agreement on the Application of Sanitary and Phyto-sanitary Measures, 1867 UNTS 493 (SPS Agreement).

<sup>365</sup> General Agreement on Tariffs and Trade (GATT 1994) 33 *ILM* 1153 (1994).

<sup>366</sup> *European Communities – Measures Affecting the Approval and Marketing of Biotech Products* (note 79). The USA and others challenged, inter alia, the EC's five-year moratorium on the approval of new GM crops and GM foods. The dispute settlement panel handed down its lengthy (over 1000 pages) report on 29 September 2006.

### 5.5.1 The GATT Agreement (GATT 1994) and the Biotech Products dispute

The *Most-Favoured-Nation Treatment* principle, a principle which places major restrictions on the State's regulatory powers, is the cornerstone of the GATT<sup>367</sup> and permeates international trade law. The crux of the principle, which, in the case of the GATT, applies to the rules and formalities and the duties, charges and payments for imports and exports, as well as the method of levying such duties and charges, is that:

any advantage, favour, privilege or immunity granted by any contracting party to any product originating in or destined for any other country shall be accorded immediately and unconditionally to the *like product* originating in or destined for the territories of all other contracting parties.<sup>368</sup> [Emphasis added].

The application of the principles of the GATT Agreement to agricultural biotechnology products is well illustrated in the arguments advanced by the complainants in the *Biotech Products* dispute.

The *Biotech Products* dispute involved complaints by Canada, Argentina and the USA against the European communities arising out of the European Communities' effective moratorium (the 'general suspension by the European Communities of its own processes for the consideration of applications for, or the granting of, approval for biotech products') in relation to specific agricultural products on the basis that the moratorium (and its related activities) breached the European Communities obligations in terms of GATT 1994 and also the SPS Agreement and the TBT Agreement. The complaint was not raised in objection to the European Communities' regime<sup>369</sup> for the approval of biotechnology products *per se* but rather its application or implementation. The objective of the EC regime is the protection of

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<sup>367</sup> For background on the GATT, see § 5.2.1.3.

<sup>368</sup> Article 1.1.

<sup>369</sup> The approval of biotech products in the EC is regulated by EC Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 regulating the deliberate release into the environment of genetically modified organisms (its predecessor was EC Directive 90/220 (Directive 90/220/EEC, OJ 8 5 1990 L117/15 as amended by Directive 94/15/EC, OJ 22 4 1994 L103 and Directive 97/35/EC, OJ 27 6 1997 L169) and EC Regulation 258/97 regulating novel foods and novel food ingredients.

environmental and human health<sup>370</sup> and case-by-case evaluations of the risks of a particular biotechnology product are conducted by the EC before deciding whether to approve the product for market. In addition, the EC legislation permits its member States to take 'safeguard measures' in respect of biotechnology products that have been approved for EC-wide marketing. The complaints raised in the *Biotech Products* dispute relate to both the EC regime and certain measures by member states.

In so far as alleged violation of GATT 1994 is concerned, although the dispute settlement panel did not find it necessary to rule on these allegations,<sup>371</sup> the arguments by the complainants are set out below in order to illustrate how GATT 1994 may be applied.

*Complaint by the United States.* The US argued that the Greek import ban<sup>372</sup> is in violation of Article XI:1 of GATT which provides that:

No prohibitions or restriction other than duties, taxes or other charges, whether made effective through quota, import or export licences or other measures, shall be instituted or maintained by any contracting party on the importation of any product of the territory of any other contracting party or on the exportation or sale for export of any product destined for the territory of any other contracting party.

In other words the argument was that a total ban on GM seed (and related products) is prohibited in international trade in terms of the GATT Agreement, unless it can be justified on the health and safety reasons established in terms of the SPS Agreement.

*Complaints by Canada.* Canada relied on GATT 1994 for the following arguments:

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<sup>370</sup> Page 3, para [2.4] of the *Reports of the Panel*.

<sup>371</sup> The panel found against the EC countries, on the basis of inconsistency with the SPS Agreement (explained in §5.5.2), and therefore, exercising 'judicial economy', found that it was unnecessary to rule on the claims under the GATT.

<sup>372</sup> The wording of the Greek measure provided that: '[w]e prohibit the importing into the territory of Greece the seeds of the genetically modified rape-plant line bearing reference number C/UK/95/M5/1'.

- i) that the so-called *product-specific marketing bans*<sup>373</sup> and the *national measures*<sup>374</sup> of several of the EC member States violate Article III:4 of GATT which requires that 'like' products be treated equally. Specifically, Article III:4 provides that:

The products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use. The provisions of this paragraph shall not prevent the application of differential internal transportation charges which are based exclusively on the economic operation of the means of transport and not on the nationality of the product. (Emphasis added).

Canada argued that the marketing bans and the national measures violate the GATT agreement by according the specific products treatment that is less favourable than the treatment accorded to respective *like* non-biotechnology products (ie domestically-grown canola or oilseed rape). The argument was advanced that the product-specific marketing bans and the national measures fall within the ambit of 'laws, regulations and requirements' and that the specific produces are 'like' non-biotechnology comparative products on the basis of the following four criteria:

- *Physical similarities*: the physical differences between the biotechnology and non-biotechnology specific products can only be perceived at the molecular level and the European Communities science-based risk assessment suggests that the biotech products pose no greater risk to human health or the environment than the product's non-biotechnology comparative.
- *Interchangeability*: the biotechnology and the non-biotechnology comparative products are intended to be used interchangeably.

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<sup>373</sup> The marketing bans arose out of the moratorium and, it was argued, are proof of the moratorium.

<sup>374</sup> EC member States may in terms of 'safeguard' clauses in EC legislation 'provisionally restrict or prohibit the use or sale of an approved biotech product in its territory if that member State has evidence that the product constitutes a risk to human health or the environment' (*Reports of the Panel* at 40-41). The EC member State *national measures* complained about were established in terms of these 'safeguard' clauses.

- *Consumer tastes and preferences*: as there is no reliable evidence regarding consumer tastes and preferences, it was argued that this criterion should be given 'little practical weight'.
- *Tariff classification*: the tariff classification of biotechnology products and their non-biotechnology comparative products is identical.

Canada argued, on this basis, that the biotechnology products are 'like' the respective non-biotechnology comparative products of national origin for the purposes of Article III:4 and the fact that the biotechnology products are not being given '*equality of competitive opportunities*' violates Article III:4 of GATT. Canada asserted that the measures taken by the four member states prevented the biotechnology products from competing in the same markets as domestically-grown non-biotechnology comparative products.

- ii) that Greece's import ban<sup>375</sup> on Topas 19/2 (oilseed rape) violates Article XI:1 (set out under *Complaints by United States* above). Canada argued that Greece's import ban amounts to an 'other measure' in terms of Article XI:1 and accordingly violates that provision.

These complaints by Canada opened up the debate that GM seed and related products should not be treated any differently to their non-GM 'equivalent'. For the same reasons set out in footnote 371, the panel made no finding on this issue.

*Complaints by Argentina.* Argentina argued, as Canada did, but in a slightly different fashion, that the EC's suspension of approval processes for biotechnology agricultural products violates the GATT. Argentina argued as follows:

- (a) the products are "like products" within the meaning of Article III:4;
- (b) the suspension is a "requirement" that affect "the sale, offering for sale, purchase, transportation, distribution or use of these products in the internal market"; and
- (c) 'less favourable treatment' has been accorded.<sup>376</sup>

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<sup>375</sup> Referring to the Greek ministerial decision of 9 September 1998.

<sup>376</sup> *Reports of the Panel* at 57.

In so far as (a) ('like' products) is concerned, it was argued that 'like' does not mean identical but rather requires a consideration of the four criteria established in terms of GATT/WTO case law.<sup>377</sup> The criteria being those reflected in the Canadian complaint, set out above, although the criteria are formulated slightly differently by Argentina, ie:

- *Physical properties.* Argentina argued that a risk assessment has determined that there is no difference between the risks associated with the biotechnology agricultural products and the risks associated with the non-biotechnology comparative product
- *Similar end-uses.* The biotechnology and the comparative non-biotechnology agricultural products have similar end-uses.
- *Consumer perception.* Argentina pointed out that the suspension, and related measures, may have a negative impact on the consumer's perception of the biotechnology products.
- *International tariff classification.* There is no difference in the tariff classification between the biotechnology and comparative non-biotechnology agricultural products.

The measure (the suspension) affected the 'sale, offering for sale, purchase, transport, distribution and use of products on the domestic market', Argentina argued, and the products, therefore were accorded 'less favourable treatment'. Again, no ruling was made by the panel on the complaint.

These arguments are set out in some detail to illustrate the complexities of regulation and the consequences and the types of complaints that could be made against South Africa in the event that measures are taken to restrict trade in GM products. Sufficient argument will need to be advanced at international law level to counter complaints and convince regulators that a more restrictive approach is necessary.

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<sup>377</sup> Argentina referred to the *EC – Asbestos* case where it has held that each of the criteria should be analysed. *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/R, as modified by the Appellate Body Report, WT/DS135/AB/R.

In so far as the State's powers and responsibilities to regulate the health and safety of GMO-related products is concerned, the SPS Agreement (on which the *Biotech Products* dispute was decided) is particularly important.

### 5.5.2 *The SPS Agreement and the Biotech Products dispute*

The SPS Agreement determines the extent to which free trade in GMO-related agricultural products can be interfered with by a member state. Such interference is generally limited to the sanitary and phytosanitary measures permissible in terms of the SPS Agreement. The SPS Agreement regulates (and seeks to harmonise)<sup>378</sup> national provisions for food safety and animal and plant health. In terms of the agreement, members may take sanitary and phytosanitary measures that are necessary to protect human, animal or plant life or health and are encouraged to use international standards<sup>379</sup> where these exist.<sup>380</sup> Such measures must however not amount to a 'disguised restriction on international trade' and members may not discriminate arbitrarily or unjustifiably between members. Annex A of the SPS Agreement defines sanitary and phytosanitary measures as:

[a]ny measure applied:

- (a) to protect animal or plant life or health within the territory of the Member from risks arising from the entry, establishment or spread of pests, diseases, disease-carrying organisms or disease-causing organisms;
- (b) to protect human or animal life or health within the territory of the Member from risks arising from additives, contaminants, toxins or disease-causing organisms in foods, beverages or feedstuffs;

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<sup>378</sup> Some guidelines on harmonisation are provided for in the Appellate Body's decision in *European Communities – Measures Concerning Meat and Meat Products (EC-Hormones)* AB-1997-4, WT/DS26/AB/R, WT/DS48/AB/R (1998) (Appellate Body) where the measure at issue was the EC prohibition on the importation and marketing of meat and meat products treated with certain hormones. The Appellate Body found that the requirement that SPS measures be 'based on' international standards, guidelines or recommendations (Article 3.1) does not mean that SPS measures must 'conform to' such standards.

<sup>379</sup> Such as the 'international standards, guidelines and recommendations developed by the relevant international organizations, including the Codex Alimentarius Commission, the International Office of Epizootics, and the relevant international and regional organizations operating within the framework of the International Plant Protection Convention' (preamble of the SPS Agreement).

<sup>380</sup> *EC-Hormones* (note 378).

- (c) to protect human life or health within the territory of the Member from risks arising from diseases carried by animals, plants or products thereof, or from the entry, establishment or spread of pests; or
- (d) to prevent or limit other damage within the territory of the Member from the entry, establishment or spread of pests.

Sanitary or phytosanitary measures include all relevant laws, decrees, regulations, requirements and procedures including, inter alia, end product criteria; processes and production methods; testing, inspection, certification and approval procedures; quarantine treatments including relevant requirements associated with the transport of animals or plants, or with the materials necessary for their survival during transport; provisions on relevant statistical methods, sampling procedures and methods of risk assessment; and packaging and labelling requirements directly related to food safety.

In the *Biotech Products* dispute it was alleged that the EU moratorium, the product-specific EC measures, and the safeguard measures of the member States' violated the SPS Agreement, in particular the provisions of the SPS Agreement concerned with 'scientific justification' and 'risk assessment'.<sup>381</sup> The complainants all advanced similar arguments in this regard.

*Complaint by the United States.*<sup>382</sup> The US argued that the EC moratorium violated numerous provisions of the SPS Agreement<sup>383</sup> and the panel concluded that, although the so-called moratorium was not, in itself, an SPS measure, the effect of the moratorium was that individual approval processes were generally not completed without undue delay and this was inconsistent with the provisions of Article 8 of the SPS Agreement.<sup>384</sup> Likewise, the product-specific EC measures in respect of 21 out of the 25 products complained about, failed to meet the obligations imposed by the first clause of Annex C(1)(a) of the SPS Agreement and hence Article 8 of the SPS Agreement.

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<sup>381</sup> Articles 2.2 and 5.1 require SPS measures to be based on sound scientific principle and risk assessment.

<sup>382</sup> DS291.

<sup>383</sup> In particular, Article 8 of the SPS Agreement; Annex B(1) and Article 7, Article 5.1, Article 5.5, Article 2.2 and Article 2.3.

<sup>384</sup> *Reports of the Panel* at 1068 (para [8.6]).

The Panel made numerous findings against the EC<sup>385</sup> regarding the US complaints about the nine safeguard measures<sup>386</sup> of certain EC member States,<sup>387</sup> which measures were imposed notwithstanding risk evaluation by the EC and the granting of Community-wide approval.

*Complaint by Canada.*<sup>388</sup> In so far as Canada's complaints were concerned, the Panel held that the EC had effectively placed a moratorium on the approval of biotechnology products which was inconsistent with its obligations under the first clause of Annex C(1)(a) and Article 8 of the SPS Agreement. Likewise, the product-specific measures relating to four products<sup>389</sup> breached the EC's obligations under the first clause of Annex C(1)(a) and Article 8 of the SPS Agreement, and the EC member State safeguard measures<sup>390</sup> are inconsistent with the SPS Agreement.<sup>391</sup>

*Complaint by Argentina.*<sup>392</sup> Although the Panel found that the EC had applied a *de facto* moratorium, in the case of Argentina, such moratorium did not amount to a breach of the EU obligations.<sup>393</sup> In so far as Argentina's complaints in respect of the product-specific<sup>394</sup> EC measures were concerned, the Panel concluded that the EC had breached its obligations under the first clause of Annex C(1)(a) and under Article 8 of the SPS Agreement. In addition, the six member State safeguard measures<sup>395</sup> challenged by Argentina were found to be in breach of Articles 5.1, 5.7 and the second and third requirements in Article 2.2 of the SPS Agreement.

As a result of its findings in favour of the three complainants, the Panel recommended that the Dispute Settlement Body request the European

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<sup>385</sup> Based on the obligations in Article 5.1, Article 5.7 and the second and third requirements in Article 2.2.

<sup>386</sup> These safeguard measures took the form of prohibitions on particular biotech products that have otherwise been approved for use within the EC.

<sup>387</sup> The countries complained about were Austria, Belgium, France, Germany, Italy and Luxembourg.  
<sup>388</sup> DS292.

<sup>389</sup> MS8/RF3 oilseed rape; RR oilseed rape (EC-70); MS1/RF1 oilseed rape (EC-89); and MS1/RF2 oilseed rape.

<sup>390</sup> These being measures taken by Austria, France, Greece and Italy.

<sup>391</sup> Specifically Article 5.1, Article 5.7 and the second and third requirements in Article 2.2.

<sup>392</sup> DS293.

<sup>393</sup> *Reports of the Panel* at 1081 (para [8.50]).

<sup>394</sup> These involved Bt-531 cotton, RR-1445 cotton, LL soybeans (EC-71), NK603 maize, GA21 maize (EC-78), GA21 maize (food), and NK603 maize (food).

<sup>395</sup> These measures were applied by Austria, Germany, Italy and Luxembourg.

Communities to bring the following into conformity with its obligations under the SPS Agreement:

- the *de facto* moratorium on approvals;<sup>396</sup>
- the relevant product-specific measures; and
- the relevant member State safeguard measures.

Some commentators are of the view that the *Biotech Products* decision will have a negative impact on members' national decision-making ability.

The outcome of *Biotech Products* carries profound implications for the balance between state and global power and the relationship of science to democracy. WTO adjudicators will define the extent to which particular conceptions of sound science can be used to set boundaries on members' precautionary health and environmental measures ...At stake in the answers to these questions are the very parameters of state self-determination with regard to food biotechnology and risk-based decision-making – not just for the EU, but for all WTO members.<sup>397</sup>

The ruling effectively restricts the use of the precautionary principle (allowing only for appropriate SPS measures 'reasonably supported by a risk assessment') where its use impacts negatively on trade.<sup>398</sup> An alternative approach which has been suggested is that the WTO use the Biosafety Protocol as an appropriate 'international standard' under the SPS Agreement<sup>399</sup> and the TBT Agreement<sup>400</sup>.<sup>401</sup> The difficulty in such an approach is that, in effect, it would require the WTO to impose the Biosafety Protocol on parties that are not signatories to the Protocol.

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<sup>396</sup> This recommendation was made in the case of the complaints by the US and Canada. No recommendation was made in this regard in the complaint by Argentina.

<sup>397</sup> David Winickoff et al 'Adjudicating the GM food wars: science, risk, and democracy in world trade law' (2005) 30 *The Yale Journal of International Law* 81 at 84.

<sup>398</sup> The precautionary principle is legislated (in s 2(4)(a)(vii) of NEMA) in domestic law in South Africa.

<sup>399</sup> In terms of Article 3.1 and Annex A.

<sup>400</sup> In terms of Article 2 and Annex 1.

<sup>401</sup> Marie-Claire Cordonier Segger and CG Weeramantry (eds) *Sustainable justice: reconciling economic, social and environmental law* (2005) at 104.

### 5.5.3 Agreement on Technical Barriers to Trade (TBT Agreement)

The TBT Agreement seeks 'to ensure that technical regulations and standards, including packaging, marking and labelling requirements, and procedures for assessment of conformity with technical regulations and standards do not create unnecessary obstacles to international trade.'<sup>402</sup>

Whereas the SPS Agreement covers health protection measures (for example additives in food, food safety generally and labelling in respect of food safety), the TBT Agreement covers any remaining technical aspects such as labelling in respect of the composition or quality of food and the packaging and labelling of toxic matter. TBT measures include regulations for electrical appliances and the labelling of textiles and garments.<sup>403</sup>

Any decisions taken by South Africa on GM cotton may therefore not amount to technical barriers to trade. This restricts decisions to the extent that:

technical regulations shall not be more trade-restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create. Such legitimate objectives are, inter alia: national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment. *In assessing such risks, relevant elements of consideration are, inter alia: available scientific and technical information, related processing technology or intended end-uses of products.*<sup>404</sup> (Emphasis added).

Although the TBT Agreement was raised in the *Biotech Products* dispute, the Panel made no findings in this regard.

International law trade restrictions are also imposed on domestic regulatory powers in relation to IP. These are contained in the TRIPS agreement.<sup>405</sup> The overriding objective of the TRIPS agreement is to strengthen the international

<sup>402</sup> Preamble to the TBT Agreement.

<sup>403</sup> Para 1.4 of the WTO's SPS Agreement Training Module at [www.wto.org/english/tratop\\_e/sps\\_e/sps\\_agreement\\_cbt\\_e/intro1\\_e.htm](http://www.wto.org/english/tratop_e/sps_e/sps_agreement_cbt_e/intro1_e.htm) [Accessed 1 September 2008].

<sup>404</sup> Article 2.2 of the TBT Agreement.

<sup>405</sup> Agreement on Trade-Related Aspects of Intellectual Property Rights, 33 *ILM* 81 (1994) (TRIPS Agreement).

protection of intellectual property rights and to this extent, the agreement has been accused of 'contradict[ing] the general direction of the WTO, that is trade liberalization, since it increases the monopolistic features of international trade in knowledge products.'<sup>406</sup> Some economics therefore argue that intellectual property should not be coupled with trade negotiations.<sup>407</sup>

Many WTO member States signed the TRIPS agreement having had very little involvement<sup>408</sup> in the negotiation of the agreement and with very little knowledge of its potential effect in regulating domestic affairs.<sup>409</sup>

#### 5.5.4 Intellectual property and the TRIPS Agreement

The TRIPS Agreement requires member states to provide adequate (universal) standards of trade-related IP rights. In so far as PGRs are concerned, Article 27(1) of TRIPS obligates member states to provide for the patenting of any inventions, whether product or process, '*in all fields of technology*, provided that they are new, involve an inventive step, and are capable of industrial application'. (Emphasis added). Although members are permitted to exclude from patentability plants, animals, and biological processes for the production of plants and animals, micro-organisms and non-biological and microbiological processes are not exempt. If plant varieties are excluded from patentability, members must provide for their protection by an effective *sui generis* system.<sup>410</sup>

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<sup>406</sup> Meir Perez Pugatch *The international political economy of intellectual property rights* (2004) at ix. See generally also Peter Drahos with John Braithwaite *Information feudalism: who owns the knowledge economy?* (2002) and Stiglitz (note 58).

<sup>407</sup> Stiglitz (note 58).

<sup>408</sup> '[P]robably less than 50 people were responsible for TRIPS.' Drahos with Braithwaite (note 406) at 10 citing a US trade negotiator. The process leading up the signing of the TRIPS agreement is comprehensively described by Braithwaite and Drahos; and also Meir Perez Pugatch (note 406). The drivers of the TRIPS agreement were the giant US and EU chemical, pharmaceutical and technology industries, with major players being companies like Pfizer and IBM.

<sup>409</sup> Drahos with Braithwaite (note 406) at 190-1, explain:

'The African states signed up for 20-year patent terms on pharmaceuticals, for example, without understanding that the effect of this could be millions of preventable AIDS deaths among their people. It was not just that they were not effectively represented by being in the room. Even if they had been in the room, because none of them had intellectual property experts on their WTO delegations, the implications of TRIPS for the health of their people would not have been clear to them.'

<sup>410</sup> Article 27(3)(b). One such *sui generis* system is that under the International Union for the Protection of New Varieties of Plants (UPOV) based on the International Convention for the

Article 28 of TRIPS requires member states to confer exclusivity rights in respect of both product and process inventions; and where the patent involves a process, these rights extend to the product obtained by using that process.

Article 27.3(b), which requires IP protection for plant varieties, whether by patent or otherwise, provides for a review of the subparagraph after four years from the date of entry into force; which review is now overdue.<sup>411</sup> The submissions<sup>412</sup> from the Africa Group<sup>413</sup> in this regard can be summarized<sup>414</sup> as follows:

- There is a likelihood that the intellectual property protection required in respect of plant varieties could negatively impact food security and exacerbate poverty;<sup>415</sup>
- There is a lack of international mechanisms to deal with the misappropriation of genetic resources and traditional knowledge from developing countries;<sup>416</sup> and
- The patenting of life forms is abhorrent to African tradition and culture.<sup>417</sup>

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Protection of New Varieties of Plants, Dec 1, 1961 (revised on 10 Nov 1972, 23 Oct 1978, and 19 Mar 1991).

<sup>411</sup> The review was to have been finalised by December 2002. Paragraph 19 of the 2001 Doha Declaration requires the TRIPS Council to consider the relationship between the TRIPS Agreement and the UN Convention on Biological Diversity, and the protection of traditional knowledge and folklore, which may result in a requirement to disclose the source of any genetic resources and associated traditional knowledge used in inventions. At [www.wto.org/english/tratop\\_e/TRIPS\\_e/art27\\_3b\\_background\\_e.htm](http://www.wto.org/english/tratop_e/TRIPS_e/art27_3b_background_e.htm) [Accessed 3 July 2009].

<sup>412</sup> As contained in the Joint Communication from the African Group, *Taking forward the review of Article 27.3B of the TRIPS Agreement*, WTO Doc. IP/C/W404 (June 26, 2003).

<sup>413</sup> The African Group represents all African countries that are members of the WTO. At [www.wto.org/english/thewto\\_e/minist\\_e/min05\\_e/brief\\_e/brief25\\_e.htm](http://www.wto.org/english/thewto_e/minist_e/min05_e/brief_e/brief25_e.htm) [Accessed 1 September 2008].

<sup>414</sup> Collier (note 283) at 544.

<sup>415</sup> The Group is of the view that although the 'legitimate rights of commercial plant breeders should be protected, these should be balanced against the needs of farmers and local communities'. African Group Joint Communication (note 412) at 4-5.

<sup>416</sup> Although discussions in this regard are taking place at WIPO, these, according to the Africa Group have been slow. The Africa Group cautions against a 'wait and see' attitude and urges the WTO to seek its own measures to protect the misappropriation of genetic resources and traditional knowledge. To this extent the Africa Group has drafted a Decision on Protecting Traditional Knowledge (Annex 1 to the Africa Group communication) which it urges the WTO to adopt. African Group Joint Communication (note 412) at 6-7. As indicated above also, there is talk about negotiations at WTO level on requiring the disclosure of the origin of traditional knowledge and genetic material in patent applications. Intellectual Property Watch (note 87).

<sup>417</sup> African Group Joint Communication (note 412) at 2, noting that these 'patents are contrary to the moral and cultural norms of many societies in Members of the WTO ... [and many Members] consider patents on life forms to be contrary to the fabric of their society and culture, and to be immoral'.

The Africa group implores its members not to derogate from the provisions of the CBD and the ITPGRA, and encourages its members to explore ways to accommodate these instruments. To this extent, the Africa Group favours the adoption by African states of the African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources<sup>418</sup> particularly in relation to a *sui generis* system for the protection of plant varieties.

In so far as regulating access to PGRs is concerned, the Africa Group discusses the potential use of Article 29 of the TRIPS Agreement to modify rights and obligations created by the substantive provisions of TRIPS. Article 29, titled 'Conditions on Patent Applicants,' provides for disclosure of information by the Applicant. The African Group suggests adding the following provision:

Members shall require an applicant for a patent to disclose the country and area of origin of any biological resources and traditional knowledge used or involved in the invention, and to provide confirmation of compliance with all access regulations in the country of origin.<sup>419</sup>

The TRIPS Agreement also contains a number of leniencies and flexibilities. Article 30, for example, states that:

Members may provide limited exceptions to the exclusive rights conferred by a patent, provided that such exceptions do not unreasonably conflict with a normal exploitation of the patent and do not unreasonably prejudice the legitimate interests of the patent owner, taking account of the legitimate interests of third parties.

While this may free up some room for regulators to factor in the public interest, there are questions around what would be an 'unreasonable conflict', a 'normal exploitation', 'unreasonable prejudice' and 'legitimate interests.' The answers, in a WTO setting are likely to differ from that in the national context.

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<sup>418</sup> See § 5.5.4.2.

<sup>419</sup> African Group Joint Communication (note 412) at 8. See for example similar provisions contained in the Patents Act in South Africa, discussed in the text below.

In addition Article 8(1)<sup>420</sup> provides for a public interest principle, allowing members to:

adopt measures necessary to protect public health and nutrition, and to promote the public interest in sectors of vital importance to their socio-economic and technological development, provided that such measures are consistent with the provisions of ... [the TRIPS] Agreement.<sup>421</sup>

The public interest principle qualifies the scope of harmonisation at the national level.<sup>422</sup> Although there is concern about the proviso that any measures taken should be consistent with the provisions of TRIPS, the provisions of TRIPS should be broadly interpreted to include its preamble and objectives which mitigate in favour of a public interest approach.<sup>423</sup>

Article 8(2) allows Member's to take measures necessary to prevent the abuse of IP rights by rights holder which unreasonably restrain trade or adversely affect the international transfer of technology.

Members may also provide for compulsory licences in certain circumstances in terms of Article 31. Members may allow for the use of 'the subject matter of a patent without the authorization of the right holder' as long as certain provisions of the TRIPS Agreement are respected. In particular, Article 31 requires, among others, prior negotiation unless there is extreme urgency, a grant limited in scope and duration (possibly to remedy an anti-competitive practice) that is predominantly for the domestic market, and the rights holder must receive adequate remuneration.

If the compulsory licence is to remedy an anti-competitive practice, TRIPS does not require prior negotiation and the licence need not be predominantly

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<sup>420</sup> Which should be read together with Article 7 (the objectives clause) which provides that: 'The protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations'.

<sup>421</sup> The principle in Article 8(1) was proposed by the Group of 14 developing countries and the proviso or limitation was insisted upon by the developed countries. Carlos M Correa and Abdulqawi A Yusuf *Intellectual property and international trade: the TRIPS Agreement* (2008) at 13-4.

<sup>422</sup> *Intellectual property and international trade: the TRIPS Agreement* (note 421) at 14.

<sup>423</sup> Ibid.

for the domestic market.<sup>424</sup> In addition, an anti-competitive practice may be taken into account when determining the amount of remuneration.<sup>425</sup>

The prevailing view is that this 'doctrine of abuse' will apply if the patentee, among other things, 'refused to grant licenses on reasonable terms and thereby hampers industrial development, or does not supply the national market with sufficient quantities of the patented product, or demands excessive prices for such products'.<sup>426</sup>

While these provisions arguably give countries some flexibility to cast a level of protection for communities and their access to PGRs, developing countries have their hands tied in the process of bilateral negotiations. Trading parties often seek to impose 'TRIPS plus' provisions on the poorer South, seeking a heightening of protection and a closure of space to regulate IP rights. Through this process '[c]ountries are barred from making use of the existing flexibility or public interest safeguards in the intellectual property regimes.'<sup>427</sup> Coupled with this are threats of trade sanctions and the use of mechanisms such as the US Special 301 Reports which all play a role in curtailing flexibility in the regulation of IP rights.<sup>428</sup>

As mentioned above, an alternative to patent protection for plants is the UPOV arrangement, which may offer greater flexibility than TRIPS.

#### 5.5.4.1 *Sui generis protection of plant varieties: UPOV*<sup>429</sup>

UPOV was established by the International Convention for the Protection of New Varieties of Plants, which was adopted in 1961 (UPOV 1961), and revised in 1972, 1978 (UPOV 1978) and 1991 (UPOV 1991).<sup>430</sup>

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<sup>424</sup> Article 31(k).

<sup>425</sup> Ibid.

<sup>426</sup> GHC Bodenstern *Guide to the application of the Paris Convention for the Protection of Industrial Property as revised at Stockholm in 1967* (1968) at 71 cited in *Intellectual property and international trade: the TRIPS Agreement* (note 421) at 34.

<sup>427</sup> Pistorius (note 207) at 380.

<sup>428</sup> Ibid.

<sup>429</sup> International Convention for the Protection of New Varieties of Plants, Dec 1, 1961 (revised on Nov 10, 1972, Oct 23, 1978, and Mar 19, 1991).

<sup>430</sup> The 1972 revisions were minor, whereas the 1978 and 1991 revisions were more substantive. Margaret Llewelyn and Mike Adcock *European plant intellectual property* (2006) at 105.

The thinking behind UPOV was to provide a 'uniform system of protection specifically for plant inventions,'<sup>431</sup> and the focus was on agricultural plants.<sup>432</sup> Membership of UPOV does not preclude Member States from making provision in domestic law for the protection of plants via both patents and plant variety rights, provided that the protection accorded by the patent system differs from that prescribed by the UPOV.<sup>433</sup> Although the future of the UPOV regime, in light of developments in patent law at the WTO, has been questioned,<sup>434</sup> its 1991 revisions have brought it closer to a patent-type right, and it remains a well used regime.<sup>435</sup>

South Africa is a signatory to UPOV 1978, which is more attractive to developing countries, and which remains open for ratification. UPOV 1978 proclaims in its preamble that the contracting parties:

are conscious of the special problems arising from the recognition and protection of the rights of breeders and particularly of the limitations that the requirements of the public interest may impose on the free exercise of such a right... .

This preamble, although worded slightly differently, is contained in both UPOV 1961 and UPOV 1978. There is no such preamble in UPOV 1991.<sup>436</sup>

Limitations on plant breeders' rights in terms of the UPOV regime are the breeders' exemption and the farmers' privilege in respect of farm saved seed (which is more restricted in the case of UPOV 1991). The breeders' exemption permits the use of protected material for research purposes, and if a new variety is derived from the research, the breeder may register rights without the consent of the first breeder.<sup>437</sup>

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<sup>431</sup> Llewelyn and Adcock (note 430) at 146. According to Llewelyn and Adcock (at 152):  
'Laclaviere, writing in 1969, said that the ultimate objective of the Convention was to promote the creation of new plant varieties which were more useful or better adapted to human needs to provide a contribution to the "material betterment of mankind's future".' (Footnotes omitted).

<sup>432</sup> Llewelyn and Adcock (note 430) at 196.

<sup>433</sup> Llewelyn and Adcock (note 430) at 147.

<sup>434</sup> See for example the comments of Professor Cornish and the International Chamber of Commerce, cited in Llewelyn and Adcock (note 431) at 154-6.

<sup>435</sup> Llewelyn and Adcock (note 430) at 158.

<sup>436</sup> The USA has signed UPOV 1991.

<sup>437</sup> Article 5(3) of UPOV 1961 and UPOV 1978 and Article 15 of UPOV 1991.

The farmers' 'privilege'<sup>438</sup> to save seed (UPOVs 1961 and 1978 only) has been read into the restriction requiring the right-holders authorisation for the use of the protected materials only when production is for the commercial marketing of the protected variety.<sup>439</sup> UPOV 1991 requires the breeder's authorisation for the production or reproduction of the protected material<sup>440</sup> (whether or not it is for commercial marketing); although, in terms of Article 15, the breeders' right does not extend to 'acts done privately and for non-commercial purposes.' Article 15(2) also provides an optional exception in terms of which contracting parties may restrict the breeders' right in order to 'permit farmers to use, for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety'. Adcock explains that, in terms of UPOV 1991, farmers' are required to recognise the breeders' legitimate interests, and that this is likely to require payment of compensation (equitable remuneration) for the use of farm saved seed.<sup>441</sup>

South Africa is party to UPOV 1978 and therefore entitled to the more lenient approach to the 'farmer's privilege' in respect of plant varieties registered in terms of the Plant Breeders' Rights Act.<sup>442</sup> The privilege would not apply however where plant genetic resources are protected in terms of the Patents Act.<sup>443</sup>

Although UPOV provides an alternative to patent protection for plant genetic resources, and is therefore more developing-country-friendly, UPOV has not enjoyed much support in sub-Saharan Africa.

The ... (UPOV) system is viewed with great hostility by most southern African countries with the exception of Kenya and South Africa, which are members of the 1978 UPOV system.

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<sup>438</sup> A public-centred notion of property in natural resources might view the farmers' privilege as a right and industries rights as privilege.

<sup>439</sup> Article 5(1) of UPOV 1961 and UPOV 1978.

<sup>440</sup> Article 14 of UPOV 1991.

<sup>441</sup> Adcock 'Farmers' right or privilege' [2001/2] 3 *BSLR* 90 at 92, as cited in Burton Ong (ed) *Intellectual property and biological resources* (2004) at 124 (footnote 229).

<sup>442</sup> Act 15 of 1976.

<sup>443</sup> Act 57 of 1978.

It is not quite understood why southern African countries view the UPOV system with such suspicion, but arguments against it are that the system [UPOV 1991] is excessively monopolistic and protects the breeder to the disadvantage of farmers' rights and indigenous knowledge.<sup>444</sup>

In response to these issues, the Organisation of African Unity (OAU) (now the African Union) published the African Model Law for the protection of the rights of local communities, farmers, and breeders and for the regulation of access to biological resources (the African Model Law on Rights of Local Communities, Farmers and Breeders), which was also discussed in § 5.3.4.2.

#### *5.5.4.2 Regional arrangements and a model law on the rights of local communities*

Many African countries are sceptical of strong IP protection, even more so when it involves the moral and ethical issue of patenting life forms such as PGRs.<sup>445</sup> Africa inherited its IP systems from its colonial masters, which laws have yet to be adapted to incorporate the systems, values and needs of the citizens of their host countries.<sup>446</sup> It is not surprising therefore that domestic and regional IP systems in Africa lag behind the developed North and even that of many other developing countries, bringing with it associated economic and development costs. The rate of patent registrations in Africa remains low.<sup>447</sup>

Most English speaking African countries, excluding South Africa<sup>448</sup> are members of the African Regional Industrial Property Organisation (ARIPO).<sup>449</sup>

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<sup>444</sup> Steven Were Omama and Klaus von Grebmer (eds) *Biotechnology, agriculture, and food security in Southern Africa* (2005) at 177.

<sup>445</sup> See in this regard the submissions by Mr Edgar Tabaro and others to the Uganda National Council for Science and Technology on the occasion of the 'Proceedings: dialogue on a national policy for intellectual property' (28 November 2008), Grand Imperial Hotel, Kampala.

<sup>446</sup> Ibid at 7.

<sup>447</sup> See in this regard chapter 2, note 215.

<sup>448</sup> South Africa has however signed and implemented the Patent Co-operation Treaty, 1970, 9 *ILM* 978 (1970). The Patents Act provides for international applications under the treaty.

<sup>449</sup> ARIPO is intended for the 'study and promotion of and co-operation in industrial property matters', preamble to the Lusaka Agreement on the Creation of the African Regional Intellectual Property Organization (ARIPO), 1976, as in force from November 13, 2004 (the Lusaka Agreement). The objectives of ARIPO, set out in Article II of the Lusaka Agreement, include, in subsection (a), the promotion of 'the harmonization and development of the industrial property laws, and matters related thereto, appropriate to the needs of its members and of the region as a

The protocol on Patent and Industrial Designs within the Framework of ARIPO (the Harare Protocol)<sup>450</sup> entitles the ARIPO Office to grant patents (and register designs) on behalf of its member states. Patent applications are forwarded to member states designated by the applicant and are given a period of six months within which to object to the registration of the patent. A view has been expressed that the ARIPO office is under-resourced and its staff lack the requisite skills and expertise.<sup>451</sup>

Another regional IP organisation is the African Intellectual Property Organisation (OAPI)<sup>452</sup> with its members drawn predominantly from francophone Africa, which is empowered to grant patents on behalf of its members.<sup>453</sup> The work in these offices predominantly involves the uncritical registration of patents of foreign applicants. There is still much to be done in the African context if patents are indeed to serve the public interest, as it should, through the stimulation of innovation and technology transfer.

IP systems should serve the greater public interest. Evolving systems in the African context may therefore seek to align with principles similar to those in the Model Law on the Rights of Local Communities, Farmers and Breeders. The Model Law asserts a country's sovereign rights over its biological resources and defines the following related rights:<sup>454</sup>

- Collective rights of communities to their biological resources, thus requiring prior informed consent and benefit sharing;
- Farmers' rights, including the right to save, use, exchange; and
- Plant breeders' rights.

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whole'. There are currently 16 members of ARIPO: Botswana, the Gambia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

<sup>450</sup> Signed in 1982.

<sup>451</sup> TD Burrell *Burrells South African patent and design law* (1999) in § 1.19.

<sup>452</sup> OAPI was established in 1962 by the Libreville Agreement, 1962. The Libreville Agreement has subsequently been revised, most currently by the Agreement Revising the Bangui Agreement of 1977, on the Creation of an African Intellectual Property Organisation, Bangui, February 24, 1999.

<sup>453</sup> The members of OAPI are Benin, Burkina Faso, Cameroon, Central Africa, Chad, Congo, Cote d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Senegal, and Togo.

<sup>454</sup> S Biber-Klemm and T Cottier *Rights to plant genetic resources and traditional knowledge* (2005) at 83-4.

There is some debate as to whether the approach in the model law will stand up to international scrutiny in light of TRIPS requirements, and even the requirements of the more moderate UPOV system.<sup>455</sup> On the other hand, the Model Law is credited with being ‘much more adapted to local circumstances and needs than a regime solely based on the UPOV Convention’.<sup>456</sup>

South Africa, while it has not adopted the Model Law as such, has gone some way to accommodate the collective rights of communities within its biodiversity<sup>457</sup> and patent<sup>458</sup> system. Broad protection is also offered to industry in both patent and plant breeders’ rights systems.

#### 5.5.4.3 IP in South Africa: patents and PBRs

South Africa is duty-bound to implement and enforce the IP rights prescribed by the TRIPS Agreement. This is achieved through the Patents Act<sup>459</sup> and the Plant Breeders’ Rights Act.<sup>460</sup>

The Patents Act provides that a patent may be granted for any new invention involving an inventive step and which is capable of being used or applied in trade, industry or agriculture.<sup>461</sup> Notwithstanding the exclusion from

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<sup>455</sup> George Wei ‘Fitting biological products within the intellectual property framework: challenges facing the policy makers’ in Burton Ong (ed) *Intellectual property and biological resources* (2004) at 124 (footnote 229) where he states that ‘UPOV ... objects to the farmers’ right defences proposed by the OAU’s Model Law for protecting the rights of local communities, farmers and breeders and for the regulation of access to biological resources’.

<sup>456</sup> Biber-Klemm and Cottier (note 454) at 84.

<sup>457</sup> See the National Environmental Management: Biodiversity Act 10 of 2004 and the Bio-Prospecting, Access and Benefit-Sharing Regulations in terms of the National Environmental Management: Biodiversity Act: GNR 138 of 8 February 2008 (*Government Gazette* No 30739). These provisions would be relevant in the event of a dispute involving indigenous genetic resources.

<sup>458</sup> A declaration of origin is required by a patent applicant in respect of genetic resources and traditional knowledge.

<sup>459</sup> Act 57 of 1978.

<sup>460</sup> Act 15 of 1976.

<sup>461</sup> Section 25(1). In addition, ‘[a]nything which consists of-

- (a) a discovery;
- (b) a scientific theory;
- (c) a mathematical method;
- (d) a literary, dramatic, musical or artistic work or any other aesthetic creation;
- (e) a scheme, rule or method for performing a mental act, playing a game or doing business;
- (f) a program for a computer; or
- (g) the presentation of information,

shall not be an invention for the purposes of this Act’ (s 25(2)). The duration of a patent is also limited. While not of any obvious relevance to GM cottonseed, it should also be noted, in so far as

patentability of 'any variety of animal or plant or any essentially biological process for the production of animals or plants'<sup>462</sup> it would appear for the discussion of Monsanto's patents in chapter 3 that claims for plants which are the product of a process that is not essentially biological qualify for protection.<sup>463</sup> For the purposes of establishing the scope of the 'essentially biological process' exclusions, the Guidelines for Examiners in the European Patent Office<sup>464</sup> are likely to be persuasive.<sup>465</sup> These guidelines indicate that:

[t]he question whether a process is 'essentially biological' is one of degree depending on the extent to which there is technical intervention by man in the process; if such intervention plays a significant part in determining or controlling the result it is desired to achieve, the process would not be excluded. To take some examples, a method of crossing, inter-breeding, or selectively breeding, say, horses, involving merely selecting for breeding and bringing together those animals having certain characteristics would be essentially biological and therefore unpatentable. On the other hand, a process of treating a plant or animal to improve its properties or yield ... would not be essentially biological since although a biological process is involved, the essence of the invention is technical; the same could apply to a method of treating a plant characterized by the application of a growth-stimulating substance or radiation. The treatment of soil by technical means to suppress or promote the growth of plants is also not excluded from patentability.<sup>466</sup>

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indigenous PGRs are concerned, that the Patents Act was amended in 2005 to require an applicant for a patent to furnish information relating to any role played by an indigenous biological resource, genetic resource or traditional knowledge or use in an invention (s 3A).

<sup>462</sup> Section 25(4)(b). The section goes on to exclude from non-patentability 'micro-biological process or the product of such a process.' Microbiology is defined as 'the study of single-celled organisms too small to be observed with the naked eye. Classically, this field has included the study of algae and protozoa.' Williams & E Lansford *Encyclopaedia of Biochemistry* (1967) in Burrell (note 451) at § 1.26.7 footnote 310.

<sup>463</sup> Although another explanation may be that the patents have simply been granted without examination – the South African patent office does not conduct substantive examinations of patents. David Kaplan 'Intellectual property rights and innovation in South Africa: a framework' in WIPO *The economics of intellectual property in South Africa* (2009) at 3.

<sup>464</sup> *Guidelines for substantive examination* reproduced in chapter 61 of the *European patents handbook* by the Chartered Institute of Patent Agents (2ed). Burrell (note 451) at § 1.26.7, footnote 309. See also Kidd and Mayet 'Access to genetic resources in South Africa' in Kent Nnadozie et al (eds) *African perspectives on genetic resources: a handbook of laws, policies, and institutions* (2003) at 240.

<sup>465</sup> Article 53(a)

<sup>466</sup> Burrell (note 451) at § 1.26.7.

Biotechnology inventions, such as disclosed in Monsanto's patents, provided they meet the new, inventive and useful patentability criteria, are therefore likely to be patentable unless policy and law clearly indicate otherwise. TRIPS prescribes that process patent rights also protect the product produced using that process, although this could be limited by using the TRIPS exception in respect of plants.

Although the opinion has been expressed that the extension of protection from the process to the product should not be applied in cases where the final product is not patentable, such as in the case of plants and animals,<sup>467</sup> foreign case law (the *Schmeiser* case)<sup>468</sup> decided that it did. A number of policy and legislative techniques that could avoid an overly broad reach of patents are discussed in chapter 7. For example, patent offices should only accept narrow claims on products and processes and a narrow approach to the doctrine of equivalence<sup>469</sup> should be followed, meaning that the product should only be protected, and the patent infringed when there is, literally speaking an infringement of the patent description and claims, and not when the product or process is simply 'equivalent' to the protected product or process.<sup>470</sup>

In addition to the availability of patent protection in respect of plant-related inventions that are not essentially biological, certain plant varieties<sup>471</sup> may be protected in terms of the Plant Breeders' Rights Act.<sup>472</sup> The Plant Breeders' Rights Act effectively implements UPOV 1978 and provides 'for a system whereunder plant breeders' rights relating to varieties of certain kinds of plants

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<sup>467</sup> Carlos M Correa and Abdulqawi A Yusuf *Intellectual property and international trade: the TRIPS Agreement* (2008) at 241.

<sup>468</sup> See § 4.5.1.

<sup>469</sup> The doctrine of equivalence is '[a] conceptual framework to determine whether a violation exists when there is no literal infringement of patent claims'. Carlos Correa *Integrating public health concerns into patent legislation in developing countries* (2000) at xiii.

<sup>470</sup> *Integrating public health concerns into patent legislation in developing countries* (note 469) at 87-91.

<sup>471</sup> The variety must be one of a plant species prescribed in the regulations to the Plant Breeders' Rights Act, although it is possible to apply to have a plant added to the prescribed list. Kidd & Mayet 'Access to genetic resources in South Africa in Kent Nnadozie et al (eds) *African perspectives on genetic resources: a handbook of laws, policies, and institutions* (2003) at 239.

<sup>472</sup> Act 15 of 1976. Delta & Pine Land Co (which, in South Africa, is owned by Monsanto) has applied for and been granted statutory plant breeders' rights for *gossypium hirsutum* L. (cotton) in respect of DeltaOPAL RR, NuOPAL RR and DP 677 BG/RR. (Notice 168, *Government Gazette* 28519, 24 February 2006).

may be granted and registered.<sup>473</sup> The Act does not require the prior informed consent of affected communities and does not provide for material transfer or benefit-sharing agreements. A plant breeder's right is granted for twenty-five years with respect to vines and trees and twenty years for everything else.<sup>474</sup>

During the currency of the protection, a license is required for:

- (a) production or reproduction (multiplication);
- (b) conditioning for the purposes of propagation;
- (c) sale or any other form of marketing;
- (d) exporting;
- (e) importing;
- (f) stocking for any of the purposes referred to in paragraphs (a) to (e),  
of –
  - (i) propagating material of the relevant variety; or
  - (ii) harvested material, including plants, which was obtained through the unauthorized use of propagating material of the relevant variety.<sup>475</sup>

However, where a person has procured propagating material of a protected variety in a legitimate matter it shall not be an infringement to resell the propagating material or any plant or product derived from the propagating material, or to use or multiply the propagating material in the development of a different variety.<sup>476</sup> Neither is it an infringement to use the propagating material for *bona fide* research or private or non-commercial purposes,<sup>477</sup> nor where the person who acquires the material is a farmer who uses harvested material obtained on land occupied by him from the propagating material for purposes of propagation, provided that the harvested material shall not be used for propagation by any person other than that farmer.<sup>478</sup>

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<sup>473</sup> Preamble, Plant Breeders' Rights Act.

<sup>474</sup> Section 21.

<sup>475</sup> Section 23(1).

<sup>476</sup> Section 23(6)(a)-(c).

<sup>477</sup> Section 23(6)(d)-(e). In addition, ss 26 and 27 of the Plant Breeders' Act provide mechanisms and principles for the application for and granting of a compulsory license to deal with a protected plant variety where the holder of a plant breeders' right has unreasonably refused to grant a license or has imposed unreasonable conditions.

<sup>478</sup> Section 23(6)(f).

In so far as compliance with the provisions of the CBD<sup>479</sup> regarding indigenous knowledge, control, and access to plant genetic resources is concerned, recent amendments<sup>480</sup> to the Patents Act require:

(3A) Every applicant who lodges an application for a patent . . . shall . . . lodge with the registrar a statement in the prescribed manner stating whether or not the invention for which protection is claimed is based on or derived from an indigenous biological resource, genetic resource, or traditional knowledge or use.

(3B) The registrar shall call upon the applicant to furnish proof in the prescribed manner as to his or her title or authority to make use of the indigenous biological resource, genetic resource, or of the traditional knowledge or use if an applicant lodges a statement that acknowledges that the invention for which protection is claimed is based on or derived from an indigenous biological resource, genetic resource, or traditional knowledge or use.<sup>481</sup>

The Patents Act provides<sup>482</sup> for a patent to be revoked in the event that the statement lodged in this regard together with the application for the patent contains a false statement or representation. These amendments to the Patents Act should be read with the provisions for benefit sharing agreements<sup>483</sup> in the National Environmental Management Biodiversity Act,<sup>484</sup> thus meeting the requirements of the CBD and the Bonn Guidelines<sup>485</sup> regarding benefit-sharing schemes in relation to genetic resources and traditional knowledge used in patent inventions.

## 5.6 Concluding remarks

Chapter 5 explored the extent and limitations of the states' regulatory powers which are derived from a plethora of rules located in international and

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<sup>479</sup> See also National Environmental Management: Biodiversity Act 10 of 2004.

<sup>480</sup> Patents Amendment Act 20 of 2005 which amends the Patents Act so as to require an applicant for a patent to furnish information relating to any role played by an indigenous biological resource, a genetic resource or traditional knowledge or use in an invention.

<sup>481</sup> These amendments were contained in s 2 of the Patents Amendment Act 20 of 2005.

<sup>482</sup> Section 61 (1)(g).

<sup>483</sup> Section 83 which should be read together with the Bio-Propecting, Access and Benefit-Sharing Regulations in terms of the National Environmental Management: Biodiversity Act: GNR 138 of 8 February 2008 (*Government Gazette* No 30739).

<sup>484</sup> Act 10 of 2004.

<sup>485</sup> Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization, approved in 2002 at the Sixth COP of the CBD.

domestic law.<sup>486</sup> The chapter demonstrates the complexities and dislocation of the laws regulating PGRs making regulation difficult.<sup>487</sup>

Two things remain in this thesis: the first is a discussion on the case study within the framework of sustainable development established in this chapter. This is undertaken in chapter 6. Finally, recommendations for reform are suggested in chapter 7.

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<sup>486</sup> These laws originate from diverse and intertwined bodies and instruments in human rights, agricultural / environmental and international trade and intellectual property law. Indeed, '[t]he current legal status of plant genetic resources and traditional knowledge and its institutional implementation ... reflects the fragmentation of the international system and the lack of coherence and global governance. A number of fora deal with the matter without close cooperation.' Biber-Klemm and Cottier (note 454) at xxvi.

<sup>487</sup> See generally Michel Petit et al *Why governments can't make policy: the case of plant genetic resources in the international arena* (2000).

## CHAPTER 6

### FINDINGS

[T]he rhetoric of 'GM technology helping the poor' seems to serve the needs of the promoters of the technology, rather than the residents of Makhathini.<sup>1</sup>

[While] [t]he direct impacts of Bt cotton on small farmers are ambiguous ... the indirect impacts on rural poverty are overwhelmingly negative.<sup>2</sup>

#### 6.1 Introduction

The thesis aims and objectives are set out in chapter 1. While the main aim of the thesis is to evaluate current practice, the claim is that the current practice (including strong IP rights) around modern biotechnology in agriculture is unsustainable; and that this has contributed towards the weakening of the agricultural sector; and that by reining in private rights, some space will be created for improvement in the sustainability of the agricultural sector. This claim is tested in chapter 6.

Chapter 7, the final chapter, concludes the theoretical aspects of property in PGRs and suggests some mechanisms for reining in private rights in the public interest.

#### 6.2 Is the current practice sustainable?

The rationale for encouraging agricultural biotechnology is to further important socio-economic goals. The same is true of the underlying rationale for IP rights: the idea is that strong IP rights will lead to transfer of technology and to innovation, which are key drivers of economic growth. The aim of this section is to test the validity of these assumptions by considering the impact of the current regime against the backdrop of the case study in chapter 3.

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<sup>1</sup> Harald Witt et al 'Can the poor help GM crops? Technology, representations & cotton in the Makhathini Flats, South Africa' (2006) 109 *Review of African Political Economy* at 497.

<sup>2</sup> Aaron deGrassi 'Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence' (June 2003) *Third World Network* at 34.

An assessment of the impact of both agricultural biotechnology and the deployment of strong IP rights may be loosely grouped under the three pillars of sustainable development, namely economic development, social development and the protection of the environment.<sup>3</sup> The interdependence and interrelatedness of these pillars is sometimes illustrated in a Venn diagram as shown in figure 8.<sup>4</sup> Sustainable development occurs at the intersection of these pillars.

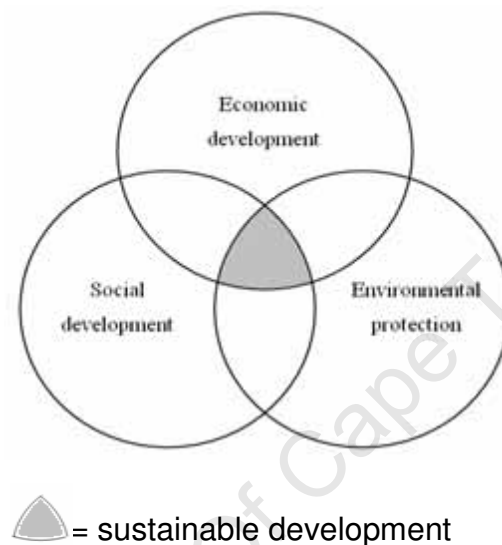


Figure 8: The three pillars of sustainable development

The achievement of sustainable development requires ‘the simultaneous attainment of three objectives: (i) environmental and natural resource sustainability, (ii) economic growth and (iii) social equity.’<sup>5</sup> Although not without criticism, the principle of sustainable development is recognised in national and international law.<sup>6</sup>

<sup>3</sup> Section 2(3) of NEMA provides that ‘[d]evelopment must be socially, environmentally and economically sustainable’.

<sup>4</sup> Use of a Venn diagram to illustrate sustainable development appears to have first been used in 1987 by Edward Barbier in his article ‘The concept of sustainable economic development’ (1987) 14 *Environmental Conservation* 101-110. On sustainability generally, see Klaus Bosselmann *The principle of sustainability: transforming law and development* (2008).

<sup>5</sup> FAO Report of the first session of the Working Party on Human Capacity Development in Fisheries, Rome, 19-22 April 2004, FIPL/R745 (En) at 17.

<sup>6</sup> See § 5.4.1. Concerns have been expressed about, among other things, the consequences and the vagueness of the term sustainable development. See for example A Dan Tarlock ‘Ideas without institutions: the paradox of sustainable development’ (2001) 9 *Ind J Global Legal Stud* 35-49 and David G Victor ‘Recovering sustainable development’ (2006) 85 *Foreign Affairs* 91-103.

There are a number of (often fluid and intertwined) elements which make up each of these pillars. Figure 9 lists the typical elements that may be considered in an analysis of the sustainability of GM crops.<sup>7</sup>

<b>Economic development</b>	<b>Social development</b>	<b>Environmental aspects</b>
Technology transfer <sup>8</sup>	Harvest security	Environmental safety
Innovation	Food security	Agrobiodiversity
Employment	Food quality	Protected or vulnerable biodiversity
Efficiency of the production process	Recreation	Places of origin
Productivity	Human rights	Quality of soil, water, air
Profit	Working environment	Emission of hazardous substances (incl greenhouse gases) along the chain
	Terms of employment	
	Fair trade	
	Traditional practices	
	Local autonomy	
	Public participation	
	Freedom of choice (labelling /co-existence)	
	Freedom of research	
	Human safety	

Figure 9: Elements in assessing the sustainability of GM crops

### 6.2.1 An assessment of economically sustainable development criteria

It would appear that technology transfer and innovation as a result of IP rights in GM cotton has not occurred in the case of Monsanto's technology.<sup>9</sup> The technology has not been licenced in South Africa, whether to other public or private institutions, except to Deltapine, which was subsequently bought out

<sup>7</sup> These elements are extracted mainly from two sources: the European Group on Ethics in Science and new Technologies to the European Commission 'Ethics of modern developments in agriculture technologies Opinion No 24' (17 December 2008) and the COGEM Report 'Socio-economic aspects of GMOs: building blocks for an EU sustainability assessment of genetically modified crops' CGM/090929-01.

<sup>8</sup> The impact of IP-protected GM crops on the diffusion of science and of freedom to research are important considerations in this regard. See for example Wright and Pardey 'Changing IP regimes: implications for developing country agriculture' (2006) 2 *Int J Technology and Globalisation* 93-114.

<sup>9</sup> Communication with the Agricultural Research Council (ARC).

by Monsanto.<sup>10</sup> It is indicated that, to date, researchers have not been able to add value to Monsanto's patents, although this may change as their patents begin to expire.<sup>11</sup> The impact of the expiry of the remaining patents on research, competition and the cost of GM cotton remains to be seen and provides an opportunity for further research.

There are studies that indicate that farmers who have successfully cultivated GM cotton over the past decade are, notwithstanding the high cost of the seed, better off financially than if they had cultivated conventional cotton.<sup>12</sup> This is as a result of higher yields, less pesticide applications and labour saving – all of which indicate increased efficiency of production as a result of the technology. On the other hand, there are farmers who have paid the additional cost for GM seed, through the provision of credit, and who have, because of crop failures as a result of drought or floods, suffered financial ruin, more so than would have occurred with conventional cotton.<sup>13</sup>

Optimism in respect of farmers who have shown an increase in profit should be cautious for the gains are slight.

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<sup>10</sup> The ARC is only aware of one licenced producer which is Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO).

<sup>11</sup> ARC Communication (note 9).

<sup>12</sup> General optimism is expressed by Yousouf Ismael, Richard Bennett, and Stephen Morse 'Can farmers in the developing countries benefit from modern technology? Experience from Makhathini Flats, Republic of South Africa' 2001 (Vol 1 No 5) *Crop Biotech Brief*; Stephen Morse and Richard Bennett 'Impact of Bt cotton on farmer livelihoods in South Africa' (2008) 10 *Int J Biotechnology* 224-239; Colin Thirtle, Lindie Beyers, Yousouf Ismael and Jenifer Piesse 'Can GM technologies help the poor? The impact of Bt cotton in Makhathini Flats, KwaZulu-Natal (2003) 31 (4) *World Development* 717-732; M Gouse, JF Kirsten and L Jenkins 'Bt cotton in South Africa: Adoption and the impact on farm incomes amongst small-scale and large-scale farmers' (2003) 42(1) *Agrekon* 15-28; and M Gouse, C Pray and David Schimmelpfennig 'The distribution of benefits from Bt cotton adoption in South Africa' (2004) 7(4) *AgBioForum* 187-194.

<sup>13</sup> For a more pessimistic outlook see Harald Witt, Rajeev Patel and Matthew Schnurr 'Can the poor help GM crops? Technology, representation & cotton in the Makhathini Flats, South Africa' (2006) 109 *Review of African Political Economy* 497-513; Aaron deGrassi 'Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence' (June 2003) Third World Network; Devlin Kuyek 'Genetically modified crops in African agriculture: implications for small farmers' (August 2002) [www.grain.org/briefings/?id=12](http://www.grain.org/briefings/?id=12) [Accessed 11 November 2009]; Stephen Greenberg 'Global agriculture and genetically modified cotton in Africa' (October 2004) African Centre for Biosafety; and Elfrieda Pschorn-Strauss 'Bt cotton in South Africa: the case of the Makhathini farmers' (2005) in *Seedling* Barcelona, Spain: Grain.

To illustrate the precarious economics of small-scale cotton production, gross margins are frequently less than R1,000 per hectare, roughly equivalent to the current monthly old-age pension.<sup>14</sup>

The AU technical task force makes that point that ‘if genetically modified crops are ever to be economically attractive for smallholder farmers, they have to be developed within Africa using constructs that include no genes patented by foreign companies that will charge high royalties.’<sup>15</sup> It should be noted however that in order for a biotechnology patent to be enforceable in a particular country it must be registered in that country. Exploiting unregistered patents however may result in a loss of export markets.

From an employment and creation of employment perspective, GM cotton has been a double-edged sword. While GM cotton eases the production process – it is a labour-saving device, generally freeing up the farmer up to pursue other interests – it has also contributed to the loss of employment for thousands of farm-workers.<sup>16</sup> These workers enter a world of deeper poverty and high unemployment with little prospect of securing work.

Any economic benefits derived from GM crops may also be undermined if the labelling of GM products is required by statute.<sup>17</sup> Additional resources and capacity will be needed to meet a requirement to label, which would likely increase cost at all points along the production chain and will ultimately increase the cost to consumer. Although not legally required in the current South African context, there are provisions in consumer protection law for the labelling of GM products to be prescribed by regulation.<sup>18</sup> Labelling may be

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<sup>14</sup> Marnus Gouse, Johann F Kirsten and Wynand J van der Walt ‘Bt cotton and Bt maize: an evaluation of direct and indirect impact on the cotton and maize farming sectors in South Africa’ (2008) Study conducted for the South African Department of Agriculture.

<sup>15</sup> 4th Conference of the African Union Ministers of Agriculture ‘An African Position on Genetically Modified Organisms in Agriculture Report of the Technical task force’ (2008) at para [54].

<sup>16</sup> Cotton SA quoted in deGrassi (note 2) at 34. GM cotton is a labour-saving technology which has led to major labour cuts on large commercial farms – since 1998 more than 58 000 cotton-farm workers have lost their jobs. A Cotton SA statistic cited in Aaron deGrassi (note 19) at 34.

<sup>17</sup> See for example Harvey E Lapan and GianCarlo Moschini ‘Innovation and trade with endogenous market failure: the case of genetically modified products’ (2004) 86(4) *Amer J Agr Econ* 634-648.

<sup>18</sup> See § 4.4.4. For a discussion on the implications of GMO labelling see Viljoen et al ‘Detection of GMO in food products in SA: implications of GMO labelling’ (2006) 5(2) *African Journal of Biotechnology* 73-82.

beneficial to social development (freedom of choice) but does not necessarily augur well for economic development.

Overall, if there has been any economic success of GM cotton in the South African context it has been curtailed by the global over-production of cotton and the resultant falling world price for cotton, which it is said has been 'prompted by Developed Countries' heavy subsidies and new technologies such as Bt varieties – leading to deeper and wider poverty in the South African countryside.<sup>19</sup> If the profits generated by GM cotton are increasingly concentrated in fewer hands, then social development also is compromised.

### *6.2.2 An assessment of social sustainability*

Social sustainability has been defined as 'the just and fair distribution of food, work, income and housing, as well as healthcare, education and provision for old age.'<sup>20</sup> Three components to social sustainability (cultural, social and political) have been identified.<sup>21</sup> While the cultural element is about abstract values and beliefs, the social component is about social cohesion, sustainable livelihoods / employment and broader social security. The political component is about information sharing and public participation in the appropriate decision-making processes.<sup>22</sup>

There are some social benefits for the individual farmer growing GM crops: the cultivation process is less intensive, less spraying is required thus freeing up the farmer for other activities, and profit margins are increased. For the community as a whole however the introduction of Bt cotton has had a negative impact on social sustainability. Thousands have lost their livelihoods.<sup>23</sup>

DeGrassi highlights the importance of participation and demand-led, cost effective developments that are site specific and poverty focused.<sup>24</sup> Yet it

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<sup>19</sup> Aaron deGrassi 'Genetically modified crops and sustainable poverty alleviation in sub-Saharan Africa: an assessment of current evidence' (June 2003) Third World Network at 34.

<sup>20</sup> COGEM Report (note 7) at 31.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> See note 16.

<sup>24</sup> DeGrassi (note 19) at 1-3.

would appear that the technology has more or less been thrust upon its recipients, however well intended, without due process. The welfare of the Makhathini farmers does not appear to have been prioritized, and there seem to be few social benefits arising out of the use of Bt cotton.<sup>25</sup> The impacted society has suffered from a lack of choice (choice of seed / alternative crop support), limited infrastructure and infrastructure oriented toward the cultivation of cotton only.<sup>26</sup> The result is precarious livelihoods and increased unemployment and, in many cases, increased indebtedness. This is particularly striking in an area (the Makhathini flats) which is said to be one of the most fertile areas for agriculture in South Africa.<sup>27</sup> From the time that the activities of the original occupants of the land were disturbed by the expansionist intentions of the colonial occupiers, until the present day, a fair deal for the Makhathini community has yet to be struck, and the basic rights of many in the community remain unfulfilled.<sup>28</sup>

Another aspect of permitting the technology that may have a negative social impact is the opportunity and resource cost of having to resource and sustain the complex regulatory infrastructure for modern biotechnology. These costs should be met by application fees and should not impact negatively on other social expenditure, including agricultural research or, more broadly, expenditure on education and health or other social upliftment programs.<sup>29</sup> Any costs incurred by government must be outweighed by social benefit gains.

Social and economic considerations should also play a part in deciding whether or not to permit the import of GM cotton produced by heavily

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<sup>25</sup> See generally the discussion in chapter 3.

<sup>26</sup> Some capabilities of the community are constrained, and rights violated, by the current practice. See generally Amartya Sen 'Human rights and capabilities' (2005) 6 *J of Human Development* 151-166.

<sup>27</sup> See for example M Gouse, JF Kirsten and L Jenkins 'Bt cotton in South African: adoption and the impact on farm incomes amongst small-scale and large scale farmers' (2003) 42(1) *Agrekon* 15-28

<sup>28</sup> See generally the discussion in chapter 3.

<sup>29</sup> The same should apply to the costs of an IP system. See the Report of the Commission on Intellectual Property Rights 'Integrating intellectual property rights and development policy' (September 2002) at 145-146.

subsidised farmers that may unfairly impact on local and regional cotton farmers.<sup>30</sup>

The reduction in pesticide use is both a social and an environmental sustainability benefit.

### 6.2.3 *An assessment of environmental sustainability*

Environmental concerns will differ depending on the particular GM crop, whether it is being planted in a centre of origin or in an area of vulnerable biodiversity, and depending on agricultural circumstances, which differ from country to country.<sup>31</sup>

GM cotton would appear to have some benefit for the environment as it reduces the need for pesticide spraying, although there is some concern about this benefit decreasing over time.<sup>32</sup>

Additional concerns raised by the introduction of GM cotton in the SA context include the spread of antibiotic resistance to farm animals that consume seed cake from the GM cotton and through gene transfer to soil bacteria.<sup>33</sup>

Sustainable development is about balancing the three pillars (social, economic and environment) and ensuring that there is not an overemphasis on any of the pillars to the detriment of any one or both of the others. In the case of GM cotton much of the negativity around the technology is its impact on social development.

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<sup>30</sup> African Centre for Biosafety 'Objection to Bayer Crop Science's application for commodity clearance of Genetically Modified Cotton LL 25' (June 2007) available online at [www.biosafetyafrica.net](http://www.biosafetyafrica.net) [Accessed 3 November 2009].

<sup>31</sup> Kinderlerer explains that '[t]he size of farms in the United States means that "gene drift" is not likely to engender the same type of fearful reaction found in Europe where farms are small and the crops grown in one field may impact those in adjacent fields owned by other farmers.' Julian Kinderlerer 'Genetically modified organisms: a European scientist's view' (2000) 8 *NYU Environmental Law Journal* 556 at 562.

<sup>32</sup> See notes 129 and 172 in chapter 3.

<sup>33</sup> African Centre for Biosafety 'Objection by the African Centre for Biosafety to: Monsanto (SA)'s application for the general release of the combined events of Bollgard II cotton (MON 15989) and Roundup Ready Flex Cotton (MON88913) and all cotton varieties derived from these events' (October 2007) available online at [www.biosafetyafrica.net](http://www.biosafetyafrica.net) [Accessed 3 November 2009]. See also chapter 3, footnote 129.

The following elements indicate the present unsustainability of GM cotton in the South African context:

- The lack of technology transfer and innovation, resulting in high cost, stifled local research and lack of competition;
- Marginal economic gains;
- Indebtedness;
- Loss of employment;
- Global over-production and low world prices;
- Exclusion from the political process; and
- Lack of choice.

The thesis proposition is that reining in some of the private rights in respect of the technology should enhance sustainability. The sections below consider the processes for reining in private rights and what the impact may be.

### **6.3 Reining in private rights: how?**

It is inappropriate for farmers to have to pursue a rights dispute in order to achieve redress. Rather, government should act on its duty to protect fundamental rights.<sup>34</sup>

In a rights dispute farmers could possibly challenge the terms and conditions in the Monsanto Agreement based on consumer protection or competition law, or on the basis of the right not to be subjected to unconscionable terms. Monsanto would assert its intellectual property rights and the *pacta sunt servanda* principle. Most likely, an adjudicator's decision in such a dispute would pivot, not on a (duty to protect) fundamental rights discourse, but on the provisions of consumer protection law, competition law, and the common law principles of contract, which together prohibit unconscionable conduct, including prices and terms and conditions that are unfair, unreasonable or unjust.<sup>35</sup> An adjudicator would develop (if it is necessary) the common law or interpret statute in a manner consistent with the Bill of Rights. Although

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<sup>34</sup> See § 5.3.

<sup>35</sup> See the discussion in chapter 4.

Monsanto does not carry the burden of realising others' socio-economic rights, the state may limit Monsanto's rights to the extent that these might frustrate the achievement of social justice.

It is undesirable that relief to the farming community should have to come from litigation which the community is required to institute. Furthermore, an adjudicator would be limited in the extent to which he or she can provide relief. Litigation on the Monsanto Agreement would not assist the broader community impacted by the introduction of Bt cotton. Legal redress should rather take place through law and policy in which the state makes every effort to comply with its duty to protect the rights of the communities.

The State's 'duty to protect' approach provides a direct human rights perspective on the relationships that are formed around GM cotton. The state has a duty to make progress toward the achievement of socio-economic rights, including the achievement of sustainable development in agriculture, and to protect the fundamental rights to dignity, equality and life of its people.<sup>36</sup> Thus, in the event that proprietary rights are used in a manner that infringes these fundamental rights, the state has a duty to intervene, and its failure to do so is justiciable.

The impact of reining in private rights is considered in the section below.

#### **6.4 Reining in private rights: its impact**

There are a number of mechanisms (in environmental, agricultural, biosafety, competition, consumer protection, and IP law) through which proprietary rights in PGRs may be restricted.<sup>37</sup> The circumstances which prevail in a particular case would most likely dictate which of these mechanisms should be invoked in order to rein in these rights. Consider for example the following:

1. Scenario 1: If the deployment of GM cotton has the potential to meet the criteria for sustainability, except that the price of the technology and the seed prevents this. In this case, competition and consumer

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<sup>36</sup> See § 5.3.

<sup>37</sup> These mechanisms are explored more fully in chapters 5 and 7.

protection law, or, the regulation of the marketing of agricultural products, might be used to control excessive pricing and unfair licencing conditions. Excessive prices and unfair licencing conditions may possibly also have been avoided upfront through a patent system with stricter criteria for patenting.

2. Scenario 2: If the deployment of GM cotton does not have the potential to lead to sustainable development. Biosafety law might then be used to restrict the deployment of the technology. If its unsustainability is only in respect of small-scale farmers, such as those located in the Makhathini Flats, conditions on the grant of a permit or possible measures in terms of the marketing of agricultural products legislation might provide a solution. Good agricultural policy may also provide farmers with viable alternatives to cotton.

Excessive pricing and the frustration of competition may constitute grounds for a remedy in consumer protection and/or competition law, although this would require the farmer or the cotton industry to incur the cost of taking action. IP policy and law should ensure that research and innovation are not unduly stifled.

If the cost of cottonseed was reduced, farmers' profit margins would increase and their indebtedness would decrease or may not be incurred in the first place. However in the current global market it is unlikely that that any real prospect of upliftment and sustainability would be in store for small-scale farmers, and it would also not assist farm workers who have lost their employment as a result of the introduction of the labour-saving technology. In order to address these issues communities need to be engaged and bold policy initiatives need to be pursued.

The remaining two patents over Monsanto's technology will expire during 2010 and it remains to be seen whether the exhaustion of these rights will improve the sustainability ratings of GM cotton. If the current technology is simply replaced by similar technology, also protected by strong IP rights, then the unsustainability cycle will continue. Holders of IP rights such as Monsanto

wield great power and lobbying influence made all the more possible by their monopolistic gains. Industry has a power base from which to launch legal action in the event of a deprivation of their perceived property entitlements, which makes bold policy interventions all the more difficult and all the more necessary. Reining in these rights (using the mechanisms described in the next chapter) has the potential to open up the space for communities and governments to develop more appropriate and sustainable responses to their agricultural needs. It might even be the case that GM cotton should be part of the agricultural plan; but the decision to include it should only be taken if all the criteria for sustainability have been considered and are satisfied.

## 6.5 Concluding remarks

The task of establishing and assessing the impact of private rights in PGRs is complex and should not be left to scientists and economists<sup>38</sup> alone. The Constitution requires redress in respect of marginalized communities which cannot be measured in simple terms of scientific efficiency or individual farmer output and economic growth. The case of the Makhathini community illustrates this.<sup>39</sup>

The state's duty to protect fundamental rights extends to the livelihoods and the dignity of vulnerable communities. The state's duties in respect of the private rights of corporate entities such as Monsanto are less onerous; only certain core aspects of IP rights are protected in international law and provision is made for the lawful deprivation of property rights in both international and domestic law. South Africa's international commitments leave some room for reining in private rights, as the next chapter explains.

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<sup>38</sup> Economists themselves, in the South African context, show little interest in researching the economic impact of intellectual property. David Kaplan 'Intellectual property rights and innovation in South Africa: a framework' in WIPO *The economics of intellectual property in South Africa* (2009) at 15.

<sup>39</sup> Addressing the needs of the Makhathini community requires a strengthening of the partnership between the community and government. '[P]ublic representatives [must] use their positions and power to defend and represent the interests of the poor, not the interests of corporations which spend millions lobbying them'. 'Seeds of the future' *Mail&Guardian* January 23 to 29, 2009 at 9.

## CHAPTER 7

### RECOMMENDATIONS AND THESIS CONCLUSION

[O]ur people ... must regain confidence in their genius and their capacity to face obstacles and be involved in the building of the new Africa...<sup>1</sup>

#### 7.1 Introduction

Chapter 6 proposed the reining in of private rights in PGRs in order to support sustainable development. The aim of this final chapter is to convey some theoretical and practical tools for limiting such rights and to comment on how these might apply to PGRs. The same regulatory regime complex that enables these private rights also provides for the limitation thereof.<sup>2</sup>

The first part of the chapter focuses on theoretical tools including the impact of the Constitution, the ideas of contemporary theorists, and the development of the common law. The second part of the chapter considers practical mechanisms to rein in private rights within the existing regime complex. Finally, some concluding remarks are made.

#### 7.2 Theoretical tools for limiting private rights

##### *7.2.1 The Constitution and its impact on legal theory and practice*

The Constitution upholds the principles of dignity, *substantive* equality,<sup>3</sup> and ultimately the pursuit of social justice. Its enactment ushered in a new legal

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<sup>1</sup> NEPAD Framework Document, October 2001.

<sup>2</sup> This is a pragmatic approach, a way of dealing with the inequalities in the global trade regime. Stiglitz gives the example of Chile, which has fared better than many of its regionally neighbours by 'not simply succumb[ing] to ... the dictates of the Washington consensus willy-nilly. ... [I]t was selective, adding and subtracting to the standard recipes in ways that allowed it to shape globalization for its purposes.' Stiglitz 'Development policies in a world of globalization' (2002) Paper presented at the seminar 'New international trends for economic development' on the occasion of the fiftieth anniversary of the Brazilian Economic and Social Development Bank.

<sup>3</sup> See ss 9 and 10 in annexure A. Section 9, the equality clause provides for 'legislative and other measures designed to protect or advance persons ... disadvantaged by unfair discrimination' and thus embraces a substantive as opposed to a formal, approach to equality. 'A formal approach to equality assumes that inequality is aberrant and that it can be eradicated simply by treating all individuals in exactly the same way. A substantive approach to equality, on the other hand, does not presuppose a just social order. It accepts that past patterns of discrimination have left their scars upon the present. Treating all persons in a formally equal way now is not going to change the

order, and at the same time signalled important changes of an economic nature.<sup>4</sup> The property clause<sup>5</sup> in the Constitution is more than a mere codification of the traditional private law rules.

The spirit, purport and objects of the Bill of Rights prioritise socio-political and economic transformation. Klare explains, '[u]nlike classical liberal bills of rights, whose chief purpose was to secure individual liberty and property from imposition by government, the South African Constitution embodies the idea that the power of the community can (and must) be deployed to achieve goals consistent with freedom, that collective power can be tapped to create social circumstances that will nurture and encourage people's capacity for self-determination'.<sup>6</sup>

Although the old legal order was not entirely ousted (this was mooted),<sup>7</sup> its retention may frustrate transformation unless it is able to prioritise matters of public interest.<sup>8</sup> This requires a 'softening of the "bright-line" distinctions between law and politics and between the professional and the strategic.'<sup>9</sup> Commentators suggest that progress in this regard will be slow unless there is

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patterns of the past, for that inequality needs to be redressed and not simply removed. This means that those who were deprived of resources in the past are entitled to an "unequal" share of resources at present'. J Kentridge 'Equality' in Chaskalson et al *Constitutional Law of South Africa* (1996) at para 14.2.

<sup>4</sup> See in this regard governments' broad strategies for reform packaged initially as the Reconstruction and Development Programme of 1994 (the RDP) which links reconstruction and development and highlights the importance of sustainable growth and a fair distribution of growth (para 1.3.6). The RDP requires government to ensure decent quality of life through the equitable access to natural resources and participatory decision-making in this regard (at para 2.10.2). Subsequent government policy is contained in the Growth, Employment and Redistribution (GEAR) policy and the Accelerated and Shared Growth Initiative for South Africa (AsgiSA).

<sup>5</sup> Section 25 of the Constitution. See annexure A.

<sup>6</sup> Klare 'Legal culture and transformative constitutionalism' 1998 *SAJHR* 146 at 153.

<sup>7</sup> See the discussion in Van der Walt 'Tradition on trial: a critical analysis of the civil-law tradition in South African property law' 1995 *SAJHR* 169-206.

<sup>8</sup> Van der Walt explains that 'what is generally seen as the greatest strength of the civil-law tradition, namely its theoretical and methodological pretensions to scientific neutrality and objectivity, presents a danger to the new legal order. The complacent kind of essentialist, conceptualist thinking so familiar to civil law might make transformation more difficult by hiding from view the real struggles about value choices and power, and it might fail to address the kind of discussions, choices and changes that are needed if the law of property is to take part in and promote the transformation of society.' Van der Walt 'Tradition on trial: a critical analysis of the civil-law tradition in South African property law' 1995 *SAJHR* 169 at 203.

<sup>9</sup> Klare (note 6) at 159 (footnotes omitted). Klare references the work of Dworkin which, Klare says, 'goes farthest along the path of blurring the law/politics distinction' and sketches a critical theory of adjudication drawn from, inter alia, Duncan Kennedy's *Critique of adjudication* (1997).

deliberative legislative intervention.<sup>10</sup> Such interventions should be underpinned by a theoretical position on property.

### 7.2.2 *Ideas in customary and contemporary property theory*

The developing property concept in South Africa is increasingly mindful of the core values underlying the African philosophy of Ubuntu.

[A]dherence to the value of *ubuntu* demands that we deal with individuals in the context of their historical and current disadvantage and that equality issues must address the actual conditions of human life ...<sup>11</sup>

Ubuntu recognises our interdependence and our responsibility toward others. A similar concern for the public is evident in the approaches to property of a number of contemporary authors. Examples include Nedelsky's dialogue of democratic accountability, Michelman's distributory rather than possessory conception of property, and Underkuffler's idea of common and operative conceptions of property, which were discussed in chapter 2.

Michelman urges that we pay more attention to the distributory side of property which has receded in the dominant way of thinking about property. Nedelsky highlights the importance of public participation and indicates that property should be accountable to equality, dignity and autonomy and not the reverse which occurs in a liberal framework. Liberal theory focuses on rights ('rights as trumps') and individual protection of property and views the collective as a threat to the individual. Nedelsky's framework deals with this by focusing on the conceptualisation of rights as relationships.

[In liberalism] the idea is that rights are barriers that protect the individual from intrusion by other individuals or by the state. Rights

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<sup>10</sup> The reason is this: 'the court is aware of the possibility that it may have to decide some [property rights] cases with reference to social, economic and political considerations that are well outside the traditional framework of private law property, but ... it is conservative in adopting this wider constitutional responsibility unless the reform law in question clearly and unambiguously instructs it to do so and explicates the considerations required for such a policy-conscious decision'. A J van der Walt 'Ownership and eviction: constitutional rights in private law' (2005) 9 *Edinburgh Law Review* 32 at 48. See also Karl E Klare 'Legal culture and transformative constitutionalism' (1998) 14 *SAJHR* 146-188 where he talks about the intractability of legal culture.

<sup>11</sup> Narnia Bohler-Muller 'Beyond legal metanarratives: the interrelationship between storytelling, *ubuntu* and care' (2007) 1 *Stell LR* 133 at 147.

define boundaries others cannot cross and it is those boundaries, enforced by the law, that ensure individual freedom and autonomy. ... But my argument is that this is a deeply misguided view of autonomy. What makes autonomy possible is not separation, but relationship.<sup>12</sup>

This echoes the notion in Ubuntu that a person is a person through other persons.<sup>13</sup> Our property and our autonomy cannot be conceptualised and validated separate from the effect which our property and our autonomy may have on others. It is Laura Underkuffler who provides us with a framework to develop an approach to predict when individual rights may be required to give way.

Underkuffler identifies a common and an operative conception of property as a mechanism for predicting or explaining the outcome of property-related disputes between a proprietor and the public interest.<sup>14</sup> The common conception of property represents the typical understanding of property as protection for the individual from the public sphere. Under the common conception of property, the proprietor's rights may only be overridden, without legal consequence, by a public interest of a particularly compelling health and safety nature.<sup>15</sup> Under the operative conception of property, the proprietor's property rights are less stringently protected: property in this case 'simply describes, or mediates, the tensions between individual interests and collective goals, which are resolved and re-resolved as circumstances warrant.'<sup>16</sup>

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<sup>12</sup> Jennifer Nedelsky 'Should property be constitutionalized? A relational and comparative approach' in GE van Maanen and AJ van der Walt (eds) *Property on the threshold of the 21<sup>st</sup> century* (1996) 417-432.

<sup>13</sup> For Nedelsky, '[t]he constitutional protection of autonomy is no longer an effort to carve out a sphere into which the collective cannot intrude, but a means of structuring the relations between individuals and the sources of collective power so that autonomy is fostered rather than undermined.' (At 430).

<sup>14</sup> Underkuffler makes the important point that '[a]lthough public-interest demands are typically framed by courts in very general terms, we find that they involve, in operation, the same content-specificity and reason-dependency that rights involve.' Laura S Underkuffler *The idea of property: its meaning and power* (2003) at 73. In the South African Constitution, public interest includes 'reforms to bring about equitable access to all South Africa's natural resources' (s 25 (4)(a)).

<sup>15</sup> Underkuffler (note 14) at 53.

<sup>16</sup> Underkuffler (note 14) at 54.

If the common conception of property is used, individual interests are afforded strict protection. If the operative conception is used, individual interests are – as a practical matter – afforded none.<sup>17</sup>

Under the common conception, claimed property rights have presumptive (normative) power over competing public interest and under the operative conception, there is no such presumptive power and the claimed property right and public interest are of presumptively equal power.<sup>18</sup> In Underkuffler's model, invoking the operative conception of property is justified when the 'core values' underlying the individual right and the public interests are the same in kind. Where the underlying values are different, the individual right is presumed to be normatively superior.<sup>19</sup>

Underkuffler illustrates this model more generally (the model can be applied to all rights/public interest disputes) with reference to the right to free speech. When a government seeks, on the grounds of national security, to restrain the media's right to publish a story (free speech), the underlying values are different (free speech/national security) therefore the media's right to publish the story has presumptive power. Where the claimed right to publish pornography or hate speech (free speech) is juxtaposed against the 'silencing' (an aspect of free speech)<sup>20</sup> of particular communities within society in the event of publication, the core values are the same and the individual's right to publish does not have presumptive power.<sup>21</sup>

In so far as the presumptive power of property rights is concerned, Underkuffler illustrates this using title in land (core values may include: to encourage individual investment, reward labour, community stability, etc) which is sought to be restricted by the construction of a public highway (values may include efficient movement of goods and services, prevention of

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<sup>17</sup> Underkuffler (note 14) at 54.

<sup>18</sup> Underkuffler (note 14) at 86.

<sup>19</sup> Underkuffler (note 14) at 74.

<sup>20</sup> The argument is that women are degraded and silenced by the publication of pornography. Underkuffler (note 14) at 78.

<sup>21</sup> Underkuffler (note 14) at 77-8.

accidents, reduction in pollution, etc). The underlying values differ and the claimed right will have presumptive power.<sup>22</sup>

In the case of property rights in PGRs the underlying values of both industry and farmers / breeders appear to be the same: the encouragement of innovation, investment and labour. Arguably therefore industry should not have presumptive power. Underkuffler however cautions against abstracting the underlying values to the extent that they are both the same – for example, both the land title and the public highway, in the example above, may share ‘the promotion of economic interests’ as an underlying value. Rather, the most immediate core values must be considered.<sup>23</sup>

Underkuffler’s model presents an opportunity to, among other things, develop new ways of thinking about the values underlying law and policy choices. This is an area for further research.

Contemporary authors on IP and development make the point that the IP paradigm, in order to be responsive to development, must shift beyond utilitarianism by the introduction of a normative principle. It is argued that ‘intellectual property should include a substantive equality principle, measuring its welfare-generating outcomes not only by economic growth but also by distributional effects.’<sup>24</sup> Others focus on a human rights approach as a means to contain the boundaries of IP.<sup>25</sup> These constraints may be more effective if the terminology used was more articulate. Private rights in this case (IP rights and rights in PGRs) are privileges – limited use-rights at best – that are only sometimes tolerated over collective and publicly held resources for policy reasons. The inarticulate use of terminology (found also in this thesis) should be recognised.

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<sup>22</sup> Underkuffler (note 14) at 87-8.

<sup>23</sup> Underkuffler (note 14) at 88.

<sup>24</sup> Margaret Chon ‘Intellectual property and the development divide’ (2006) 27 *Cardozo LR* 2821 at 2823.

<sup>25</sup> See for Peter K Yu ‘Reconceptualizing intellectual property interests in a human rights framework’ 2007 *UC Davies L Rev* 1039-1150 and Micheal A Carrier ‘Cabining intellectual property through a property paradigm’ (2004) 54 *Duke L J* 52-144. On the convergence and synergy between the rights-based and development-based approaches, see Amartya Sen ‘Human rights and capabilities’ (2005) 6 *J of Human Development* 151-166 and Henry Steiner ‘Social rights and economic development: converging discourses?’ (1998) 4 *Buffalo Human Rights Law Review* 25-42.

A dysfunctional IP system can result in the locking up of resources and knowledge that should otherwise be public goods. Gray, in his seminal treatment of excludability, provides a mechanism for determining when that has occurred.

### 7.2.3 Gray's notion of excludability and PGRs

For Gray private property is that which is capable of physical, legal and moral excludability and which has so been excluded. Resources that are not capable of exclusion or which have not been legally excluded are outside the field of private property and remain in the commons.<sup>26</sup>

The physical excludability of patented PGRs, especially their progeny, is questionable. '[P]lants and animals that have had their genes molecularly engineered ... are impulsively self-propagating.'<sup>27</sup> This makes it nearly impossible to find a balance between private and public interest.<sup>28</sup>

Resources that have not been excluded remain in the commons aligning with the ancient law principle that some things should not be commodified.<sup>29</sup>

### 7.2.4 Building on the common law

The principle that some resources fall outside of commerce, coupled with the recognition of collective indigenous property rights<sup>30</sup> provides a platform for an inclusive approach to property and rights in resources which values the interests of the public, the private and the collective. This public-centred

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<sup>26</sup> Kevin Gray 'Property in thin air' (1991) 50 *Cambridge Law Journal* 252 at 269.

<sup>27</sup> Jeremy de Beer 'Rights and responsibilities of biotech patent owners' (2007) 40 *UBCL Rev* 343 at 343. Moral, ethical and religious objections have been raised against the patenting of higher life forms. On the ethical concerns of patenting in the field of agricultural biotechnology see Christoph Baumgartner 'Exclusion by inclusion? On difficulties with regard to an effective ethical assessment of patenting in the field of agricultural bio-technology' (2006) 19 *Journal of Agricultural and Environmental Ethics* 521-539.

<sup>28</sup> Council of Europe, Parliamentary Assembly, 1999 quoted in Steven Were Omamo and Klaus von Grebmer *Biotechnology, agriculture and food security in southern Africa* (2005) at 89-90.

<sup>29</sup> Honoré 'Ownership' in Guest et al *Oxford Essays in Jurisprudence* (1961) at 109 comments that '[t]he notion of things "outside commerce", not subject to private ownership but to special regulation by the state or public authorities, is an ancient one and has retained its importance in modern continental law.' (footnotes omitted).

<sup>30</sup> See § 2.5.3 and the discussion on *Alexkor Ltd and Another v The Richtersveld Community and Others* 2004 (5) SA 460 (CC) and *Prinsloo and Another v Ndebele-Ndzundza Community and Others* 2005 (6) SA 144 (SCA).

notion of property and resources aligns with the recognition of state sovereignty over PGRs.<sup>31</sup> The state holds these resources in a fiduciary and not a proprietary sense.<sup>32</sup>

This approach is endorsed in South Africa where the notion of public trust is statutorily employed in respect of water,<sup>33</sup> minerals,<sup>34</sup> and the environment.<sup>35</sup> Borrowing from the National Water Act, the state has a duty to ensure that resources are 'protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner, for the benefit of all persons and in accordance with its constitutional mandate.'<sup>36</sup>

While open to criticism, in particular for its vagueness, the public trust doctrine is useful in reconciling sovereignty and public and common property. The public trust doctrine, together with the principle of sustainable development, establish a framework for managing development and natural resources.<sup>37</sup> With this in mind, chapter 2 tentatively suggests a public-centred notion of private and public property in which trespass rules are evaluated with reference to their effect on the rights of others and on the pool of limited public resources. Private 'rights' in PGRs should only be tolerated if the enclosure it creates is socially, economically, and environmentally sustainable.

The trend of awarding excessive rights in what might otherwise be considered public goods for the core reason of stimulating economic growth deprives the social and the environment of an opportunity to determine a different

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<sup>31</sup> Section 2(4)(o) of the National Environmental Management Act 107 of 1998. In international law provisions see for example Article 15 of the Convention on Biological Diversity 31 *ILM* 818 (1992).

<sup>32</sup> Peter H Sand 'Sovereignty bounded: public trusteeship for common pool resources?' (2004) 4.1 *Global Environmental Politics* at 48.

<sup>33</sup> See s 3 of the National Water Act 36 of 1998.

<sup>34</sup> See the preamble to the Mineral and Petroleum Resources Development Act 28 of 2002.

<sup>35</sup> See s 2(4)(o) of the National Environmental Management Act 107 of 1998.

<sup>36</sup> Section 3(1).

<sup>37</sup> Notwithstanding criticism of the doctrine (see chapter 6, note 6), sustainable development has been put to good effect in South Africa. See for example the decisions in *Director: Mineral Development Gauteng Region and Another v Save the Vaal Environment and Others* 1999 (2) SA 709 (SCA); *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs* 2004 (5) SA 124 (W); *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province and Others* 2007 (6) SA 4 (CC); and *MEC, Department of Agriculture, Conservation and Environment and Another v HTF Developers (Pty) Ltd* 2008 (2) SA 319 (CC). These decisions are discussed in § 5.4.1.

developmental path. Changes at an institutional, policy, and legal level may open up the space in which these competing interests may be mediated.

### **7.3 Practical tools for limited private rights**

The complex regulatory regime that applies to PGRs gives rise to institutional challenges. The foremost challenge is the lack of institutional co-ordination. Chapter 1 discussed the mandate of numerous government departments in respect of PGRs and indicated the lack of an overarching institutional body to overcome some of the institutional challenges.<sup>38</sup> Whereas IP is about economic policy, its impact is felt in many sectors, including health, agriculture, and the environment (biodiversity). It impacts on researchers' freedoms and on the diffusion of scientific knowledge.

#### *7.3.1 An overarching inclusive authority and framework for PGRs*

The principle of co-operative governance requires the co-ordination of the actions and legislation of the various spheres of government.<sup>39</sup> In order to achieve this it is suggested that changes to existing institutional structures be effected so that one institution has a broad mandate on policy issues around natural resources and another has a mandate to study and advise on sustainable development and the IP system.

The idea of a Common Heritage Authority in international law has been mooted,<sup>40</sup> and, in South Africa, a National Heritage Council<sup>41</sup> as well as a

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<sup>38</sup> Although many institutional structures are created (such as the Conservation Advisory Board, the Executive Council of GMOs, the National Environmental Advisory Forum, the Committee for Environmental Coordination which are discussed in § 1.2.2) these are low-level, insular and insufficiently representative bodies ill-equipped to deal with the broader ramifications of IP, agricultural biotechnology and social and economic policy.

<sup>39</sup> Section 41(h)(iv) of Chapter 3 (co-operative governance) of the Constitution of the Republic of South Africa, 1996. In addition to these constitutional provisions, the legislative framework for co-operative governance includes the Intergovernmental Relations Framework Act 13 of 2005 and Chapter 3 of NEMA. The Intergovernmental Relations Framework Act 13 of 2005 provides for the establishment of intergovernmental forums.

<sup>40</sup> See Craig Forrester 'Cultural heritage as the common heritage of humankind: a critical re-evaluation' (2007) XL *CILSA* 124 at 151. Even in the unlikely event that a 'Common Heritage Authority' is established in international law, it is unlikely that PGRs would fall within its authority.

<sup>41</sup> The Council, a statutory body, is established by the National Heritage Council Act 11 of 1999.

South African Heritage Resources Agency (SAHRA) and a SAHRA Council<sup>42</sup> have been established to develop, promote and protect national heritage for present and future generations.<sup>43</sup> In their current form, none of these institutions have a mandate to deal with ownership issues in natural resources, whether PGRs, land, minerals, or water or other such natural resources.<sup>44</sup> The existing focus is on other objects of heritage and issues of living heritage such as indigenous knowledge systems and cultural tradition. Often these issues of living heritage cannot be separated from land or PGRs, indicating that there may be merit in an argument for expanding the mandate of the National Heritage Council (possibly to a National Heritage and Natural Resources Council), or in forming a similar Council to deal specifically with natural resources, and ensuring that its members are representative of all stakeholders.

An existing high-level overarching organisation dealing with social and economic policy that accommodates representation and engagement of many stakeholders is the National Economic Development and Labour Council (NEDLAC).<sup>45</sup> In broad overview,<sup>46</sup> NEDLAC is a social dialogue forum where government comes together with business, labour and community groupings that have organised on a national level to discuss and seek consensus on issues of social and economic policy. This makes NEDLAC an attractive forum to reflect on IP. The main government department at NEDLAC is the Department of Labour, but Trade and Industry, Finance and Public Works are also centrally involved while other departments attend from time to time should a matter within their sphere of governance arise. NEDLAC conducts its work through four chambers,<sup>47</sup> each focused on a different aspect of social and economic policy. Sub-committees and task groups of the Chambers deal

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<sup>42</sup> The legislative framework for the SAHRA and the SAHRA Council is the National Heritage Resources Act 25 of 1999.

<sup>43</sup> Section 4(a).

<sup>44</sup> See in this regard the scope of both the National Heritage Council Act 11 of 1999 and the National Heritage Resources Act 25 of 1999.

<sup>45</sup> NEDLAC is a statutory body established by the National Economic Development and Labour Council Act 35 of 1994 (the NEDLAC Act). See Roux's civil society model discussed in § 2.4.2, in particular see chapter 2, note 123.

<sup>46</sup> For a detailed account of NEDLAC, see [www.nedlac.org.za](http://www.nedlac.org.za) [Accessed 14 July 2009].

<sup>47</sup> These are the Labour Market Chamber, the Trade and Industry Chamber, the Development Chamber and the Public Finance and Monetary Policy Chamber.

with specific issues.<sup>48</sup> An administrative infrastructure and systems of accountability are in place. NEDLAC has an important role to play in the formulation of policy and law, for example the NEDLAC Act stipulates that NEDLAC shall 'consider all proposed labour legislation relating to labour-market policy before it is introduced in Parliament'.<sup>49</sup> All significant changes to social and economic policy must come before NEDLAC before being implemented or introduced to Parliament.<sup>50</sup> One possibility is to bring the issues raised in this thesis squarely within the purview of a NEDLAC forum at which all stakeholders,<sup>51</sup> including the proposed National Heritage and Natural Resources Council, are represented. This would require some engineering of NEDLACs enabling framework to ensure the issues are properly aired and that all interested stakeholders are properly represented.

Another possibility is to establish a new Council although this seems unwarranted given the existing structures already in place. The detail and complexities of such a body would be a matter requiring some thought. Any overarching body that was given the mandate to mediate between the commercial interests of industry and the public interest (whether it be food security, sustainable livelihoods or the right to cultural and traditional practices) would be required to provide a platform for public participation.

### *7.3.2 Ensuring public participation*

Public participation is '[t]he participation of all residents of a country, including citizens and non-citizens, in the decision-making process of all three spheres of government'.<sup>52</sup> Public participation is at the heart of a democracy and should be the jewel of the development of law and policy in South Africa.<sup>53</sup>

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<sup>48</sup> [www.nedlac.org.za](http://www.nedlac.org.za) [Accessed 14 July 2009].

<sup>49</sup> Section 5(1)(c) of the NEDLAC Act.

<sup>50</sup> Section 5(1)(d) of the NEDLAC Act.

<sup>51</sup> This would include for example the organised farming community (such as the National African Farmers Union of South Africa (NAFU) and Agri SA) and civil society organisations concerned with agriculture. All sectors concerned about the impact of IP should be represented. Additional stakeholders include those listed in note 38.

<sup>52</sup> National Policy Framework for Public Participation (2007) at 5. See generally Linda Nyati 'Public participation: what has the Constitutional Court given the public? (2008) 12 *Law Democracy and Development* 102-110.

<sup>53</sup> A policy framework for public participation in the South African context is contained in the National Policy Framework (note 53).

The idea of a participatory democracy was explored by the Constitutional court in the *Doctors for Life*<sup>54</sup> case, where the majority decision was of the view that the:

constitutional provisions ... require national and provincial legislatures to facilitate public involvement in their processes. Through these provisions, the people of South Africa reserved for themselves part of the sovereign legislative authority that they otherwise delegated to the representative bodies they created.<sup>55</sup>

The court acknowledges that the extent (and model)<sup>56</sup> of public participation in any given circumstance will depend on what is a reasonable opportunity in that instance.<sup>57</sup> The benefits of public participation, summarised from empirical experience globally, suggests that improving public participation in government improves governance through: increased levels of information in communities, better needs identification for communities, improved service delivery, community empowerment, greater accountability, better wealth distribution, greater community solidarity, and greater tolerance of diversity.<sup>58</sup>

Achieving public participation should theoretically come naturally. As Sachs J in the *Doctors for Life* case points out, '[w]e have developed a rich culture of imbizo, lekgotla, bosberaad, and indaba. Hardly a day goes by without the holding of consultations and public participation involving all "stakeholders", "role-players" and "interested parties", whether in the public sector or the private sphere. The principle of consultation and involvement has become a distinctive part of our national ethos.'<sup>59</sup>

Communities need to be informed about developments and have the space to debate these issues. In addition, 'the public's awareness of the reasons

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<sup>54</sup> *Doctors for Life International v Speaker of the National Assembly and Others* 2006 (6) SA 416 (CC).

<sup>55</sup> At para [110].

<sup>56</sup> See National Policy Framework (note 53) at 16.

<sup>57</sup> In the *Doctors for Life* case the court maintained that the failure of most of the provinces to hold public hearings around the Traditional Health Practitioners Act and the Choice on Termination of Pregnancy Amendment Act, which had generated much public interest, was unreasonable and thus the Acts were declared invalid for a period of 18 months during which time the appropriate hearings were to be held.

<sup>58</sup> National Policy Framework (note 53) at 17.

<sup>59</sup> At para [227].

underlying intellectual property rules needs to be developed more effectively, so that the basis for a positive moral climate can be created.<sup>60</sup> The challenge (which academics, too, should be rising to meet) is such that not even government officials are fully appraised of these issues.<sup>61</sup> Although government acknowledges that there is a 'broad spectrum of biotechnologies ... which ... the public remains unaware or uninformed about,'<sup>62</sup> this appears to be true also of their officials. Public interest may be better infused and better protected within the current regulatory regime through some of the measures discussed below.

### 7.3.3 *Practical measures in international and regional fora*

Existing development and development economics studies and ongoing research should inform domestic policy and the state's position in trade negotiations.<sup>63</sup> There should be ongoing engagement on, and resistance to, further harmonisation, or further narrowing of flexibilities, of IP laws.<sup>64</sup> Further concessions, such as Declaration on the TRIPS agreement and public

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<sup>60</sup> Tom R Tyler 'Compliance with intellectual property laws: a psychological perspective' (1997) 29 *New York University Journal of International Law and Policy* 219-235 at 229 cited by Christopher May and Susan K Sell *Intellectual property rights: a critical history* (2006) at 19.

<sup>61</sup> Munyaradzi Saruchera (from Biowatch) explains: '[m]y understanding has been there's no capacity [among agriculture officials] to engage ... I met two senior agronomists in the Eastern Cape at the provincial department of agriculture in East London. They didn't know what a GMO is.' The article goes on to indicate that '[a]t the time of going to press, comment from the national department of agriculture was unclear as to whether the officials that assist small-scale farmers are properly briefed on GMOs.' 'Seeds of the future' *Mail&Guardian*, January 23 to 29 2009 at 9.

<sup>62</sup> Draft Discussion Document on Agricultural Biotechnology 2004, *Government Gazette* No 27936, Notice 1591 of 2005 (August 2004) at 38.

<sup>63</sup> See for example Joseph E Stiglitz 'Towards a pro-development and balanced intellectual property regime' (2004) Keynote address at the Ministerial Conference on Intellectual Property for Least Developed Countries, World Intellectual Property Organisation (WIPO), Seoul, October 25, 2004 and C Fink and K Maskus (eds) *Intellectual property and development: lessons from recent economic research* (2005). See also Schneider, Patricia Higinio 'International trade, economic growth and intellectual property rights: a panel data study of developed and developing countries' (2005) 78 *J of Development Economics* 529-547, which suggests that IPRs have a stronger impact on domestic innovation for developed countries and may in fact impact negatively on innovation in developing countries.

<sup>64</sup> Such as the efforts of WIPO to further harmonise patent law through the proposed Substantive Patent Law Treaty. For a comprehensive overview of the reasons why further international harmonisation is inadvisable, particularly for developing countries, see Carlos Correa 'Internationalization of the patent system and new technologies' (2002) 20 *Wis Intl LJ* 523-550.

health,<sup>65</sup> should be sought, existing flexibilities should be utilised and the case should be made for greater flexibility.<sup>66</sup>

### 7.3.3.1 TRIPS flexibilities and further lobbying

Article 8(1) of TRIPS allows member states to adopt measures in their IPR regimes that are necessary to protect public health and nutrition, and to promote the public interest in *sectors of vital importance* to their socio-economic and technological development, provided that such measures are consistent with the TRIPS provisions.<sup>67</sup> This public interest principle 'offers a considerable degree of legislative flexibility to Member States, on the basis of socio-economic ... considerations'.<sup>68</sup> Agriculture, in most African countries, is a sector of vital socio-economic importance, as chapter 2 indicates. The sustainable livelihood of communities engaged in small-scale agriculture is a matter of public interest and Member States should make creative use of these flexibilities to promote the public interest. If broader / cheaper access to the seed is required, or if access to the seed should be restricted, or if the 'licencing' terms and conditions should be prescribed, provided such measures have a socio-economic public interest component, they are defensible.

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<sup>65</sup> Declaration on the TRIPS agreement and public health, adopted on 14 November 2001, WT/MIN(01)/DEC/2.

<sup>66</sup> One example of greater flexibility being suggested is permitting a shorter duration for plant patents:

'One way to address and limit the dominance of the western seed corporations is to reduce the length of time patents extend protection to plant varieties. This has the advantage of releasing bio-engineered seeds and hybrids to farmers far earlier than under the normal patent structure, making plant genetic information more readily available to the public and to other plant breeders, and perhaps beneficially influencing genetic diversity.'

Ewens, Lara E 'Seed wars: biotechnology, intellectual property and the quest for high yield seeds' (1999) 23 *Boston College Intl and Comparative Law Review* 285-310 at 308. The optimum length of a patent is the subject of much debate.

<sup>67</sup> The 'consistency' proviso is perhaps a little less daunting if recourse is had to the provisions of the TRIPS preamble and Article 7 on technology transfer. The preamble indicates that members recognise 'the underlying public policy objectives of national systems for the protection of intellectual property, including the developmental and technological objectives.' Article 7 indicates that '[t]he protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.'

<sup>68</sup> Carlos M Correa and Abdulqawi A Yusuf *Intellectual property and international trade: the TRIPS Agreement* (2008) at 14.

In addition, Article 8(2) provides that ‘appropriate measures ... [consistent with TRIPS]<sup>69</sup> ... may be needed to prevent the abuse of intellectual property rights by right holders or the resort to practices which unreasonably restrain trade or adversely affect the international transfer of technology.’ Read together with Article 40<sup>70</sup> of TRIPS, ‘these two provisions appear to provide adequate leeway to national authorities to adopt a broad legislative framework for the control of abuses or anti-competitive practices which may arise from the exercise of intellectual property rights.’<sup>71</sup>

TRIPS does not require the patenting of higher life forms, although, if not protectable by patents, a *sui generis* system for the protection of plant varieties must be provided.<sup>72</sup> This gives scope for the development of a *sui generis* system for the protection of plant related innovations more accommodating than the patent system of the rights of farmers, breeders and researchers. Maximum flexibility should be sought in respect of agriculture (and other public interest sectors) including the possible exclusion from patentability of gene and other biotechnology inventions.

One of the objectives of the TRIPS Agreement is the transfer and dissemination of technology<sup>73</sup> which TRIPS anticipates will take place because of stronger protection of IP rights. However, in many developing countries there may be difficulties in accessing the information and technology. Patents may be filed, without proper publication, in inaccessible offices. The role of patents may also not be properly understood, and licences may not even be sought or may be refused. This, together with resource and capacity shortages, and with poor agricultural policies in place, sets the scene for a host of social ills. Member states should utilise the room for movement within the TRIPS framework, partnering if necessary with appropriate academic, UN or non-governmental organisations to assist with drafting and

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<sup>69</sup> See note 67 on the ‘consistency’ proviso.

<sup>70</sup> Article 40 provides mechanisms for the control of anti-competitive practices in contractual licences. In terms of Article 40(2), members may specify in their legislation ‘licensing practices or conditions that may in particular cases constitute an abuse of intellectual property rights having an adverse effect on competition in the relevant market.’

<sup>71</sup> *Intellectual property and international trade* (note 68) at 16.

<sup>72</sup> Article 27(3)(b).

<sup>73</sup> Article 7, reproduced in note 67.

implementing the measures.<sup>74</sup> Member States should also resist bilateral trade agreements that require TRIPS plus provisions.<sup>75</sup>

### 7.3.3.2 *Treaty ratifications*

South Africa should ratify the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA).<sup>76</sup> The ITPGRFA is committed to sustainable agriculture and food security and it recognises farmers' contributions in the conservation, improvement and access to PGRs. It recognises the rights to save, use, exchange and sell farm-saved seed and other propagating material and farmers' rights to participate in decision-making. The ITPGRFA sets up a multilateral system for access in respect of certain listed resources, and the sharing of commercial benefits from such access. The treaty facilitates access to and transfer of technologies for the conservation and use of PGRs for food and agriculture (including those protected by IPRs) under favourable conditions<sup>77</sup> and requires that recipients shall not claim any IP or other rights that limit the facilitated access to the PGRs or their genetic parts or components in the form received under the multilateral system.<sup>78</sup>

In addition, South Africa should ratify the International Covenant on Economic, Social and Cultural Rights (ICESCR).<sup>79</sup> The provisions of the ICESCR provide member states with an international law means to restrict property rights that impede 'the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the

<sup>74</sup> Commission on Intellectual Property Rights 'Integrating intellectual property rights and development policy' (September 2002) at 167. The important role to be played by NGOs is considered in Duncan Matthews 'NGOs, intellectual property rights and multilateral institutions' (2006) Report of the IP-NGOs research project.

<sup>75</sup> TRIPS plus provisions are IP law provisions required by regional or bi-lateral agreements that require a level of protection higher than that required by TRIPS – for example an agreement which requires patent protection for a period of 25 years, when the TRIPS Agreement requires 20 years.

<sup>76</sup> International Treaty on Plant Genetic Resources for Food and Agriculture, approved during the FAO Conference (31st Session resolution 3/2001) on 3 November 2001, entered into force 29 June 2004. A note on the previous website of the Department of Agriculture indicated that South Africa intends to ratify the ITPGRFA.  
[www.nda.agric.za/docs/GeneticResources/Genebank/plant\\_genetic.htm](http://www.nda.agric.za/docs/GeneticResources/Genebank/plant_genetic.htm) [Site no longer available on 18 August 2009].

<sup>77</sup> Article 13.

<sup>78</sup> Article 12(3)(d).

<sup>79</sup> International Covenant on Economic, Social and Cultural Rights, adopted 16 December 1966, entered into force 3 January 1976, 6 *ILM* 360 (1967).

continuous improvement of living conditions.’<sup>80</sup> The Covenant recognises the right of everyone to take part in cultural life and to enjoy the benefits of scientific progress.<sup>81</sup> Member states are required to take steps necessary for the conservation, development and diffusion of science and culture. IP laws should be measured against these commitments. Member states are required to report to the UN on their progress in achieving the rights set out in the ICESCR and on any factors and difficulties, including the intransigence of IP rights holders, in making progress, which provides member states with an opportunity to seek the assistance and technical advice of the UN and its specialised agencies.<sup>82</sup> In addition, the Covenant states that its provisions should not be interpreted ‘as impairing the inherent right of all peoples to enjoy and utilize fully and freely their natural wealth and resources.’<sup>83</sup>

In a human rights approach to IP the provisions of the ICESCR, if ratified, would provide a bottom line in international law for establishing the point at which ‘the short-term social costs of patent monopolies must be deemed unacceptable, regardless of anticipated longer-term benefits.’<sup>84</sup>

### 7.3.3.3 *Regional and local initiatives and innovation*

While strategic and pragmatic partnerships may be pursued to improve access to IP,<sup>85</sup> this should not be to the detriment of possible home-grown solutions in which farmers play a greater role in development. For example NEPADs Comprehensive Africa Agriculture Development Programme

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<sup>80</sup> Article 11.

<sup>81</sup> Article 15, which requires balance in this regard as it also protects the ‘moral and material interests resulting from any scientific, literary or artistic production of which he is the author.’

<sup>82</sup> Part V.

<sup>83</sup> Article 25.

<sup>84</sup> Barratt *The battle for policy space: strategic advantages of a human rights approach in international intellectual property negotiations* (2008) PhD Thesis, University of Cape Town at iii.

<sup>85</sup> See Delmer et al ‘Intellectual property resources for international development in agriculture’ (2003) 133 *Plant Physiology* 1666-1670. See in particular the discussion on the African Agricultural Technology Foundation (AATF) at 1669. See also the discussion on institutional initiatives in Wright and Pardey ‘Changing IP regimes: implications for developing country agriculture’ (2006) 2 *Int J Technology and Globalisation* 93 at 106 and Zakir Thomas ‘Agricultural biotechnology and proprietary rights: challenges and policy options’ (2005) 8(6) *J of World Intellectual Property* 711-734 on the challenges and opportunities presented by University/Public Sector strategies, open-source initiatives, and public-private collaboration (AATF).

(CAADP):<sup>86</sup> it is said that '[u]nlike numerous externally driven efforts, which have failed to produce tangible results to improve food security and economic growth in Africa in the past 50 years, the CAADP is succeeding in coordinating action across the continent on important regional policies such as agriculture, food safety standards and the control of transboundary pests and diseases.<sup>87</sup> CAADP's goal is to eliminate hunger and reduce poverty through agriculture.<sup>88</sup>

Practical measures in domestic law should also be explored for their potential to mitigate possible human rights implications of strong proprietors' rights in PGRs.

#### 7.3.4 Practical measures in domestic law

##### 7.3.4.1 Common law of property and contract

The discussion on the common law of property and contract in chapter 4 illustrates the intricacies and technicalities of doctrinal private law principles and the uncertainty as to how disputes around PGRs might be conceptualised and resolved.<sup>89</sup> This suggests that legislative intervention is desirable. If common law is applied, the courts may avail themselves of legal principles which limit the 'sanctity' of contract and the 'absoluteness' of property.<sup>90</sup>

Legislative interventions may however be enhanced by taking into account certain aspects of common law. One aspect is the general principle of private law that personality rights are not a property right, thus, under common law, the interference with ones rights to common or public property does not give

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<sup>86</sup> This African led programme is driven by Professor Mkandawire, an agricultural economist from Malawi (where agriculture has been transformed in the past decade) who is also NEPAD's agricultural advisor. See Busani Bafana 'From famine to food surplus' *Mail & Guardian* September 5 to 11, 2008 at 24. Malawi implemented a subsidy programme, notwithstanding pressure to the contrary, to much good effect. See also Thabo Mohlala 'Greenprint for survival' *Mail & Guardian* November 28 to December 4 2008.

<sup>87</sup> Mitzi du Plessis 'Sowing seeds for the upswing' *Mail & Guardian* October 31 to November 6, 2008 at 15.

<sup>88</sup> In order to achieve this, African governments have agreed to increase public investment in agriculture by a minimum of 10 percent of their national budgets and to raise agricultural productivity by at least 6 percent. [www.nepad-caadp.net/about-caadp.php](http://www.nepad-caadp.net/about-caadp.php) [Accessed 18 August 2009].

<sup>89</sup> On the uncertainties of the common law, see for example Maria Lee and Robert Burrell 'Liability for the escape of GM seeds: pursuing the "victim"?' (2002) 65:4 *Modern Law Review* 517 at 537.

<sup>90</sup> These are discussed in chapters 2 and 4.

rise to a proprietary remedy.<sup>91</sup> The second, which can be linked to the first, is the increasing fragmentation of property resulting in multiple exclusion rights over certain resources.<sup>92</sup> These fragments may comprise of both patrimonial and non-patrimonial interests.<sup>93</sup> The question arises as to how such fragmentation should be managed and regulated by law, bearing in mind the deference of property to human rights. The rules against arbitrary deprivation and expropriation in this context also suggest an area for further research.

Given the national importance of access to PGRs and access to knowledge that might otherwise be in the public domain but instead is locked up in IP, it is inappropriate to leave these matters to the courts. Certainty and an equitable balance between private and public require legislation and policy. Possible interventions may include the following.

#### *7.3.4.2 Patent law: institutional concerns, patentability, examination, interpretation and licence restrictions*

Concerns about patent law are not only about the provisions of the law, but also about institutional resources and capacity.<sup>94</sup> The establishment of a development-oriented IP system requires, in addition to a robust questioning of the assumptions of IP,<sup>95</sup> skilled personnel (which might include contracting in academic technical experts) and appropriate infrastructure and IT

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<sup>91</sup> *Silberberg and Schoeman* (note 151) at 9. Neethling, Potgieter and Visser *Neethling's law of personality* (2004) have classified personality rights as the right to body and life, the right to physical liberty, the right to good name (reputation), the right to dignity, the right to feelings, the right to privacy, and the right to identity. The remedy for an infringement of a personality right is the *actio injuriarum*.

<sup>92</sup> While fragmentation, which is counter to the traditional common law unitary composite of property, can explain the carving out of rights for those who have been unfairly excluded from property, also adds legitimacy to the increasing trend toward the granting of proprietary rights over public resources. It also raises the concern that once rights have been recognised, withdrawing them becomes difficult (and costly). Bruce Ziff 'The irreversibility of commodification' 2005 *Stell LR* 283-301.

<sup>93</sup> See for example *Victoria & Alfred Waterfront (Pty) Ltd v Police Commission, Western Cape*, 2004 (4) SA 444 (C) and *Nhlabathi & Others v Fick* [2003] 2 All SA 323 (LCC) discussed in § 2.2.1.

<sup>94</sup> See for example chapter 7 'Institutional capacity' of the report of the Commission on Intellectual Property Rights 'Integrating intellectual property rights and development policy' (September 2002). See also Zakir Thomas 'Agricultural biotechnology and proprietary rights: challenges and policy options' (2005) 8(6) *J of World Intellectual Property* 711-734.

<sup>95</sup> See in this regard Gold et al 'The unexamined assumptions of intellectual property: adopting an evaluative approach to patenting biotechnological Innovation' (2004) 18 *Public Affairs Quarterly* 299-344.

systems.<sup>96</sup> Although it has been suggested that maintenance costs should be generated from registration fees,<sup>97</sup> costs should not be such that ill-resourced innovators are unable to pursue protection in appropriate cases.

In developing a public interest imbued patent policy, it should be remembered that once granted, commodification is difficult to reverse.<sup>98</sup> The following elements should be reflected on and should be spelt out in policy and in patenting guidelines:

- The morality and *ordre public* exceptions. These should be interpreted broadly and clear policy should exist in this regard.<sup>99</sup> All interest groups should be included in determining exceptions to patentability (for example life forms) in terms of the morality / *ordre public* rule. It should not be left to the courts, after the fact of registration. Reflection on the rule should include a reflection on the implications (for research and the commodities market) of the commercial exploitation of inventions before patents are awarded.<sup>100</sup>
- A substantive examination procedure.<sup>101</sup> A substantive and timely examination procedure to ensure that non-patentable inventions do not get registered is lacking in the South African patent system.<sup>102</sup> In South Africa there is no substantive examination of the patentability criteria.<sup>103</sup>
- The publication of patent applications and mechanisms for challenging patents prior to granting.<sup>104</sup> The cost of challenging patents after they have

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<sup>96</sup> Commission on Intellectual Property Rights report (note 94) at 141-142.

<sup>97</sup> Commission on Intellectual Property Rights report (note 94) at 145.

<sup>98</sup> Bruce Ziff 'The irreversibility of commodification' 2005 *Stell LR* 283-301.

<sup>99</sup> Prior to amendments, the Patents Act, 1970 in India excluded the patentability of life forms and methods of agriculture and horticulture.

<sup>100</sup> *Ibid.*

<sup>101</sup> It is 'harder to undo a patent award than not to grant one in the first place'. Jaffe Adam Jaffe and Josh Lerner *Innovation and its discontents: how our broken patent system is endangering innovation and progress, and what to do about it* (2004) at 153.

<sup>102</sup> South Africa's Companies and Intellectual Property Registration Office indicates that examination by the office is on formalities only. [www.cipro.co.za/products\\_services/patents\\_registration.asp](http://www.cipro.co.za/products_services/patents_registration.asp) [Accessed 20 August 2009].

<sup>103</sup> For example the patent office would not have applied its mind to the question as to whether Monsanto's patent claims (discussed in § 3.2.5) which extend to seeds and plants is valid.

<sup>104</sup> Jaffe and Lerner (note 101) make useful suggestions for reform and the creation of a patent opposition system.

been granted is prohibitive. Such mechanisms are currently lacking in South African law.

- Optimum thresholds (which are exceedingly difficult to determine) for patentability and the novelty, inventiveness and utility requirements. Discoveries,<sup>105</sup> higher life forms,<sup>106</sup> including plants and animals, may be excluded from patentability. The possibility of excluding gene patents should also be excluded. 'Micro-organisms' and other exceptions could be narrowly defined. Higher patentability thresholds keep more goods in the public domain but should be checked for their overall impact on levels of innovation and development. The possibility of different thresholds for different industries should be considered.
- Over-broad patent claims. The extent of patent claims should be limited to the TRIPS minimum standards.<sup>107</sup> Broad functional claims which describe an invention in terms of what it does rather than what it is should not be permitted, and product-by-process claims should only extend protection to a product obtained with the claimed process. 'Narrowing the scope of patents through strict claim description and coverage requirements creates more room for innovation and competition.'<sup>108</sup>
- A narrow approach to the interpretation of patents.<sup>109</sup> National legislation may adopt a narrow approach to the doctrine of equivalents, which would

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<sup>105</sup> As Correa indicates, the advent of modern biotechnology has blurred the distinction between 'inventions' (patentable) and 'discoveries' (not patentable). Carlos M Correa and Abdulqawi A Yusuf *Intellectual property and international trade: the TRIPS Agreement* (2008) at 235. Clear guidelines should be given in this regard to avoid the patenting of what are essentially discoveries.

<sup>106</sup> As previously stated, the protection of self-propagating higher life forms by way of patent raises conceptual difficulties and 'granting the patent holder exclusive rights that extend not only to the particular organism embodying the invention but also to all subsequent progeny of that organism represents a significant increase in the scope of rights offered to patent holders. It also represents a greater transfer of economic interests from the agricultural community to the biotechnology industry than exists in other fields of science.' The Canadian Biotechnology Advisory Committee, *Patenting of Higher Life Forms and Related Issues* (June 2002) cited at para [165] in *Monsanto Canada Inc v Schmeiser* 2004 SCC 34.

<sup>107</sup> Graham Dutfield 'Intellectual property rights, trade and biodiversity: the case of seeds and plant varieties', written for the IUCN Project on the Convention on Biological Diversity and the International Trade Regime (Intersessional Meeting on the Operations of the Convention (Montreal, Canada, 28-30 June 1999) at 78.

<sup>108</sup> Carlos Correa *Integrating public health concerns into patent legislation in developing countries* (2000) at 33.

<sup>109</sup> Correa (note 108) at 86.

require infringements of a patent to be a literal infringement of the patent specification.<sup>110</sup> A doctrine of equivalents approach allows infringement claims even where there is not a literal infringement.<sup>111</sup>

- Abuse by patent holders. This should be prohibited by restricting certain terms in licence agreements. Such measures should ensure the mandatory termination of licencing agreements on expiry / invalidation of the patents,<sup>112</sup> a mandatory right in a licence agreement to dispose of a patented article,<sup>113</sup> and a mandatory exhaustion of rights.<sup>114</sup>
- A declaration of origin for biological raw materials and traditional knowledge. This is required in South Africa.<sup>115</sup>
- The impact of the broader patent system on academic research. South Africa's Intellectual Property Rights from Publicly Financed Research and Development Act 51 of 2008 should be critically scrutinised and deliberated on.<sup>116</sup> Researchers should retain rights to knowledge that is necessary for research in areas of vital public interest.

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<sup>110</sup> In South Africa, infringement requires the taking of what a patentee has actually claimed, as distinct from what he might have claimed. See for example *Frank & Hirsch (Pty), Ltd v Rodi & Wienerberger Aktiengesellschaft* 1960 (3) SA 747 (A).

<sup>111</sup> Guidelines, such as those contained in the Intellectual Property Office 'Examination guidelines for patent applications relating to biotechnological inventions in the Intellectual Property Office' (April 2009) could serve as a template for a discussion (and not simply for adoption) on patentability criteria and the scope and construction of claims.

<sup>112</sup> Section 57 of the Patents Act provides for the termination of contracts relating to licences on expiry / invalidation of patents.

<sup>113</sup> Section 58 of the Patents Act provides for this as a default and the parties are free to agree otherwise.

<sup>114</sup> Section 90(1)(e) of the Patents Act provides for this.

<sup>115</sup> The Patents Act was amended in 2005 to provide for this. Section 30 (3A) requires an applicant for a patent to lodge a statement as to whether or not the invention is based on or derived from an indigenous biological resource, genetic resource, or traditional knowledge or use. If an invention is so based, s 30(3B) requires the applicant to furnish proof of authority to use the resources or knowledge.

<sup>116</sup> See for example Murray, Fiona and Stern, Scott 'Do formal intellectual property rights hinder the free flow of scientific knowledge? An empirical test of the anti-commons hypothesis' (2007) 63 *Journal of Economic Behaviour & Organization* 648-687 whose research into dual knowledge exploited in patent-paper pairs in which a publication is coupled with the patent shows a citation rate decline for such papers after formal IP rights have been granted, thus suggesting that IP rights may have a negative impact on the diffusion of scientific knowledge.

Outside of the patent system, the use of other mechanisms (for example tenured positions, grants, awards and tax incentives) for stimulating research and innovation should also be explored.

Patent law in South Africa lacks on a number of fronts and a review of law, policy and practice is desirable. Although government has acknowledged some shortfalls,<sup>117</sup> it seems unlikely that the IP regime will be overhauled in the near future and reform is only likely to occur incrementally. A starting point might be to determine policy and, in broad consultation, draft patentability guidelines in respect of areas of public importance.<sup>118</sup> Although they are not an examining office, this will provide some certainty to applicants and to the public.

The differences between the patent system and a plant breeders' rights system should also be exploited to maximum public benefit.

#### 7.3.4.3 *Patents, plant breeders' and farmers' rights*

In a patent system 'the emphasis is on the individual, which contrasts with the plant variety rights system, which seeks specifically to place the interests of the rights holder *vis à vis* those of others engaged within the sector.'<sup>119</sup> In other words, using a *sui generis* or the UPOV system rather than the patent system allows for a greater balancing of interests.

Each country will have its own needs, making a 'one-size-fits-all' approach to plant breeders' rights undesirable. This is confirmed in a report commissioned by the World Bank in 2004 on the impact of strengthened IP regimes on the plant breeding industry in developing countries.<sup>120</sup> In summary, the report

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<sup>117</sup> The Draft Discussion Document on Agricultural Biotechnology 2004, *Government Gazette* No 27936, Notice 1591 of 2005 at 27 indicates that 'there is a lack of clarity on a number of issues that may have implications for the harnessing of both intellectual property and indigenous knowledge in agricultural biotechnology such as: ... (b) SA's lack of capacity for "search and examine" ... (c) Poor public understanding of the patent system within SA and how it could impact upon innovation and agricultural biotechnology.'

<sup>118</sup> See for example the Intellectual Property Office 'Examination guidelines for patent applications relating to biotechnological inventions in the Intellectual Property Office' (April 2009).

<sup>119</sup> Margaret Llewelyn and Mike Adcock (eds) *European plant intellectual property* (2006) at 18.

<sup>120</sup> Louwaars et al 'Impacts of strengthened intellectual property rights regimes on the plant breeding industry in developing countries: a synthesis of five case studies' (2005) commissioned by the

indicates that IP regimes must be priority specific and moulded to specific situations<sup>121</sup> and that IPR regimes should be informed by broader issues of national agricultural policy. Because of the potentially positive role that IP rights could play,<sup>122</sup> the reporters conclude that IP rights should not be treated as 'negotiable bargaining chip(s)' in trade negotiations.<sup>123</sup>

The US approach to plant protection is to permit both patent protection over plant as well as plant variety protection. The Plant Patents Act<sup>124</sup> provides protection for asexually reproduced plant varieties. In addition to this, the cases of *Chakrabarty*<sup>125</sup> and *Hibberd*<sup>126</sup> laid the foundation for the principle that any plant invention which involves human intervention is patentable.<sup>127</sup> US breeders view plant variety protection<sup>128</sup> as less attractive and as an inadequate form of protection.<sup>129</sup>

In South Africa, the protection of plant varieties in the Plant Breeders' Act,<sup>130</sup> and the protection of all other plant material by patents, is similar to the position in the EU.<sup>131</sup> It would seem to be in the public interest for the scope of patentability of PGRs to be narrowed and rather, where it is appropriate, plant innovations should be protected through the use of a plant breeders' rights

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World Bank. The countries considered in the study are China, Colombia, Kenya, India and Uganda.

<sup>121</sup> Ibid at 6.

<sup>122</sup> Countries should reflect on the broader implications of their property regimes for PGRs. For a discussion on some aspects of the economic benefits and transaction costs of a property regime for PGRs see Swanson and Goschl 'Property rights issues involving plant genetic resources: Implications of ownership for economic efficiency' (2000) 32 *Ecological Economics* 75-92.

<sup>123</sup> Ibid at 8.

<sup>124</sup> Plant Patent Act 1930.

<sup>125</sup> *Diamond v Chakrabarty* 447 US 303 (1980). The case involved the patenting of a bacterium designed to consume oil which was held to be patentable. It was held that prohibition on the patenting of products of nature did not extend to 'living' products manufactured through human intervention. See generally the discussion in *European plant intellectual property* (note 119) at 86-90.

<sup>126</sup> *Ex parte Hibberd* 227 USPQ 443 (1985). The case involved protection being awarded over a maize plant, and its progeny, which had been bred through conventional plant breeding methods to contain increased tryptophan. See generally the discussion in *European plant intellectual property* (note 119) at 86-90.

<sup>127</sup> *European plant intellectual property* (note 119) at 86.

<sup>128</sup> In terms of the Plant Variety Protection Act 1970 which provides protection for sexually (seed) reproduced varieties.

<sup>129</sup> *European plant intellectual property* (note 119) at 85.

<sup>130</sup> Act 15 of 1976.

<sup>131</sup> The Council Regulation on Community Plant Variety Rights, 1994 (EC) No 2100/94 provides for the protection of plant varieties and the European Patent Convention (EPC) for the patenting of plant material. The EPC is strengthened by the European Directive on the Legal Protection of Biotechnological Inventions, 1998 No 98/44/EC.

system which provides more scope for other breeders', researchers and farmers' rights.<sup>132</sup> A patent holder who has claims over seed is likely to challenge seed saving.<sup>133</sup> A counter argument is that seed saving, where it goes to dignity, sustainable livelihoods and the right to life, is a protected right to which property, in this case the patent holder's rights, should defer.<sup>134</sup>

#### 7.3.4.4 *Consumer protection and competition law*

Approaching the concerns from the angle of consumer protection and competition law may serve as useful checks on monopoly abuses. Excessive pricing, among other things, is prohibited by competition law; and similarly unfair, unreasonable or unjust prices and contractual terms are prohibited by consumer protection law. In addition, the possibility for a statutory measure regulating the marketing of GM cotton might be considered in terms of the Agricultural Products Act.<sup>135</sup>

Finally, biosafety law provides an opportunity to reconcile social and economic consequences with rights in the products and processes of modern biotechnology in agriculture. Although the provisions of biosafety law, and the other measures discussed above, may fall within the scope of the WTO trade agreements, these agreements should not be slavishly applied.<sup>136</sup>

#### 7.3.4.5 *Biosafety law*

Socio-economic concerns are increasingly coming to the fore in the regulation of biosafety. Whereas in the past, environmental and health concerns have dominated the debate, the socio-economic impact is beginning to be factored

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<sup>132</sup> A example of such a system is provided for in India's Protection of Plant Varieties and Farmers' Rights Act, 2001. The Act provides for, among other things, a comprehensive set of farmers' rights. See in this regard Brahmi, Pratibha et al 'The Protection of Plant Varieties and Farmers' Rights Act of India' (2004) 86 *Current Science* 392-398.

<sup>133</sup> See the discussion in Endres, A Bryan 'State authorized seed saving: political pressures and constitutional restraints' (2004) 9 *Drake J Agric Law* 323-357.

<sup>134</sup> It could be argued that to the extent that patent law authorises the exclusion of a resource necessary to fulfil human rights, it is unconstitutional. Decisions such as *Victoria & Alfred Waterfront (Pty) Ltd v Police Commission, Western Cape* 2004 (4) SA 444 (C) and *Nhlabathi & Others v Fick* [2003] 2 All SA 323 (LCC), discussed in § 2.2.1, support this argument.

<sup>135</sup> Act 47 of 1996. The Act is explored in § 4.4.3.

<sup>136</sup> See Stiglitz (note 2).

in.<sup>137</sup> Thus regulators have to deal with increasingly complex social issues which impact on the design of a regulatory system for biotechnology.<sup>138</sup> While the role of the state remains core in the regulatory process, traditional command regulatory practices may need to be reconsidered in view of the complex scientific, social and economic issues raised by modern biotechnology.<sup>139</sup>

In chapter 5 it is indicated that the South African approach to socio-economic impacts in the GMO Act<sup>140</sup> does not unequivocally require a consideration of socio-economic factors in decision making.<sup>141</sup> Namibia's legislative framework, the Biosafety Act,<sup>142</sup> is more direct on the point. Namibia's law requires the Minister (responsible for science and technology) to be satisfied that any approved GMO dealings will be in the public interest, and, in determining this, the factors which may be taken into account include the extent to which such dealings are likely:

- (a) to contribute to sustainable development;
- (b) to undermine indigenous knowledge or technology; or

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<sup>137</sup> See for example the COGEM Report 'Socio-economic aspects of GMOs: building blocks for an EU sustainability assessment of genetically modified crops' CGM/090929-01. See also Debbie Collier and Charles Moitui 'Africa's regulatory approach in biotechnology in agriculture: an opportunity to seize socio-economic concerns' (2009) 17 *RADIC* 29-56.

<sup>138</sup> See for example Neil Gunningham 'Regulating biotechnology: lessons from environmental policy' in Somsen, Han (ed) *The regulatory challenge of biotechnology: human genetics, food and patents* (2007) Edward Elgar, Cheltenham.

<sup>139</sup> Gunningham (note 138) identifies possible approaches such as meta regulation (a system of own self-regulation), regulatory pluralism, civil regulation and a licence model. He suggests that there is some value in each. Lee and Burrell point out that 'intellectual property and environmental lawyers need to enter into a dialogue about the regulation of biotechnology. Intellectual property lawyers must not assume, as has often been the case, that they are dealing with a narrow and technical set of questions and that environmental regulation will address the broader concerns raised by GM technology. Similarly environmental lawyers, who have focused on the environmental and public health concerns surrounding GMO regulation, must begin to engage with the potential socio-economic impacts of the technology and the absence of adequate mechanisms to deal with these issues.' (Footnotes omitted). Maria Lee and Robert Burrell 'Liability for the escape of GM seeds: pursuing the "victim"?' *Modern Law Review* (2002) 65:4 at 520.

<sup>140</sup> Act 15 of 1997.

<sup>141</sup> The impact assessment regulatory regime is discussed at §5.4.2.4. Impact assessment is dealt with in the GMO Act and the Proposed GMO Regulations GNR 321 of 28 March 2008 (*Government Gazette* No 30892). The draft regulations do allow for an (optional) socio-economic assessment, such as the impact on the range of diversity of the biological resources, to loss of access to genetic and other natural resources previously available to local communities, the loss of traditions, knowledge and practices, the loss of income, competitiveness or economic markets, and the loss of food security.

<sup>142</sup> Act 7 of 2006.

- (c) to affect the social and economic advancement of people and society, including a particular community.<sup>143</sup>

While the regulatory framework for GMOs is increasingly becoming more inclusive of the principles of sustainable development there is still work to be done in this regard. Much value would be added by a parallel high level process in which the socio-economic impact of strong IP rights is explored more broadly.

#### **7.4 Concluding remarks**

The simple answer to the question '*how should South African law regulate property rights in plant genetic resources?*' is '*it depends*'. At a principled level it is clear that PGRs are a vital public resource. This makes the trend toward the granting of IP rights in PGRs to the point of excess all the more concerning. Attempts to regulate PGRs should therefore start from the premise that these private rights are a privilege, an encroachment on public goods. The tragedy of the commons argument was revisited by Hardin himself when he subsequently excluded the 'managed' commons from his argument.<sup>144</sup>

While suggestions have been made for a broad theoretical approach to regulating property rights in PGRs, the details in a particular scenario will depend on many variables – for example, where the centre of origin is, where the PGRs are now being cultivated, what social function they perform, whether they cause harm (social, economic or health and environment), what private rights are being claimed?, and so forth. There is no 'one-size-fits-all' answer.

Developments should not be driven by the desire for economic growth alone and should be constrained by the potential impact on the rights and capabilities

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<sup>143</sup> Section 25(4)(b).

<sup>144</sup> Hardin admits that the mistake he made in his initial paper was to omit the adjective 'unmanaged'. Hardin is concerned about unbridled population growth and indicates that this will require individual freedoms to be given up. See Hardin, Garrett 'Extensions of "the tragedy of the commons"' (1998) 280 *Science* 682-683.

of the receiving society.<sup>145</sup> Caution should be heeded as commodification,<sup>146</sup> as well as environmental contamination, is difficult to undo.

The thesis explores one particular context being IP-protected GM cotton cultivated in the Makhathini Flats. The thesis suggests that, in this case, the social cost is untenable and that adjustments to law, policy and practice are required.

Some preliminary suggestions are made in this regard, many of which apply to the regulation of PGRs in the broader sense including the role to be played by an over-arching Council responsible for policy around ownership and management of natural resources and a mandate for NEDLAC to also consider these issues, in particular the implications of the IP system on sectors of vital importance.

The prevailing approach to the patenting of plants locks up knowledge and drives up prices in a manner that is socially unsustainable. Possibilities for law and policy reform and for possible remedies in competition and consumer protection law are suggested.

Finally, the property paradigm assists in making the case by providing a way of thinking about the property concept in a more publically minded way thereby providing the theoretical tools for permitting restrictions to private property.

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<sup>145</sup> See Amartya Sen 'Human rights and capabilities' (2005) 6 *J of Human Development* 151-166.

<sup>146</sup> See Bruce Ziff 'The irreversibility of commodification' 2005 *Stell LR* 283-301.

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## ANNEXURE A

### EXTRACTS FROM THE BILL OF RIGHTS (SS 7-39)

#### Rights

7. (1) This Bill of Rights is a cornerstone of democracy in South Africa. It enshrines the rights of all people in our country and affirms the democratic values of human dignity, equality and freedom.
- (2) The state must respect, protect, promote and fulfil the rights in the Bill of rights.
- (3) The rights in the Bill of Rights are subject to the limitations contained or referred to in section 36, or elsewhere in the Bill.

#### Application

8. (1) The Bill of Rights applies to all law, and binds the legislature, the executive, the judiciary and all organs of state.
- (2) A provision of the Bill of Rights binds a natural or a juristic person if, and to the extent that, it is applicable, taking into account the nature of the right and the nature of any duty imposed by the right.
- (3) When applying a provision of the Bill of Rights to a natural or juristic person in terms of subsection (2), a court-
  - (a) in order to give effect to a right in the Bill, must apply, or if necessary develop, the common law to the extent that legislation does not give effect to that right; and
  - (b) may develop rules of the common law to limit the right, provided that the limitation is in accordance with section 36 (1).
- (4) A juristic person is entitled to the rights in the Bill of Rights to the extent required by the nature of the rights and the nature of that juristic person.

#### Equality

9. (1) Everyone is equal before the law and has the right to equal protection and benefit of the law.
- (2) Equality includes the full and equal enjoyment of all rights and freedoms. To promote the achievement of equality, legislative and other measures designed to protect or advance persons, or

categories of persons, disadvantaged by unfair discrimination may be taken.

- (3) The state may not unfairly discriminate directly or indirectly against anyone on one or more grounds, including race, gender, sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, disability, religion, conscience, belief, culture, language and birth.
- (4) No person may unfairly discriminate directly or indirectly against anyone on one or more grounds in terms of subsection (3). National legislation must be enacted to prevent or prohibit unfair discrimination.
- (5) Discrimination on one or more of the grounds listed in subsection (3) is unfair unless it is established that the discrimination is fair.

### **Human dignity**

10. Everyone has inherent dignity and the right to have their dignity respected and protected.

### **Life**

11. Everyone has the right to life.

...

### **Freedom of trade, occupation and profession**

22. Every citizen has the right to choose their trade, occupation or profession freely. The practice of a trade, occupation or profession may be regulated by law.

### **Environment**

24. Everyone has the right-
  - (a) to an environment that is not harmful to their health or well-being; and
  - (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-
    - (i) prevent pollution and ecological degradation;
    - (ii) promote conservation; and

- (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

## **Property**

25. (1) No one may be deprived of property except in terms of law of general application, and no law may permit arbitrary deprivation of property.
- (2) Property may be expropriated only in terms of law of general application-
- (a) for a public purpose or in the public interest; and
  - (b) subject to compensation, the amount of which and the time and manner of payment of which have either been agreed to by those affected or decided or approved by a court.
- (3) The amount of the compensation and the time and manner of payment must be just and equitable, reflecting an equitable balance between the public interest and the interests of those affected, having regard to all relevant circumstances, including-
- (a) the current use of the property;
  - (b) the history of the acquisition and use of the property;
  - (c) the market value of the property;
  - (d) the extent of direct state investment and subsidy in the acquisition and beneficial capital improvement of the property; and
  - (e) the purpose of the expropriation.
- (4) For the purposes of this section-
- (a) the public interest includes the nation's commitment to land reform, and to reforms to bring about equitable access to all South Africa's natural resources; and
  - (b) property is not limited to land.
- (5) The state must take reasonable legislative and other measures, within its available resources, to foster conditions which enable citizens to gain access to land on an equitable basis.
- (6) A person or community whose tenure of land is legally insecure as a result of past racially discriminatory laws or practices is

entitled, to the extent provided by an Act of Parliament, either to tenure which is legally secure or to comparable redress.

- (7) A person or community dispossessed of property after 19 June 1913 as a result of past racially discriminatory laws or practices is entitled, to the extent provided by an Act of Parliament, either to restitution of that property or to equitable redress.
- (8) No provision of this section may impede the state from taking legislative and other measures to achieve land, water and related reform, in order to redress the results of past racial discrimination, provided that any departure from the provisions of this section is in accordance with the provisions of section 36 (1).
- (9) Parliament must enact the legislation referred to in subsection (6).

### **Health care, food, water and social security**

27. (1) Everyone has the right to have access to-
  - (a) health care services, including reproductive health care;
  - (b) sufficient food and water; and
  - (c) social security, including, if they are unable to support themselves and their dependents, appropriate social assistance.
- (2) The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.
- (3) No one may be refused emergency medical treatment.

### **Language and culture**

30. Everyone has the right to use the language and to participate in the cultural life of their choice, but no one exercising these rights may do so in a manner inconsistent with any provision of the Bill of Rights.

### **Cultural, religious and linguistic communities**

31. (1) Persons belonging to a cultural, religious or linguistic community may not be denied the right, with other members of that community-
  - (a) to enjoy their culture, practise their religion and use their language; and

- (b) to form, join and maintain cultural, religious and linguistic associations and other organs of civil society.
- (2) The rights in subsection (1) may not be exercised in a manner inconsistent with any provision of the Bill of Rights.

### **Access to information**

- 32. (1) Everyone has the right of access to-
  - (a) any information held by the state; and
  - (b) any information that is held by another person and that is required for the exercise or protection of any rights.
- (2) National legislation must be enacted to give effect to this right, and may provide for reasonable measures to alleviate the administrative and financial burden on the state.

### **Just administrative action**

- 33. (1) Everyone has the right to administrative action that is lawful, reasonable and procedurally fair.
- (2) Everyone whose rights have been adversely affected by administrative action has the right to be given written reasons.
- (3) National legislation must be enacted to give effect to these rights, and must-
  - (a) provide for the review of administrative action by a court or, where appropriate, an independent and impartial tribunal;
  - (b) impose a duty on the state to give effect to the rights in subsections (1) and (2); and
  - (c) promote an efficient administration.

...

### **Limitation of rights**

- 36. (1) The rights in the Bill of Rights may be limited only in terms of law of general application to the extent that the limitation is reasonable and justifiable in an open and democratic society based on human dignity, equality and freedom, taking into account all relevant factors, including-
  - (a) the nature of the right;

- (b) the importance of the purpose of the limitation;
  - (c) the nature and extent of the limitation;
  - (d) the relation between the limitation and its purpose; and
  - (e) less restrictive means to achieve the purpose.
- (2) Except as provided in subsection (1) or in any other provision of the Constitution, no law may limit any right entrenched in the Bill of Rights.

### **Enforcement of rights**

38. Anyone listed in this section has the right to approach a competent court, alleging that a right in the Bill of Rights has been infringed or threatened, and the court may grant appropriate relief, including a declaration of rights. The persons who may approach a court are-
- (a) anyone acting in their own interest;
  - (b) anyone acting on behalf of another person who cannot act in their own name;
  - (c) anyone acting as a member of, or in the interest of, a group or class of persons;
  - (d) anyone acting in the public interest; and
  - (e) an association acting in the interest of its members.

### **Interpretation of Bill of Rights**

39. (1) When interpreting the Bill of Rights, a court, tribunal or forum-
- (a) must promote the values that underlie an open and democratic society based on human dignity, equality and freedom;
  - (b) must consider international law; and
  - (c) may consider foreign law.
- (2) When interpreting any legislation, and when developing the common law or customary law, every court, tribunal or forum must promote the spirit, purport and objects of the Bill of Rights.
- (3) The Bill of Rights does not deny the existence of any other rights or freedoms that are recognised or conferred by common law, customary law or legislation, to the extent that they are consistent with the Bill.

**ANNEXURE B**

**MONSANTO COTTON TECHNOLOGY AGREEMENT**

University Of Cape Town

MONSANTO

Lisensienr.  
Licence No. 50913

KATOEN-TEGNOLOGIE OOREENKOMS  
COTTON TECHNOLOGY AGREEMENT



MONSANTO  
imagine™



## MONSANTO COTTON TECHNOLOGY AGREEMENT

We appreciate your interest in Monsanto's advanced technologies and the exciting benefits they offer. This Monsanto Cotton Technology Agreement may be used for Bollgard™ cotton, Roundup Ready or Bollgard with Roundup Ready. For your convenience, this Agreement remains in effect until either you or Monsanto choose to terminate the Agreement. Once you enroll, information regarding new and existing technologies and any new terms will be mailed to you each year. This licence number must be quoted each year when you order new cotton planting seed containing a Monsanto trait.

### YOU RECEIVE

- Opportunity to purchase and plant seed containing these technologies under this Agreement.
- Information regarding replant.

### YOU UNDERSTAND

- These Monsanto gene technologies are protected under U.S. and SOUTH AFRICAN patent law. Monsanto licenses the Grower under applicable patents' owned or licensed by Monsanto to use these technologies under the conditions listed below.

### YOU AGREE

- To use the seed containing Monsanto gene technologies for planting a commercial crop only in a single season.
- Monsanto retains ownership of the Monsanto technologies specified.
- To not supply any of this seed to any other person or entity for planting, and to not save any crop produced from this seed for replanting, or supply saved seed to anyone for replanting.
- To not raton any Bollgard cotton and undertake, on completion of harvest, to plough out and remove any Bollgard cotton residues resulting from Bollgard cotton that you have planted.
- To not use this seed or provide it to anyone for crop breeding, research, or seed production.
- To pay the applicable Technology fee for the particular product being purchased.
- To implement an Insect Resistance Management Program specified in the applicable Bollgard cotton section of the "Product Use Guide" and to cooperate with Insect Resistance Management Programs and research.
- To provide, upon request, the locations of all fields planted with Bollgard cotton to cooperate fully with any inspections.
- To allow Monsanto and/or Monsanto's approved distributors to inspect all of your fields planted with Bollgard cotton in order to ensure that you have followed an approved Insect Resistance Management Program. All inspections will be performed at a reasonable time arranged with you, in your presence, unless you do not wish to be present. Refer to the Bollgard cotton section of the Product Use Guide for specific instructions regarding refuge requirement.\*
- If Monsanto reasonably believes that you have planted saved seed containing a Monsanto genetic trait, Monsanto will request invoices or otherwise confirm that fields in question have been planted with newly purchased seed. If this information is not provided within 30 days, Monsanto may inspect and rest all of your crop fields to determine if saved seed has been replanted. Any inspections will be performed at a reasonable time arranged with you, in your presence, unless you do not wish to be present.
- Any technology fees not paid by the due date will be assessed a late payment and a fee, equal to prime bank rates plus 3%, will be charged on the unpaid principal balance.

### CONDITION OF SALE

- On signature of the "Monsanto Technology and Licence Agreement", growers will be able to buy transgenic seed containing Monsanto traits, from any of the Monsanto approved seed supplier or seed distributor.
- Growers are only allowed to purchase the number of transgenic seed bags as specified on the "Monsanto Cotton Technology Agreement". Should extra bags of transgenic seed be needed, growers should apply for an additional "Monsanto Technology Agreement" from any of the Monsanto approved distributors.
- Should, for any reason due to an "act of God", transgenic crops containing Monsanto traits be severely damaged and the Grower needs to replant in the same season within a specified period (for Bollgard sixty (60) days after planting); and for Roundup Ready cotton and Bollgard with Roundup Ready cotton, 30 days after planting), the Grower can repurchase the same quantity of seed as specified in the "Monsanto Cotton Technology Agreements" without payment of the technology fee. For Roundup Ready Cotton, none of these clauses apply, once Roundup Ready herbicide has been sprayed. In the event of total destruction of crops containing both Bollgard and Roundup Ready traits, within 30 (thirty) days of planting, the grower (on application) may be credited with the full technology fee, on condition that:
  1. In case of a replant situation as indicated above, Grower must comply with the following:
    1. Notify Monsanto or Deltapine **within 48 hours** of the event occurring.
    2. Complete the "Monsanto Credit and Replant Agreement", obtained from any Monsanto approved distributor before purchase of transgenic seed.
    3. Destroy damaged crops totally by either plough or chemical eradication.

### GENERAL CONDITIONS

The Grower's rights may not be transferred to anyone else without written consent of Monsanto. If the Grower's rights are transferred with Monsanto's consent or by operation of law, this Agreement is binding on the person or entity receiving the transferred rights. If the Grower violates the terms of this Agreement, in addition to other remedies available to the technology provider(s), the Grower's rights under this Agreement will terminate immediately and the Grower forfeits any right to obtain an Agreement in the future. The Grower agrees that the technology provider(s) are entitled to recover their full amount of legal fees and other costs of enforcing this Agreement. If the Agreement is terminated, the Grower will no longer have a right under this Agreement to purchase seed containing these technologies; however, any obligations that arose before termination will continue in effect. In the event that the Grower saves, supplies, sells or acquires seed for replant in violation of this Agreement and license restriction, in addition to other remedies available to the technology provider(s), the Grower agrees that damages will include a claim for liquidation damages, which will be based on 120 times the applicable Technology fee.

\*Refer to the applicable section of the latest Product Use Guide, which is part of this Agreement, for specifics relating to these terms.

**THIS AGREEMENT IS GOVERNED BY THE LAWS OF THE REPUBLIC OF SOUTH AFRICA.** South African patent numbers covering these technologies are 90/1417, 86/5921, 90/8690.

**Thank you for choosing our advanced technologies. We look forward to working with you in the future. Every effort was made to ensure that information in this document was correct at the time of printing. If you need further clarification, contact Monsanto directly on (011) 790 8200. ALWAYS READ AND FOLLOW LABEL DIRECTIONS.**

<sup>TM</sup> = Trade marks of Monsanto Company