Decentralisation of water resource management: a comparative review of catchment management authorities in South Africa and Victoria, Australia.

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ACRONYMS

CMA: Catchment Management Agency (South Africa) / Catchment Management Authority (Victoria, Australia)

CAC: Community Advisory Committee

NWA: National Water Act

IWRM: Integrate Water Resource Management

CLPA: Catchment and Land Protection Act

CMB: Catchment Management Body

CMS: Catchment Management Strategy

CMF: Catchment Management Forum

RWA: Rural Water Authority

WRM: Water Resource Management

WMA: Water Management Area

WMI: Water Management Institution

WUA: Water User Association

MDB: Murray Darling Basin

MDBA: Murray Darling Basin Authority

MDBC: Murray Darling Basin Commission

NEMA: National Environmental Management Act 107 of 1998

NSW: New South Wales

MDBMC: Murray Darling Basin Ministerial Council

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I hereby declare that i have read and understood the regulations governing the submission of PBL5624W including those relating to length and plagiarism, as contained in the rules of this University, and this research project conforms to those regulations.

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Abstract

By the adoption of Integrated Water Resource Management (IWRM), South Africa has significantly changed its water management regime and the institutions governing water in this country. These changes were first introduced by the National White Policy Paper on Water in South Africa in 1997 and subsequently the National Water Act in 1998. One of the key components of IWRM is the decentralisation of water management to a regional or catchment level and the introduction of public participation in the water management sector. With the enactment of the NWA South Africa incorporated IWRM in its legal system and a decade on, authorities are now turning to its implementation. The NWA introduces Catchment Management Agencies (CMAs) in water management and gives them authority over water management at a catchment level. Initially there were nineteen (19) and this number has since been reduced to nine (9) due to a number of factors. South African authorities are now seeking ways in which they can effectively decentralise water to a catchment level, including delegating and assigning some of the functions currently held by the Minster to CMAs. Using Victoria, Australia as a comparative study, this study investigates how water management can best be decentralised to a catchment level; it starts off by investigating the theory of decentralisation and its pros and cons; then sets off to investigate water management has been decentralised in Australia from the national level, to state level and catchment level; it then investigates the role of Rural Water Authorities in Victoria and compares them to Catchment Management Agencies in South Africa. Finally the work highlights the water management regime and the various stakeholders in water management South Africa from a national level to a catchment level and the challenges facing South Africa in term of WRM; and then makes recommendations and a conclusion based on its research findings and the South African socio-economic and political context.

CHAPTER 1: INTRODUCTION

1.1. Background

'The management of water resources is undergoing significant change in South Africa with the goal of instituting effective integrated water resources management. While in some countries this may simply require better communication between all levels of water management institutions, Integrated Water Resources Management (IWRM) in South Africa entails the decentralisation of water resources management from the national level to the regional level through the establishment of new institutions such as the Catchment Management Agencies.'[1]

With the enactment of the of the National Water Act, 36 of 1998, South Africa has embarked on a system of decentralisation, by among other things, initially establishing nineteen (19) Catchment Management Agencies (CMAs) in the country as a whole but later reducing these to nine (9) due to problems elaborated in chapter 4 below. The next step in South Africa decentralisation process is for the authorities to consider which powers to delegate or assign to a catchment level in terms of the National Water Act provisions and the various implications thereof. Additionally the checks and balances that the Minister of Water Affairs as the Trustee of the nation's water resources should implement to ensure the efficacy of the CMAs and compliance with their mandate. As well as the support structures that should be in place to ensure that CMAs are successful need to be considered. The anticipated end result is that CMAs will eventually be responsible for the issuing of water licences and be responsible for water management at the regional level. However the delegation to do so has not yet been handed to them.[2] As will be shown by this study, the practicalities of decentralisation are not easy hence the quest for decentralisation is often unsuccessful due to a number of factors. The study therefore investigates which decentralisation method South Africa should implement to ensure successful decentralisation of water management to a catchment level. It builds on the existing body of research in this area to develop a roadmap for becoming a responsible authority.

Using the State of Victoria in Australia as a model for decentralisation, the study explores how Victoria as a state has managed to effectively decentralise water resource management and governance to ten (10) catchment management authorities and four (4) Rural Water Authorities (RWAs). It also identifies the specific role of the RWAs in water management and governance and whether or not RWAs can provide solutions for Water User Associations (WUAs) in South Africa as there reports that these organisations are being phased out. After exploring

[1] Archer L 'Integrated Water Resource Management; Fantasy or Feasible' Un-numbered. www.ewisa.co.za (accessed 12/11/2014).

[2] DEAP 'Western Cape IWRM Action Plan; Status Quo Report Final Draft' at 33.

decentralisation in Australian context, and justifying why the state Victoria in Australia has been chosen as the focal point of this comparative study, the work makes recommendations to the South African authorities as to how water can best be decentralised to a catchment level. In doing so suggestions are made as to how the Minister can best implement checks and balances for the CMAs to ensure compliance and efficacy in executing their mandate.

1.2. Statement of the problem

In recent years, there has been a considerable restructuring of the institutional arrangements governing Natural Resource Management (NRM) generally. This restructuring has taken place in the context of on-going efforts of economic reform and decentralisation in various countries.[3] Initially market deregulation and privatisation were the guiding principles in these endeavours, while more recently decentralisation of governance and local participation have been emphasised.[4] These institutional changes amount to a redefinition of the role of the state and have stimulated further exploration and experimentation regarding a variety of local government and non-state forms of management and co-management.[5] South Africa has adopted these institutional changes, which include decentralisation of its water management sector. Building on existing literature, the study examines the effectiveness of the decentralisation process in particular by outlining the role of Catchment Management Agencies (CMAs) in pursuing these objectives.

In South Africa, the National Water Resource Strategy binds all water institutions and all water users.[6] One of the strategies objectives is to provide a framework within which water will be managed at a regional or catchment level in defined water management areas.[7] CMAs were established to achieve this purpose. CMAs were established to assign or delegate water resource management to a regional or catchment level and to involve local communities.[8] This is premised on the belief that decentralisation will contribute towards a more effective, accountable and participatory response to water resource management in accordance with the purposes of the National Water Act. The challenges associated with this process of shifting power and functions to lower forms of government are often underestimated. This is largely because decentralisation requires the shifting of governance structure and devolving power from the central state to a lower level structure. Decentralisation is extensive and requires the drafting of legislation and policies, deployment of new personnel, the channelling of new resources and the development of new

[3] Maynen W & Doornbos M 'Decentralising Natural Resource Management; a Recipe for Sustainability and Equity' at 225.

[4] Ibid.

[5] Ibid.

[6] Part 1 introduction of Chapter 2 of the National Water Act (NWA) 36 of 1998 'Catchment Management Strategies.'

[7] Ibid.

[8] Chapter 7 NWA 'Catchment Management Agencies'.

administrative capacities.[9] As will be seen in chapter 4, especially in South African water management sector while decentralisation in broad terms has become the centre piece for democratic discourse, the challenges associated are complex and often underestimated.

As will be outlined in Chapter 4, South African law envisaged the difficulty of shifting power by prescribing a progressive approach to the delegation and assignment of powers, duties and functions to the CMAs.[10] It sets out the initial functions of the CMA in terms of section 80 of the Act, and powers and duties which may be delegated in terms of section 63 or assigned in terms of section 73 of the Act. The progressive nature of assignment and delegation presents a challenge when determining the legal and operational requirements that should be in place before a CMA can assume all powers, duties and functions of a Responsible Authority. This paper examines the legal and operational requirements which must be present before a CMA can become a full functioning authority, and these will be addressed in detail in chapter five (5) recommendations.

1.3. Significance of the study

The global move towards the decentralisation of government has been spurred by the disenchantment with centralised and planned control,[11] as highlighted in chapter two (2) below. Catchment Management Agencies (CMAs) reflect this global trend. They are premised on the belief that they will contribute towards a more efficient, accountable and participatory response to water resource management.[12]

This study investigates when and how decentralisation can best be effected within the National Water Act (36 of 1998). Particularly how schedule 3 powers and functions can be delegated to local CMAs and whether or not this is desirable and in the public interest[13]. The investigates how the state of Victoria in Australia effected decentralisation of water management to a catchment level and determines whether their lessons South Africa can derive from this State. And if so, how this lessons can be implemented in South Africa's context.

[9] Heller P 'Moving the State: the Politics of Democratic Decentralization in Kerala, South Africa and Porto Alegre' at 149.

[10] See section 73(1) & (3) read with schedule 3 of the NWA.

[11] Heller P op cit (n9) at 132.

[12] See Chapter 7 of the NWA.

[13] Schedule 3 of the National Water Act provides for powers which may be exercised and duties to be performed by CMAs on assignment or delegation. These include power to manage, monitor and protect water resources and to implement Catchment Management Strategy (CMS); make rules to regulate water use, require establishment of management systems; require alterations to water use and temporarily control, limit or prohibit use of water during periods of water shortage.

1.4. Key Research Questions

The key research questions addressed in this thesis are:

1.4.1. What is decentralisation and decentralisation of natural resource management, with particular reference to the water sector?

1.4.2. What are the advantages and disadvantages of the centralised and decentralised water resource management and how is water resource management decentralised, with particular reference to Victoria, Australia.

1.4.3. What is the role of catchment management agencies in water resource management and how, and why were they created?

1.4.4. Against the above backdrop, what lessons can South Africa take from the state of Victoria and implement in its water resource management, and this will be discussed in chapter 5.

1.4.5. Are catchment management efficient in South Africa and should more powers of water resource management such as licensing be delegated on to them?

1.4.6. What measures can the Minister of Water and Sanitation, if any, put in place to ensure that catchment management agencies comply with their mandate?

1.5. Theoretical Underpinnings of the Study

South Africa has adopted some initiatives that have had an impact on its approach to managing its own water resources. Some of the globally driven concepts such as Integrated water resource management, have been adopted and customized by South Africa.[14] Integrated Water Resource Management (IWRM) is defined as the management of surface and sub-surface water in a qualitative, quantitative and environmental sense from a multi-disciplinary and participatory perspective.[15] In it there is a focus on the needs and requirements of the society at large with regards to water at the present and in the future, thus aiming at maximum sustainability in all senses.[16] IWRM therefore reconciles basic human needs, ensures access and equity with economic development and the imperative of ecological integrity, while respecting trans-boundary commitments.[17]

[14] Pegram G et al. 'Strategic Review of Current and Emerging Governance Systems Related to Water in the Environment in South Africa' at 8.

[15] Ibid.

[16] Ibid.

[17] Van der Zaag P 'Integrated Water Resource Management: Relevant Concept or Irrelevant Buzzword?' at 868.

Throughout the world, there is a broad consensus that water is a finite and vulnerable resource.[18] Water policies and new legal frameworks are therefore prepared to embody new principles and strategies for IWRM.[19] IWRM encapsulates each of the water principles identified at the International Conference on Water and the Environment which was held in Dublin, Ireland in 1992. According to the Dublin Statement on Water and Sustainable Development which came out of this conference; Fresh Water is a finite and vulnerable resource, essential to sustain life, development and environment;[20] Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels;[21] Women play a central part in the provision, management and safeguarding of water;[22] and Water has an economic value in all its competing uses and should be recognised as an economic good.[23] These principles arguably constitute a global norm akin to 'human rights' although the argument regarding water as an economic commodity continues and they are encapsulated in IWRM.[24]

Furthermore the Dublin principles point towards a decentralised water governance system.[25] The principles highlight the peculiarity of water as a commodity that is vulnerable and for which value should be recognised as an input to economic activities.[26] The decentralisation process highlighted in these principles and in IWRM requires the creation and early operation of river basin organisations generally denoted as Catchment Management Councils or Authorities.[27] These organisations may be referred to as governance-beyond-the-state and demand greater involvement of citizens and the communities since they are called to actively participate in the management of water services.[28] They also require a series of changes in the formal and informal water management institutional framework.[29] Due to these required changes, the Dublin principles and IWRM have become institutional challenges

[18] Principle 1 'Dublin Statement on Water and Sustainable Development'.

[19] Jaspers FGW 'Institutional Arrangement for Integrated River Basin Management' at 78.

[20] Principle 1 'Dublin Statement on Water and Sustainable Development'.

[21] Principle 2 ibid.

[22] Principle 3 ibid.

[23] Principle 4 ibid.

[24] Swatuk LA 'Political Challenges to Implementing IWRM in Southern Africa' at 873.

[25] Principle 2 of the Dublin Statement on Water and Sustainable Development dictates that water development and management should be based on participatory approach, involving users, planners and policy-makers at all levels.

[26] Principles 1 & 4 of the Dublin Statement on Water and Sustainable Development.

[27] Swatuk LA op cit. (n24) at 874.

[28] Domenech L 'Rethinking Water Management' at 304.

which require institutional capacity to integrate;[30] with equitable access to and sustainable use of water resources by all stakeholders while maintaining the characteristics and integrity of water resources at the catchment within agreed limits.[31]

South Africa has acknowledges these changes and challenges by creating among other things Catchment Management Agencies and Water User Associations and the legislative framework within which they will operate.

1.6. Methodology

The study employs a qualitative method to establish how and when within the legal framework the minister can delegate more powers to CMAs. It will rely heavily on actual literature found in policy papers (both local and international), books, publications and unpublished papers, websites as well as articles. This will also include statutes from both South Africa and Australia, and other relevant national, regional and international instruments on water management and the environment.

1.7. Organisation of the study

The dissertation comprises of six chapters, and each chapter shall include an introduction. The current chapter provides an introduction which includes the background, problem statement, rationale or significance of the study, key research questions, theoretical underpinnings, methodology and synopsis of the chapters.

Chapter 2 of the study deals with the theory of decentralisation; it starts off with the historical overview of the theory of centralisation of water management, the need for decentralisation, and arguments for and against decentralisation and centralisation.

Chapter 3 addresses decentralisation of water resource management in Australia; it starts off with highlighting the governance structure of Australia, and the different states and territories. It then goes on to discuss the different statutes that regulate water governance in Victoria and how decentralisation of water management came to be in that state. Furthermore it highlights catchment management authorities in this state and their functions, as well as their importance.

Chapter 4 addresses Catchment Management Agencies in South Africa. It starts with highlighting their creation in terms of the National Water Act, their organisation and management, and their importance in the management of SA's water resources. It highlights their current powers and existence.

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[29] Ibid at 303.

[30] Ibid.

[31] Swatuk LA op cit (n22) at 873.

Chapter 5 offers a comparative review of both South Africa and Victoria, Australia. How South Africa can delegate powers to catchment management agencies and ensure that CMA's comply with their mandate. It also highlights lessons learned from Victoria, Australia.

Chapter 6 contains some conclusions and recommendations. Here some concluding remarks, findings, and recommendations will be made.

CHAPTER 2: THE THEORY OF DECENTRALISATION

2.1. Historical overview: decentralisation of water resource management

Until the first half of the 19th century, the main sources of water supply were local and included surface water, groundwater and rainwater.[32] As urban areas became more populated, public health concerns arose.[33] The concentration of human and animal faeces resulted in the contamination of surface waters and the outbreaks of devastating diseases such as cholera and typhoid fever which were fairly common. The solution to these unhealthy conditions was formulated in 1842 by Edwin Chadwick, an English sanitary reformer, and involved the provision of piped water supply and the construction of sewage networks to evacuate human effluent.[34] Soon after, flushing toilets became the most popular method to dispose human wastes and hence, larger volumes of water were demanded and subsequently polluted. As cities grew and needed more water, distant water sources were sought and large infrastructures were built.[35] Traditional water systems were born from these processes. It is also worth noting that besides the public health concerns, political control and capital accumulation were also significant drivers of these centralised configurations.[36]

The traditional urban water systems could be characterised as large scale, centralised and mechanised systems operating within a management regime of expansion and efficiency, facilitated by technical, professional elites, who in turn operate in a rigid regulatory framework.[37] While these water systems have been relatively successful in the past, the capacity of this large socio-technical regime to respond to emerging challenges, including uncertainty and complexity, is currently being questioned.[38] The challenges faced by these systems include the current climate change predictions and the increasing demand for water in response to growing populations. As a solution many commentators are calling for transformative change in the urban water sector towards more sustainable management practices. The commentators argue that sustainable water regime would emphasise an adaptive framework, inclusive and collaborative practices, operating within organisational cultures that embrace

[32] Domenech L op cit (n28) at 295.

[33] Ibid.

[34] Ibid.

[35] Ibid.

[36] Ibid.

[37] Farelly M & Brown R 'Rethinking Urban Water Management; Experimentation as a Way Forward' at 721.

[38] Ibid.

experimentation and learning to foster sectorial adaptation.[39] Other commentators acknowledge the benefits of the centralised model of water management which provides reliable water supplies, flood control, food production and hydroelectricity generation.[40]

Having identified the flaws in the centralised form of water governance; Wunsch and Olowu writing on failures by the centralised African state to promote sustainable development, argue that excessive centralisation of institutions of governance in Africa since Africa's independence from colonialism have seriously impeded African's independence and self-governance.[41] They therefore advocate for decentralisation as the solution to these problems.[42] Fred Riggs supports this view by stating that in underdeveloped countries (like many African states) one of the most frequently observed problems is over-centralisation; the headquarters of every public agency is invariably a storm centre with innumerable callers demanding access to the executive.[43] Moreover, he concludes that instead of contributing to a vigorous growth of a locality, centralised based development deprives developing countries of their best potential leadership, leaving a residue of partially uneducated men and women whose levels of aspirations has risen more rapidly than their capabilities. This results in the bitterness and frustrations of local politics without compensating success in self-realisation and achievement.[44] Riggs believes that democratic decentralisation, of any form, including water management, would create new channels for local people to become engaged in policy making, moreover, he states that decentralisation was the key to success to classical governmental practice in developed countries.[45]

Richard D Heffner, writing on the topic decentralisation in America contends that the centralised government cannot administer the affairs of each locality better than the citizens could do for themselves; he observes that, in America the collective strength of the citizens will always respond more efficaciously to the public welfare than the authority of the centralised government.[46] He goes on to say, however enlightened a skilful centralised power may be, it cannot be of itself embrace all the details of life of a great nation. In addition decentralisation and local

[39] Farrelly M & Brown R op cit (n37) at 721.

[40] Domenech L op cit (n28) at 295.

[41] Sakyi EK 'Critical Review of the Theoretical Objectives and Practical Experiences of Decentralisation from the Perspectives of African states' at 52.

[42] Ibid.

[43] Riggs F 'Administration in Developing Countries; the Theory of Prismatic Society' (1964) at 340.

[44] Riggs F 'The Theory of Developing Polities' (1963) at 135.

[45] Riggs F op cit (n43) at 342.

[46] Heffner RD & De Tocqueville A 'Democracy in America' abridged version at 66.

government is indispensable to American democracy and development; over centralised incessantly diminishes local spirit and spirit of the townships.[47]

In the UK supporters of local government Sharpe (1970) and Jones and Stewart (1985) advanced a range of arguments in defence of local government and decentralisation.[48] They emphasised that local government is an expression of the diffusion of power; local government is not a passing luxury and it should be a guardian of fundamental values. This is because it presents a spread of political power. Power is diffused among many different organisations. Local authorities are therefore the only institutions other than the House of Commons within the country that can claim the authority that comes from elections. Local authorities can represent the dispersion legitimate political power in our society they argued. They also caution that a concentration of power is a danger to a free society.[49]

2.2. Decentralisation: the theory

Decentralisation is a system of devolving power from the central state to a lower level structure is now widespread in francophone Africa. The powers and competencies transferred vary greatly from one country to another.[50] Primarily because it involves the shifting of fiscal, political and administrative responsibilities from higher levels to lower levels of government.[51] According to Rondinelli it is a movement of political and administrative reform, permitting the assignment of a variable number and to varying degrees of functions, responsibilities, resources, political and budgeting powers to levels below the state.[52] It may also involve assignment of functions and responsibilities to semi public and private institutions. It is therefore used as an instrument for strengthening democracy and popular participation in the management of local affairs.[53] Whether understood in an administrative sense; as a policy framework "in which public services and goods are provided primarily through the revealed preferences of the individuals by market mechanism"; or in relation to an explicit democratising function,

[47] Ibid.

[48] Sakyi EK op cit (n41) at 53.

[49] Ibid.

[50] Gueye B 'Participatory Evaluation and Budgetary Processes' at 3.

[51] World Bank 'Decentralisation Toolkit' www1.worldbank.org (accessed 18/11/2014).

[52] Ibid.

[53] Ibid.

decentralisation has become one of the core components of political conditionality in international development cooperation.[54]

From a political conditionality perspective, it is considered a key strategy for promoting good governance. It is interpreted as greater pluralism, accountability, transparency, citizen participation and development.[55] Decentralised units are to improve/increase the efficiency and effectiveness of public service offers (be it in social infrastructure, resource management, economic promotion etc.); they are meant to be more relevant to local needs (being closer to the people offers the possibility to express needs, increase the responsiveness of personnel, increase the people's motivation to participate in the implementation of services); more flexible (being closer problems, more autonomous in reaction, gaining feedback due to participation mechanism); more innovative (more limited extent of consequences of wrong decisions, multiplication of learning centres, competition between local communities); and cheaper (identity of payers and clients, thus preventing locally elected taxes to be diverted to higher levels).[56]

Administratively, decentralisation is an important process that allows decongestion of the central government and reduces the workload to manageable proportions. The breaking up of work load promotes greater efficiency, coordination and effectiveness in public service delivery.[57] Since decision-making powers are transferred from the centre to local institutions, it provides an opportunity for local involvement in decision making and harnessing local knowledge in the development process.[58] Ideally, decision-making processes in decentralised bodies integrate people's needs and interests via periodic election of councillors, mayor and chief administrators, locally elected councillors or representatives.[59] A decentralised structure can achieve this with the help of a national lobbying body (local government association). In this way creating an equal distribution of national resources and avoiding the detrimental urban bias of the past and the consequent migration waves.[60]

Because of the critics of centralisation and 'big development' who have argued that centralised development programmes initiated by governments were performing poorly and worsening the conditions of the

[54] Beall J 'Decentralisation and Engendering Democracy; Lessons from Local Government Reform in South Africa' at 2.

[55] Edoun EI & Jahed M 'The Merits of Decentralisation and Local Economic Development in South Africa' at 4.

[56] Steinich M 'Monitoring and Evaluating Support for Decentralisation' at 2.

[57] Ibid.

[58] Ibid.

[59] Ibid at 3.

[60] Ibid.

poor,[61] decentralisation gained more support by the mid-1980's. It gained this support as a response to the failures centralised and top-down development, and, secondly on belief that it can stimulate development and improve the lives of poor and disadvantaged communities.[62] These mid 1980's critics argued that decentralisation would promote democratic values and political stability of countries that implement it. They claimed that decentralisation is good for local and national political development, because it promotes political socialisation and training in leadership for potential local politicians.[63] The World Bank in support of this notion has maintained that the primary objective of decentralisation is to maintain political stability in the face of pressure for localisation and it would provide an institutional mechanism for bringing opposition groups into a formal, rule bound, bargaining process.[64]

The opponents of decentralisation on the other hand offer counter-arguments to almost all the positive assumptions made by the supporters of decentralisation.[65] Smith (1985) states that decentralisation appears to be separatist as it threatens the unity of the general will, reinforces narrow sectional interests especially and encourages development inequalities among others, due to its emphasis on local autonomy.[66] Another argument is that decentralisation requires administrative reform and training of local actors which is in itself expensive, not to mention risky.[67] The critics furthermore criticise its validity. They argue that most of the positive things arrogated to decentralisation are rhetorical and have no provable empirical basis. They claim that most of the advocacy of decentralisation is linked to condemnation of centralisation.[68] Secondly that decentralisation is affront to democracy.[69] Thirdly, the opponents see the linking of decentralisation to political stability and national unity as a myth and unrealistic.[70] Fourthly they question an assumption that decentralisation would ensure accountability because local government will be closer to the people. According to the critics decentralisation does not automatically promote

[61] Sakyi EK op cit (n41) at 55.

[62] Ibid.

[63] Ibid at 53.

[64] Ibid.

[65] Ibid at 62.

[66] Edoun EI & Jahed M op cit (n55) at 8.

[67]Parliamentary Monitoring Group 'Breede Overberg and Inkomati Catchment Management Agencies; 2011/2012 Strategic Plans, Budgets, Annual Financial Statements, Key Performance and Priority Areas' at 2.

[68] Sakyi EK op cit (n41) at 62.

[69] Edoun EI & Jahed M op cit (n55) at 8.

[70] Sakyi EK op cit (n41) at 63.

accountability and public participation.[71] Fifthly the critics express some doubt as to the contribution of decentralisation to socio-economic development and poverty reduction. According to them many African states have implemented decentralisation and rural development programmes aimed at poverty reduction throughout the 1970's and the 1980's, but still majority of them are still poor or even poorer.[72]

Some went as far as to argue that while the process is seen as a means of bringing the services closer to the people, it is not always effective in improving service delivery, mainly because of lack of financing options and the necessary administrative capacity at local level.[73]

2.3. Decentralisation: practical implementation

A variety of local and global actors, ranging from German, Scandinavian, and Canadian governments, to policy think tanks, foundations, and institutions such as the World Bank and International Monetary Fund pushed for the adoption of decentralised governance as a means of achieving participation, democratization and development.[74] From the mid-1980's countries throughout the world began experimenting with some form of decentralisation, early examples of such countries in sub-Saharan Africa being Ghana, Nigeria, Tanzania and Zambia.[75] By the mid 1990's, 80 percent of countries, all with very different political dispensation, were engaged in some form of decentralisation.[76] Across all this political spectrums, decentralisation has been favoured as a mechanism for improving accountability and transparency, and for improving state-society relations.[77]

In South Africa decentralisation initiatives can be traced back to the colonial era.[78] Decentralisation in governance was however formally introduced by the Constitution in the new democratic era. According to Koelble

[71] Ibid at 64.

[72] Ibid at 67.

[73] Financial and Fiscal Commission Policy Brief 'Can Sub-national Expenditure and Revenue Assignments Promote Economic Growth in South Africa?' at 4.

[74] Koelble TA & Siddle A 'Why Decentralization in South Africa has Failed' at 343.

[75] Beall J op cit (n50) at 2.

[76] Ibid.

[77] Ibid.

[78] Edoun EI & Jahed M op cit (n54) at 4.

and Siddle, it was introduced for the right reasons as it promised democratic decision making institutions from the grassroots level upward, as well as citizen participation in administrative structures and developmental debates.[79]

There are several different forms of decentralisation which can occur within a country in particular South Africa, also within the different sectors in this country; 'De-concentration' occurs where a central government disperses responsibilities for certain services to its regional branch offices. This is the mildest form of decentralisation since it does not involve any transfer of authority to local governments.[80] 'Delegation' refers to a situation where the central government transfers responsibilities for decision making and administration of public functions to local governments or semi-autonomous organisations that are not wholly controlled by the central government but are accountable to it, example being that of the principal-agent relationship.[81] And finally 'devolution,' which is an extensive form of decentralisation whereby the central government transfer responsibility for decision making, finance and management to local governments that have a clear and legally recognised jurisdiction over which they exercise authority, within which they perform public functions, and to which constituents they are accountable.[82] It involves the transfer of authority and power to local units of government, which operate in a quasi-autonomous manner outside the direct administrative control and structure of the central government.[83] It also entails the conferment of necessary legal powers to discharge specified functions upon formally constituted local structures characterised by a measure of autonomy.[84]

The actors, powers and accountability framework can provide an important tool for analysing the type and extent of decentralisation which can occur in a specific country, in this instance South Africa.[85] The first consideration should be the powers, and accompanying resources, actually transferred to lower-level actors to determine whether an autonomous domain of decision making actually exists around issues of local significance; and secondly the local entities receiving powers and their relation to the population in order to understand the extent to which this are both representative of or downwardly accountable to local people.[86] It is important to note that the type and extent of

[79] Koeble TA & Siddle A op cit (n74) at 343.

[80] World Bank op cit (n51) at 3.

[81] Ibid.

[82] Ibid.

[83] Edoun EI & Jahed M op cit (n55) at 6.

[84] Ibid.

[85] Larson AM & Ribot JC 'Democratic Decentralisation through a Natural Resources Lens: an Introduction' at 4.

[86] Ibid.

decentralisation is not the only relevant factor in understanding how local actors will use their new powers or what outcomes these will have for local people and resources. There are at least four factors that affect decision making at local level; the overall capacity of the decision making body, local power relations, the incentive structure for the resource management, and environmental and social ideology.[87]

It is important to note that despite the highly laudable basic principles attached to decentralisation, practical experience has shown that elements of bias and imperfections in the system of democratic representation can actually hinder genuine popular participation.[88] The institutions emanating from decentralisation have therefore not been entirely successful in reinforcing the numeric and strategic representation of certain vulnerable groups in decision making circles.[89] In addition to this, the significant powers retained by traditional institutions in some countries do not merely counterbalance the new institutions established in the context of decentralisation, but undermine their legitimacy and efficacy.[90] The balance of power between the political authorities and other stakeholders is also an important factor which could/should influence the types of reforms and policies selected by the central state.[91]

From these general and practical theories of decentralisation, the paper shall now turn to decentralisation in the water management sector. It will first highlight he historical evolution of decentralisation in water management, the guiding principles and policies and the policies and features of decentralised water management sector.

2.4. Decentralisation of water management: historic evolution

Water management has a long history that goes back to prehistoric times as a response to seasonal changes in water availability.[92] It was a crucial factor during the transition from hunting-gathering to farming, and it became yet more important with the emergence of cities, industrial towns and administrative centres.[93] With the emergence of cities and towns, water management was a matter of public concern as large concentrations of human

[87] Ibid.

[88] Gueye B op cit. (n50) at 4.

[89] Ibid.

[90] Ibid.

[91] Ibid.

[92] UNESCO 'World History of Water Management' un-numbered.

[93] Ibid.

and animal faeces resulted in the contamination of surface waters and the outbreaks of devastating diseases such as cholera and typhoid fever which were fairly common.[94] With water management as a major public concern during this time, the concept of river basin management as a unit for water management, conservation and protection was born.

The concept of river basin as a unit of water resource management was spurred at the beginning of the 19th century by three factors 1) improved technology in building concrete dams, 2) fear of the reckless depletion of many natural resources including water and, 3) horrendous industrial pollution of rivers and lakes.[95] The construction of large dams in the 19th century permitted the harnessing of watercourses for several different purposes simultaneously.[96] These purposes included power production, water supply, and irrigation which utilised the natural interconnectedness of waters within a river basin more efficiently.[97] By 1956, the UN Secretary General admittedly recognised the river basin development as an essential feature of economic development and acknowledged that integrated river basin development would promote human welfare.[98] The main question then was what a river basin is and what does integrated river basin management entail.

Naturally most of the world's surface apart from the most arid and cold areas, is divisible into river basins.[99] According to Teclaff; nature fashioned a river basin as an ecological system or basin.[100] When water use intensified towards the end of the nineteenth century, it was perceived that waters of the basin formed a unified system and that, for efficiency of use, they should be treated as such. This is where the concept of integrated river basin, as a unit for water management under an autonomous basin wide administration was born.[101] Integrated river basin management is the result of water system approach, in which the total system of biotic and a-biotic elements of a certain water environment is taken into account.[102] This leads to integrated approach towards all the different elements of the water

[94] Domenech L op cit (n28) at 295.

[95] Teclaff LA 'The River Basin Concept and Global Climate Change' at 356.

[96] Ibid.

[97] Ibid.

[98] Ibid.

[99] Barrow CJ 'River Basin Development and Management: a Critical Review' at 171.

[100] Teclaff LA op cit (n95) at 355.

[101] Ibid.

[102] Van Ast JA 'Trends Towards Interactive Water Management; Developments in International River Basins Management' un-numbered.

system that are subject to policy, for example surface water and groundwater are part of the same system.[103] In this system the connection between water and land or the flora and fauna is also emphasised.[104] Where river basins are too large for planning and management, they can be divided into sections using hydrological and catchment characteristics or sub basins by tributaries.[105]

The notion of integrated river basin as a unit for water management quickly gained international momentum in the nineteenth century. The United Nations Water Conference, held in Mar del Plata in 1977, also encouraged countries to consider as a matter of urgency the establishment and strengthening of river basin authorities. This lead to some individual water projects not being undertaken unless they were broad plans for the entire drainage basin.[106] Commentators also submitted that integrated view of the river basin is required in the decades ahead and it should be supported by worldwide research on the interactions in different environments between land and water as the basis for a practical methodology to be used in the planning process.[107] In later years of the century when people became more environmentally aware, the acceptance of catchment based management was spurred on and this led to the emergence of the ecosystem concept as the guiding principle for water resource management.[108]

Reynolds defines this ecosystem approach as the anticipatory approach to planning of river basins and the general problem solving based on the knowledge of the operation and interrelationships of systems in nature and in consequence, the necessity of ecological behaviour and desirability of adoption of an ethic respect for other systems of nature.[109] According to Odum and Odum this concept is based on the notion that everything is related to everything else and may simply be defined as "a relationship between a set of objects and the attribution of those objects".[110] Pantula suggests that the functional ecosystem is a "naturally evolving complex of environmental components, linked by pathways of energy flows." All these water management concepts have just recently been

[103] Ibid.

[104] Ibid.

[105] Barrow CJ op cit (n99) at 171.

[106] Teclaff LA 'Evolution of the River Basin in National and International Water Law' at 363.

[107] Downs PW et al. 'How Integrated is River Basin Management' at 301.

[108] Ibid.

[109] Reynolds PJ 'Ecosystem Approaches to River Basin Planning' in Lundqvist et al. *Strategies for River Basin Management* (1985) at 41.

[110] Downs PW et al. Op cit (n107) at 301.

qualified by the use of the term holistic, which according to its dictionary meaning connotes that the whole is better than in parts.[111]

Holistic and integrated water management has been associated with the concept of sustainable development.[112] The 1992 International Conference on Water and the Environment held in Dublin, Ireland and the 1992 United Nations Conference on Environment and Development held in Rio de Jeneiro renewed in part interest in holistic or integrated management of water because they both called for comprehensive management of resources, using the river basin as the focus.[113]The Dublin statement on Water and Sustainable Development of 1992 states that effective management of water resources demands a holistic approach, linking social and economic development with the protection of natural ecosystems and also linking land and water uses across the whole of catchment area or groundwater aquifer.[114] Evidently the Dublin concepts support the river basin as the unit for planning, management, protection of ecosystems and resolution of water conflicts without giving the definition of 'integrated management'.[115]

The light with regard to integrated management has been shed by experts who prepared proposals on freshwater resources for the United Nations Conference on Environment and Development in 1992.[116] According to these experts, integrated water resource management is based on water as an integral part of the ecosystem, a

[111] Oxford University Press 'Advanced Learners Dictionary' 2015.

[112] See section 24(b)(iii) of the constitution and Ngcobo CJ judgement in Fuel Retailers Association of Southern Africa v Director –General Environmental Management and other (CCT 67/06 2007 ZACC 13) at 44.

[113] The Dublin Statement of Water and Sustainable Development advocates for conservation and re-use of water as well as sustainable urban development, all these read with principle 2 (footnote 20 above) of this statement which calls for 'participatory approach, involving users, planners and policy makers at all levels. Additionally Chapter 2 (International Cooperation to Accelerate Sustainable in Developing Countries and Related Domestic Policies) of Agenda 21 which came out of the 1992 UN Conference on Environment and Development calls for the integration of environmental concerns into decision making and progress towards democratic government which allows for full participation of all parties concerned in order to achieve the policy directive and objectives of Agenda 21.

[114] Principle 1 of the Dublin Statement on Water; since water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with the protection of natural ecosystems.

[115] Teclaff LA op cit (n106) at 380 read with Principle 2 of the Dublin Statement on Water and Sustainable Development which demand that water management decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects.

[116] These experts proposed integrated approach to the planning and management of land resources; according to them land resources are used for a variety of purposes which interact and may compete with one another; therefore it is desirable to plan and manage all uses in an integrated manner. Integration should place at two levels, considering on the one hand, all environmental, social and economic factors and on the other hand, all environmental and resource components together. Integrated considerations therefore facilitates appropriate choices and trade-offs, thus maximising sustainable productivity and use.

natural resource and an economic good, the quantity and quality of which determines its utilisation. They stressed that integrated water management should be carried out at catchment basin or sub-basin level, taking into account existing interlink-ages between surface and groundwater. They further outlined the four principal objectives to be pursued in integrated water management.[117] These experts concluded that sustainable integrated area development was most likely to be achieved working with coherent regions such as river basins.[118]

Because integrated water management entails decentralised water units or management of water at a catchment basin or sub-basin level, the paper shall now turn to the main features and/or characteristics of these decentralised units (in comparison to centralised water management regime) to give the reader a broader picture of the main differences in this water management schemes and what is likely to be achieved if decentralisation is implemented or effected.

2.3.1. Main features of centralised and decentralised water management[119]

Factor	**Centralised water management**	**Decentralised water management**
Scale	Large scale systems	Small scale systems (domestic)
Type of water source	Distant and local water sources	Local water sources
Governance	Top-down governance model	Multi-governance model
Ownership	Water supply and sanitation infrastructure is owned by the public sector	Water supply and sanitation systems are owned by private individuals
Control of the water power (cycle)	Controlled by the public sector and/or the private companies	Controlled by private individuals

[117] The objective at the time (1992) included (1) to review and develop policies to support the best possible use of land and the sustainable management of land resources, by no later than 1996; (2) to improve and strengthen planning, management and evaluation systems for land and land resources, by no later than 2000; (3) to strengthen institutions and coordinating mechanisms for land and land resources, by no later than 1998; (4) to create mechanisms to facilitate the active involvement and participation of all concerned, particularly communities and people at the local level, in decision-making on land use and management, by no later than 1996.

[118] United Nations Conference on Environment and Development (1992) 'Agenda 21' at 10.6.

[119] Downs PW et al. Op cit (n107) at 302.

participation	Very limited public participation in water management	Active participation in water management
Awareness	Citizens are alienated from the water cycle	Citizens become more aware of the water cycle
Cost sharing	Highly subsidised	Full cost recovery
Water quality	Very high water quality for all uses	Different water qualities and fit-for purpose water use
Health risks	Health risks are very controlled	Risk management by the individuals is required
Environmental impacts	Environmental impacts are significant	Environmental impacts are reduced
Social conflicts	Dam constructions and water transfers usually give rise to social conflicts between regions	Social conflicts are less likely
Resilience capacity	Limited adaptation capacity to extreme situations	Enhanced capacity of adaptation to different situations.

South Africa has adopted Integrated Water Resource Management (which advocates for decentralised water management) in its water management regime; this has affected the way in which water resources are managed in this country.[120] South African authorities are now in the process of delegating and assigning some powers to catchment management agencies. As such this study investigates how this process can be implemented by examining how Australia, particularly the State of Victoria, has achieved this decentralisation in its water management regime. Before examining the relevant South African water law in chapter 5, the next chapter examines decentralisation in Australian context, with particular attention to the State of Victoria.

[120] Pegram PW et al. Op cit. (n14) at 8.

CHAPTER 3: AUSTRALIAN WATER GOVERNANCE AND CATCHMENT MANAGEMENT AUTHORITIES VICTORIA

Australia Part 1: Governance structure and the Murray Darling Basin

3.1. Governance structure

Australia is a federation, a constitutional monarchy and a parliamentary democracy.[121] This means that Australia has a Queen, who resides in the United Kingdom and is represented in Australia by a Governor-General. It is governed by a ministry headed by the Prime Minister and has a two-chamber Commonwealth Parliament to make laws. Australia also has eight State and Territory Parliaments. This model of government is often referred to as the Westminster System, because it derives from the United Kingdom parliament at Westminster.[122]Australia has a federation of six states and two territories;[123] each state was until 1901 a separate British colony.[124] The states are New South Wales, Victoria, Queensland, Western Australia, South Australia and Tasmania each of which has its own government and in most respects is very similar to that of the federal government. Each state has a Governor, with a Premier as head of government.[125] Each state also has a two-chambered Parliament, except Queensland which has had only one chamber since 1921. There are also two self-governing territories: the Australian Capital Territory and the Northern Territory.[126] The federal government has no power to override the decisions of state governments except in accordance with the federal Constitution, but it can and does exercise that power over territories.[127]

In Australia, the management of water resources and environmental protection is traditionally the responsibility of the States.[128] Ergo the responsibility for land uses decision-making and historically, environmental protection vests with the states governments.[129] This is because at federation in 1900, the Commonwealth of Australia Constitution

[121]Museum of Australian Democracy 'Prime Facts, Australian Prime Ministers Centre' http.static.moadoph.gov.au (accessed 29/08/2014)

[122] Ibid.

[123] Bates GM 'Environmental Law in Australia' at 76.

[124] Museum of Australian Democracy op cit (n121).

[125] Ibid.

[126] Ibid.

[127] Ibid.

[128] Gardner A 'The Legal Protection of Ramsar Wetlands' in *Environmental Governance and sustainability* at 193.

[129] Bates GW op cit (n123) at 76.

did not give the Commonwealth an express legislative power over natural resources and the environment.[130] It is subsequent judicial interpretation of the Constitution that has recognised the Commonwealth Government's capacity to affect directly and indirectly water resources management through several of its legislative and financial powers. The State parliaments enjoy plenary legislative power; that is they can make laws about any topic.[131] Upon federation, the States also inherited the Crown's sovereign title to all land formerly held by the British Imperial Crown. The States legislated to control the access to natural resources and requiring any person who wished to exploit those natural resources to obtain authorisation from the state government.[132]

By the end of the 19th century, Australian States enacted water resources legislation on this basic model, gradually curtailing the common law rights to water resources and requiring all major water access rights to be held under a direct authorisation.[133] In recent years, the early entitlement regimes have been much reformed by the states to create the contemporary water access entitlement regimes.[134] The State's legislative powers are subject mainly to various limits founded on the Commonwealth Constitution. Principal among those is section 109, by which legislation is made inoperative by the overriding effect of valid Commonwealth legislation. Commonwealth legislation will be valid if it pertains to one of the specific topics of legislative power conferred by the Constitution.[135]

Water resources are a major public concern in Australia; this is largely due to water scarcity and extreme variability in this country.[136] Integrated Water Resource Management (IWRM) and water organisation primarily at the river basin have therefore become two of the most common and widely repeated recommendations in Australian water resources literature for the last decade if not longer.[137]

By its own nature IWRM requires a stable institutional framework supported by legislation. Furthermore roles and responsibilities must also be clearly defined in IWRM so as to overcome fragmentation and duplication of responsibilities.[138] There should be regulations with respect to decisions around fair water allocations and polluter

[130] Ibid at 77.

[131] Gardner A op cit (n128) at 193.

[132] Ibid.

[133] Ibid.

[134] Ibid.

[135] Ibid.

[136] Blomquist W et al. 'Institutional and Policy Analysis of River Basin Management; the Murray Darling Basin Australia' at 4.

[137] Ibid.

[138] Archer L op cit (n1).

pays principles to ensure fairness.[139] Additionally it requires a strong knowledge base that is supported by systems for monitoring both quality and quantity which in turn can be used for fair decision making of proposed development. There should also be integration all natural resources issues; specifically considering sustainability from a regional perspective and a program for strong community awareness and participation.[140]

River Basin management is associated with the concept of decentralisation, as well as the management of water resources at the lowest appropriate level.[141] IWRM and River Basin management have strongly influenced water management in Australia and their application in this country, especially in Victoria shall be extrapolated further in the following chapters and paragraphs.

3.2. Why Australia state generally and Victoria State in particular?

The Australian Murray Darling Basin is upheld internationally as a benchmark of integrated water resource management (IWRM) in action,[142] it provides an excellent model to South Africa which is undergoing a significant change in its water regime under the integrated water resource management. In addition Australia like South Africa is water stressed country[143] and the management of water in Australia's rivers has become one of the most urgent public policy problems facing governments at every tier of the Australian federation.[144] Although South Africa unlike Australia is not a federal state, it has a "semi federal system" where each province has its own governance structures and jurisdictional borders, has the authority to make its own laws (subject to the provisions of Constitution of the Republic and the national legislation) and is governed by the premier.[145] This constitutional framework is likely to create the same challenge as that which is experienced by Australia, because while it is the nature of the "semi federal/federal" system to divide territory according to 'artificial political borders', river systems in both South Africa and Australia are hydrologically inter-dependent and holistic. The need to address trans-boundary issues in water

[139] Ibid.

[140] Ibid.

[141] Blomquist W et al. Op cit (n130) at 4.

[142] Archer L op cit (n1).

[143] Kildea P & Williams G 'the constitution and the management of water in Australia' at 595; some of the familiar challenges surrounding water conservation in Australia includes water scarcity, increasing salinity, impairment of river wildlife and habitat, and the degradation of ecological assets. These have also been more urgent due to the effects of drought and climate change.

[144] Kildea P & Williams G 'The Constitution and the Management of Water in Australia' at 595.

[145] Section 104 of the Australian Constitution; the legislative authority of a province is vested in its provincial legislature to pass any legislation with regard to any matter within the functional area listed in schedule 4 (read with Schedule 4 above) and section 125 of the Constitution states that the executive authority of the province is vested in the premier who exercises executive authority with other members of the executive council).

management has therefore been a "major" challenge in Australia and has most commonly been met by the negotiation of intergovernmental agreements.[146] This negotiations and intergovernmental agreements will more likely aid or guide South Africa should jurisdictional issues arise in future regarding decentralisation of water management and/or water management in general.

Victoria, along with three other states and one territory gets majority of its water supply from the Murray Darling Basin (MDB) and its catchment management authorities function within the Murray Darling Basin and its territorial arrangements.[147] To understand water management in Victoria, it is vital to understand the institutional arrangements in the MDB as this have an impact on the water management institutions in Victoria, and ultimately how water management is decentralised to its CMAs. The Murray Darling Basin is therefore discussed in the following paragraphs.

3.3. Murray Darling Basin: historical context

The management arrangements in the Murray Darling Basin (MDB/Basin) do not represent a simple template. They are complex, have a strong history that has shaped their current structure and direction. These management arrangements have been tailored to the particular circumstances of Australia's federalism, climate and topography as well as the management of the Basin in Australia.[148] It is therefore vital to understand that while certain elements might be transportable to other jurisdictions (like CMAs) the overall structure has been crafted and modified over time to fit and adapt to the MDB.[149] This contextual evolution can be summarised as follows;[150]

The MDB institutional make-up in WRM has been decentralised for most of its existence and the current water resource management institutions simply aim to improve the communication between these decentralised bodies.[151] The central governance structures have constantly recognised the basin management and governance structures and have also been supportive.[152] The level of economic development for all stakeholders and government has made it possible to commit time and resources to knowledge generation, travel, meetings to plan and implement the

[146] Kildea P & Williams G op cit (n144) at 597.

[147] Blomquist W et al. Op cit (n136) at 6.

[148] Ibid at 25.

[149] Ibid.

[150] Archer L op cit (n1).

[151] Ibid.

[152] Ibid.

various tasks associated with IWRM. Participants in this water management cluster are not vastly divided by class, religions and other socio-economic difference.[153] While there has been inequity in the distribution of water resources favouring irrigators, there are mechanisms and funding in place to allow the development of sub-basin catchment institutions that are committed to resource protection for ecological flow requirements and pollution control. Internal Basin level institutional arrangements consists of both basin level and sub-basin level institutions which are firmly supported through human and financial resources by state and commonwealth governments, the basin is managed by an independent basin commission with community representation through the Community Advisory Committee. Resources are also pooled to allow programs to improve basin conditions.[154]

There has been an extensive history of land care groups protecting and conserving natural resources and addressing issues of improved land stewardship in Australia, including Victoria. Rather than re-invent the wheel the sub-basin catchment institutions evolved from existing land care groups.[155] That are however catchment issues that still persist and those include water allocation, water quality degradation and nutrients that threaten ecosystem health.[156] In response to this catchment issues Integrated Catchment Policy and Resource Management Strategy were developed. Water audits have been instituted and water allocation and diversions capped; and a National Action Plan for salinity and water quality management as well as algal management strategy has been developed.[157] This historical evolution of sub-basin is supplemented by extensive agreements which have shaped the current institutional institutions that exist in the MDB.

In 1902, there was a Corowa Conference which produced a workable agreement, the River Murray Waters Agreement which came into effect in 1915. This agreement entailed a package of water sharing rules, jointly funded water development infrastructure and cost-sharing rules.[158] In 1917 the River Murray Commission was created among New South Wales, Victoria, South Australia and the Commonwealth to ensure that these riparian states received shares of the Murray River's waters through the provision of capital funds for water development. The River Murray Commission was in operation for 70 years, with the River Murray Agreement amended as needed to adapt to

[153] Ibid.

[154]Ibid.

[155]Ibid.

[156] Ibid.

[157]ibid.

[158] Bhat A 'The Politics of Model Maintenance; the Murray Darling and Branfas River Basins Compared' at 203.

changing values and economic conditions.[159] The powers of the River Murray Commission remained nonetheless, focused on managing bulk water supplies for the main stem of the Murray River.

In 1985, the governments of New South Wales (NSW), Victoria, South Australia and the Commonwealth met to discuss how best to address the basin's growing resource and environmental problems, resulting in the Murray Darling Basin Agreement, and the Murray-Darling Basin Commission (MDBC) in 1988.[160] The MDBC took the River Murray Commission's responsibility for trans-boundary water management, as well as new, but limited responsibility for coordinating catchment management across the whole basin. The new governance arrangement of the MDB included the Murray Darling Basin Ministerial Council (MDBMC), the MDBC, and the Community Advisory Committee (CAC).[161] The logic in creating the MDBC was to provide a direct political link that could mobilise power and management to be able to achieve the change quickly. The president of the Commission is appointed by the council on the advice of the commission and serves as an independent chair.[162] The 28 person CAC was added, comprising 23 members from the catchment management bodies and representatives chosen by each of the five special interest organisations, who are appointed by and report directly to the Ministerial Council.[163]

The MDBC office comprises of the River Murray Division and the Natural Resource Management Division.[164] The River Murray Division has assimilated the role of the River Murray Commission; it is a ring-fenced internal business unit handling bulk water sharing and operational control, and is also asset management coordinator as sort of water wholesaler for the three riparian states of the Murray River. It however has no say over how the states allocate their water or water pricing as these are considered sovereign matters.[165] There are capital-funded projects of New South Wales (NSW), Victoria and South Australia. The Commonwealth meets these costs equally, while the states handle the costs for operating and maintenance according to a cost sharing formula through which users of higher volumes pay a larger percentage.[166] This is a dynamic policy through use variation modifies shares. Funds are also contributed to particular programmes prioritised by the MDBC, which are then allocated to states and catchment

[159] Ibid.

[160] Ibid at 204.

[161] Ibid.

[162] Ibid.

[163] Ibid.

[164] Ibid.

[165] Blomquist W et al. Op cit (n136) at 10.

[166] Bhat A op cit (n158) at 204.

bodies in accordance with agreed upon strategies and plans. Both divisions outsource their work to state and catchment entities.[167]

Generally, not in accordance to a specific state, catchment management bodies serve as coordinate entities, with responsibility for the protection of both water quality, riparian and floodplain conditions.[168] Although they have had a purely advisory role in the past, they now have formal statutory responsibilities, as well as funds to support the implementation of action plans. Meanwhile different states have specific legislation for riparian zone and floodplain protection in addition to their respective water management Acts and use these responsibilities to apply sanctions to catchment management bodies.[169]

Water management committees serve as advisory committees, providing a community perspective on water allocations and environmental flows, as well as flood-plain protection, and river facility operations.[170] Most states have provisions to serve as independent arbiters in setting water prices. Water user groups also play a community participation role, with financial assistance from the state, though they are generally more oriented towards the interests of their members and industry.[171] Having identified the historical evolution of the arrangement in the Murray Darling Basin, the paper shall now turn to the institutional arrangements which have been borne out of this history.

3.4. The Murray Darling Basin and its institutional arrangements

The Murray Darling Basin's inter-jurisdictional governance arrangements is complex but has received international attention as a coordinate and participatory model for River Basin management.[172] The Murray Darling Basin (Basin) lies to the west of the Great Dividing Range which runs the length of the east coast in Australia. The Basin extends across much of the Southern Australia, with the mouth of the Murray River on the southern coast of Australia near Adelaide.[173] The Darling River is about 2740 kilometres long from its source to its confluence with the

[167] Ibid.

[168] Blomquist W et al. Op cit (n136) at 10.

[169] Bhat A op cit (n158) at 205.

[170] Blomquist W et al. Op cit (n136) at 11.

[171] Bhat A op cit (n158) at 205.

[172] Ibid at 201.

[173] Blomquist W et al. Op cit (n136) at 6.

Murray River, making it the longest river in Australia.[174] It covers about one seventh of the land area of Australia.[175] The Basin covers an area of one million square miles, divided between the states of New South Wales, Victoria, South Australia, Queensland, and the Australian Capital Territory.[176] Well over half of the Basin is in New South Wales and about one quarter is in Queensland.[177] The water sources of the Basin are highly developed. The annual diversions from the river systems are about 11.43 million m^3, 96% of which is for irrigation. The total water storage capacity of the Basin is 34.7 million m^3 which supports some 1 470 000 hectares of irrigated crops and pastures in the Basin (representing 71% of Australia's total area of irrigated crops and pastures).[178] Below is a geographical illustration (map) of the MDB.

[174] Bhat A op cit (n152) at 202.

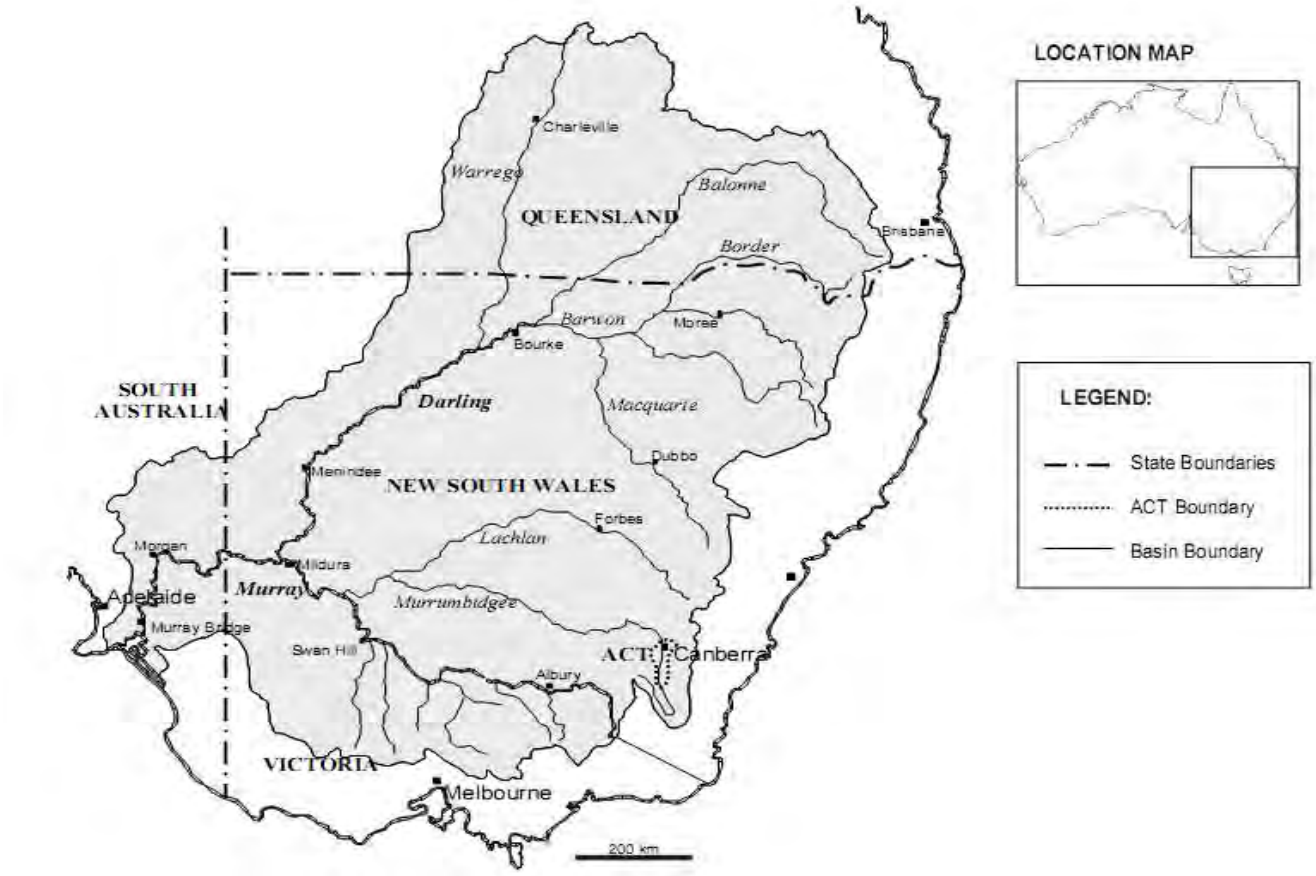
[175] Blomquist W et al. Op cit (n130) at 6.

[176] Bhat A op cit (n152) at 202.

[177] Blomquist W et al. Op cit (n130) at 6.

[178] Ibid.

Murray Darling Basin Australia (Source: MDBC)



The Basin population which is almost two million comprises 11% of Australia total population;[179] however the Basin itself is a source of water for well over three million people.[180] It contains more than twenty (20) major rivers and Thirty thousand wetlands (30 000).[181] Its GDP is A$23 billion, and A$4.5 billion generated by irrigated agriculture. Around 40% of Australia's farm production and 85% of its irrigated agriculture originate from this basin.[182] The following paragraphs will illustrate how the institutions and the management of the Basin have been decentralised to sub-basin levels.

[179] Bhat A op cit (n158) at 203.

[180] Archer L op cit (n1).

[181] Ibid.

[182] Bhat A op cit (n158) at 203.

3.4.1. Constitutional arrangements in the Murray Darling Basin

In light of the high degree of development of water use in the Basin, the dominant basin management issues of the 20th century were water scarcity, over allocation of water supplies and drought exposure. These issues stimulated the development of constitutional arrangements in the beginning of the 20th century to the 1990's.[183] The new constitutional arrangements can be summarised as follows;

The management of water distribution in the Basin has been executed through the issuance of water use licences; as seen above the Murray River flows through the states mentioned above, including Victoria and there has been a construction of water storage facilities to conserve and regulate river flows in these states; in the later decades of the century, there has been moratoriums on the issuance of water licences and ultimately a cap on diversion from the Murray-Darling system.[184] The current institutional development in Basin has therefore evolved into three major stages; the first being an intergovernmental agreement allocating water flows of the Murray River and providing for the construction and operation of infrastructure on the river, benefitting the three states South Australia, NSW and Victoria; secondly there has been an extension of the scope and structure of intergovernmental arrangements to the Darling River, as disputes among the states over river flows and water quality escalated, and unilateral state actions were implemented to restructure irrigation schemes; and thirdly the emergence of integrated water resource management in the Basin with new organizational structures and relationships at the sub-basin and basin scales and with leadership and financial support from the national government, as well as state governments.[185] Of course there are contextual elements which have effected these changes.

3.4.2. Four contextual elements on the Murray Darling Basin Water Management

1. Australian Federalism and sovereign role of the states: Water uses in the Basin are not granted by the Basin Commission or any other basin scale organization, but are granted by each state or territory. The same is also true for discharge licences and the creation and authorization of all forms of sub-basin organizations such as water management committees and catchment management bodies. Each state in the basin therefore contains a different combination of water management institutions.[186]
2. Restructuring of sub-basin organizations and state, and state and ministries: this was prompted by substantial fiscal problems in the 1970's and early 1980's and informed by a variety of viewpoints. States took a very thorough examination and reorganization of water provisions and water management operations in the 1980's.

[183] Blomquist W et al. Op cit (n136) at 6.

[184] Ibid at 7.

[185] Ibid.

[186] Ibid at 14.

States such as Victoria changed the organization and financing of functions such as headwork's operation, bulk water supply for irrigation or municipalities, delivering of urban water services. These changes are important not only in their own right (since they have assisted in the transition of water pricing and cost recovery practices nearly consistent with contemporary principles), but also because they have a facilitated a round of other changes to state ministries and commonwealth departments.[187] Once the construction, operation and maintenance of infrastructure and the provision of services such as water supply had been removed from the state and commonwealth departments of water resources (leaving them largely with planning and regulatory functions), the next step in most states and at the commonwealth level was the combining of water resource departments or ministries with the natural resource or environmental departments that encompassed portfolios such as agriculture, land use planning, forestry and fisheries.[188] Although these changes at the department and ministerial were by no means smooth and seamless, Blomquist W et al. submit that they have facilitated a policy shift towards integrated water resources management that takes into account the interactive effects of land development and use with water quality with riverine species and habitat or other aspects of natural resources. On the political level, these changes also attenuated the relationships between water agencies and traditional water constituencies (such as irrigators), making it easier for water planners and policymakers to contemplate and ultimately enact changes such as capping water diversions for the sake of protecting environmental values.

3. Emergence of national level leadership on water policy, with state consent: The Council of Australian Government (COAG) is a peak intergovernmental forum in Australia, comprising of the Prime Minister, State Premiers, Territory Chief Ministers and the president of the Australian local government (ALGA).[189] The COAG is a body that sets national policy agenda for Australia. The COAG's influence in the Murray Darling Basin has been clear and profound. The council adopted in 1994 a national water policy reform initiative, which it has revisited and revised in 2003-2004 and labelled it the National Water Initiative (NWI).[190] The NWI aims to set down a blueprint for national water reform; its broad purpose being to achieve a 'nationally-compatible, market, regulatory and planning based system of managing surface and groundwater resources for rural and urban use that optimizes economic, social and environmental outcomes'. The NWI also seeks to 'complement and extend' the reform agenda put in place in 1994, and to provide 'greater certainty for investment and the environment'.[191] The task of overseeing the implementation of the NWI is given to the Natural Resource Management Ministerial

[187] Ibid at 15.

[188] Ibid.

[189] Ibid.

[190] Kildea P & Williams G op cit (n144) at 599.

[191] Ibid.

Council, while the new National Water Commission is responsible for providing advice to COAG on its implementation.[192] Taken together, the 1994 and 2004 reforms have been called 'the most significant water law reform for a century'.[193] The Key elements of the NWI includes; greater local level responsibility for water resource management; greater public education about water use and consultation in implementing water affairs.

4. In 2007 the Commonwealth Parliament passed the *Water Act 2007*. The Act sets down a detailed regime for the use and management of Australia's water resources, most significantly through requiring the development of a 'Basin Plan' prepared by the Authority. The purpose of the Plan, which was scheduled for release in 2011 at the time, is to provide for the integrated management of water resources in the Murray-Darling Basin. It is to do so in a manner that is consistent with the objects of the Act, which include enabling the Commonwealth and the Basin States to manage Basin water resources in the national interest, and giving effect to relevant international agreements in a way that optimizes economic, social and environmental outcomes. Although the Plan envisages an integrated approach across jurisdictions, much of its implementation will take place through state water resource plans. Existing state plans will continue until their expiry dates which will be in 2019 for Victoria. In December 2008, the Water Amendment Act amended the Water Act 2007, and this resulted in the functions of the MDBC being transferred to the Authority, creating a single body responsible for overseeing water resource planning in the Basin.

Due to this contextual elements, water management arrangements in the Basin have evolved from a focus on managing rivers for water quality and security of supply (drought proof agricultural development) to integrated catchment management designed to maintain both water quantity, water quality and better balance water use for human consumption with that required to maintain a healthy riverine systems.[194] The states in turn established forms of decentralised catchment management bodies with a mandate to advice on all aspects of natural resource management.[195]

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[192] Ibid.

[193] Ibid.

[194] Blomquist et al. Op cit (n138) at 15.

[195] Ibid at 17.

3.5. Decentralisation and Decentralised units in Australia

3.5.1. Characteristics of the decentralisation process

The construction of basin management institutions and policies in the Basin has been as much or more a matter of integration as it has been decentralisation.[196] Decentralisation concerns that may arise in other countries such as South Africa, about the ability or willingness of the central government to genuinely devolve decisions making authority are of little consequences in Australia. The primary decision making authority predominantly and initially rested at the sub-basin level with the state governments.[197] Over time, and with the cooperation and consent of the national government, the states have constructed intergovernmental arrangements to control and operate Murray River flows and then to address other issues.[198]

Through financial incentives offered to states and to sub-state catchment management authorities, and through the establishment of and participation in bodies such as the COAG, the national government has actively encouraged the development of integrated water resource management in the Basin. These commitments from the national government have remained consistent across elections and changes in party control.[199] The different aspects of decentralisation in water management shall now be explored.

3.5.2. central-local relationships and capacity

Blomquist W et al. submit that only two factors in this component of the analytical framework are less than favourable to integrated water resource management at the basin level. They submits one as the past and current system of water rights, another factor that they consider as less than favourable in the Basin most directly associated with integrated resource (e.g. sub-basin catchment management bodies) have virtually no financial resources of their own and are for all practical concerns completely dependent on funding contributed to them by the state and commonwealth governments.[200] They further add that there is nothing 'formally' to prevent a future commonwealth or state government from changing its policy and withdrawing its financial support.[201] On the positive side, they submit

[196] Ibid at 21.

[197] Ibid.

[198] Ibid.

[199] Ibid.

[200] Blomquist W et al. Op cit (n136) at 22.

[201] Ibid.

that the extent of experience at the local and state levels with self-governance and service provision is somewhat commendable.[202]

3.5.3. Internal Basin level institutional arrangements

The clarity of institutional boundaries has been reduced somewhat by the introduction of relatively new catchment management bodies. Local governments within the Basin are not entirely certain how land and water management activities of these bodies will overlap with traditional land use regulatory authority of local governments.[203] Moreover, some basin level staff have do seem unsure as to how coordination will occur between the new bodies water management activities and larger programs undertaken at the basin scale such as Living Murray initiative (an initiative established by the Victorian government to help improve the health of the River Murray). Partly connected to this issue is the issue of conflict resolution, there are conflict resolution arrangements between water users and states however for arrangements at the sub-state and sub-basin level, conflict resolution mechanisms are not that clear. Conflicts at a sub-state or sub-basin level would be a conflict for instance, between a local government and a catchment management body, or between catchment management bodies or between a catchment management authority and a rural water authority. Blomquist W et al. reiterate that this concern may prove to be only temporary and inconsequential, but it is too soon to tell.[204]

3.5.6. Devolution of authority

Water resource management is still driven by the policy elites and audit groups in each state including Victoria, but all actual management is carried out at regional levels in local offices with almost complete delegation for policy implementation including water sharing.[205] The management and operations of dams and irrigation schemes has been transferred to entities designed for completely localised day to day management, and for financial sustainability. In all states but Victoria, this has included the privatisation of irrigation schemes and their assets into the hands of irrigators.[206] Urban water and floodplain management have always been local responsibilities albeit with some central technical and financial assistance, and this has continued and intensified in both technical and financial aspects.[207]

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[202] Ibid.

[203] Ibid.

[204] Ibid.

[205] Blomquist W et al. Op cit (n136) at 26.

[206] Ibid.

[207] Ibid.

3.5.7. Stakeholder participation

All levels of water management are now supported by stakeholder advisory group of one kind or another. The Basin's population has nearly 20 years of experience in such community and government partnerships and bring highly informed and sophisticated capabilities to this task. Public consultation is now a norm even for urban water and waste water projects in a manner that did not exist 20 years ago.[208]

3.5.8. Financial self-sufficiency

The national reform agenda articulated in 1994 and couched in terms of a national competition policy, placed a considerable emphasis on water management moving into a sound financial footing.[209] The economic elements of water reform policy required the removal of cross subsidies, consumption based water pricing, new investments only if they were economically viable and ecologically sustainable, better specification of water entitlements and the encouragement of water trading.[210] These reforms were accompanied by institutional reforms that separated regulatory roles from service provision, required greater local level responsibilities for management and encouraged public education and consultation. These reforms are advanced across the Basin. Generally both urban and rural (irrigation) water supply infrastructure gets no government funding for operations and maintenance and a very small and steadily decreasing amount of capital funding. The concept of renewals annuity has also been accepted as part of the pricing structure to ensure the long-run sustainability of the asset base.[211]

Australia Part 2: Victorian Water Governance Structure and Catchment Management Authorities

3.6. Victoria's water management and its historical context

Victoria has two Acts that govern the management of water, the Water Act of 1989 and the Water Industry Act of 1994.[212] The Water Act 1989 is Victoria's primary water legislation and provides the legal framework and water use in Victoria.[213] The Water Industry Act provided the framework for the three state-owned metropolitan retail water

[208] Ibid.

[209] Kildea P & Williams G op cit (n144) at 599.

[210] Ibid.

[211] Blomquist W et al. Op cit (n138) at 26.

[212] Office of Living Victoria 'Overview of the Water Bill Exposure Draft' at 1.

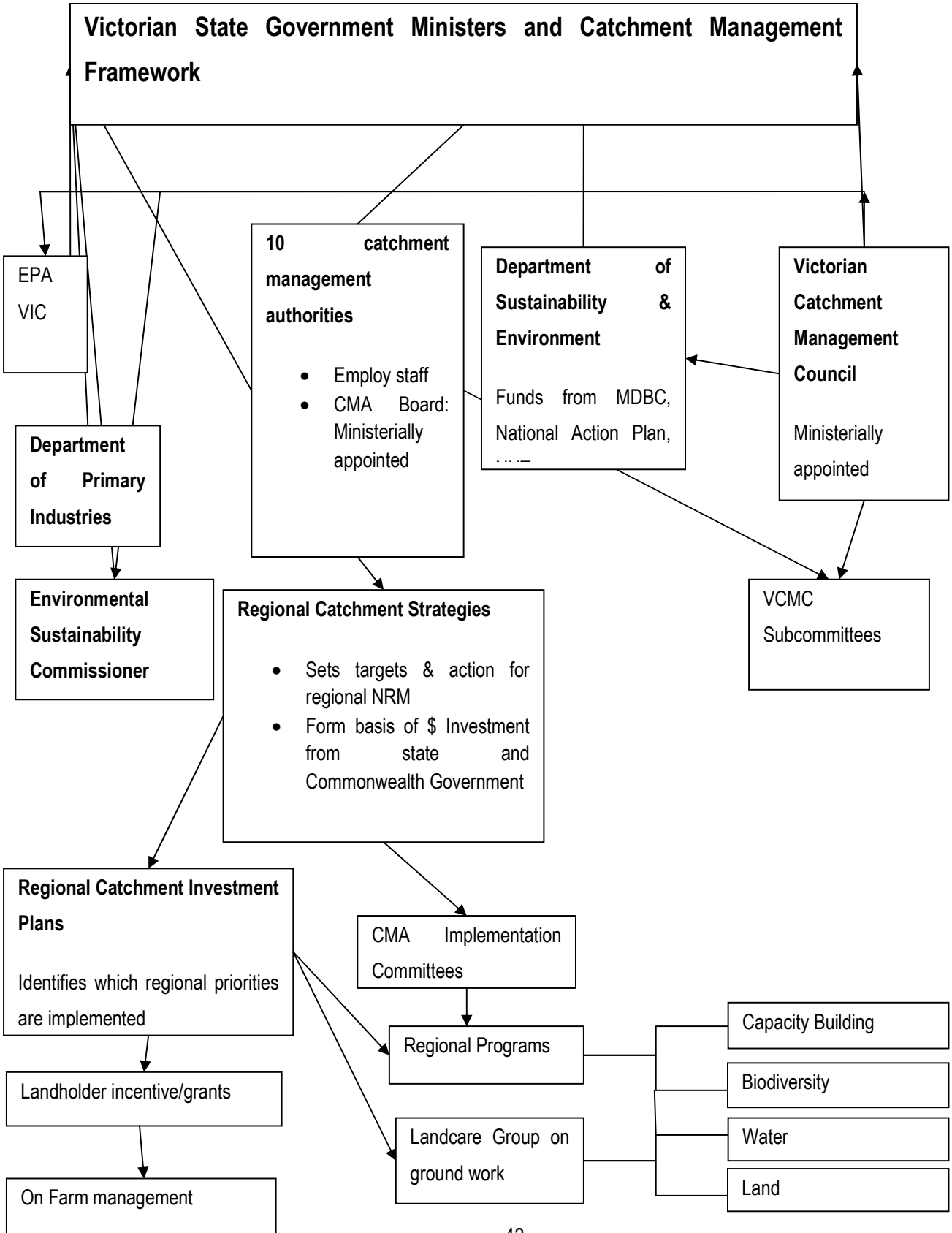
[213] Ibid.

and sewerage companies- South East Water, Yarra Valley Water and City West Water. The Water Amendment (Governance and Other Reforms) Act 2012 repealed most of the Water Industry Act 1994 and transferred these water corporations to the Water Act 1989.[214] Both of these Acts have been amended many times to reflect the ongoing water reforms, the Water Act 1989 has also been criticised as being hard to follow and containing duplication and obsolete sections.[215] The writer concurs with this submission, he also submits that the 1989 Act, version no 105 is 811 pages long and contains many parts and divisions that are difficult to follow and comprehend. The paper shall now explore the management of water in Victoria and how Victorian law has regulated these management schemes specifically in the CMAs realm.

3.7.3 Structure of CMB arrangements in Victoria (Source: Panell DJ 'Catchment Management Bodies in Four Australia States; structures, legislation and relationship to government agencies' at 7)

[214] Ibid.

[215] Ibid.


Victorian State Government Ministers and Catchment Management Framework
EPA VIC
10 catchment management authorities
Employ staff
CMA Board: Ministerially appointed
Department of Sustainability & Environment
Funds from MDBC, National Action Plan,
Victorian Catchment Management Council
Ministerially appointed
Department of Primary Industries
Environmental Sustainability Commissioner
Regional Catchment Strategies
Sets targets & action for regional NRM
Form basis of $ Investment from state and Commonwealth Government
VCMC Subcommittees
Regional Catchment Investment Plans
Identifies which regional priorities are implemented
CMA Implementation Committees
Regional Programs
Landholder incentive/grants
Landcare Group on ground work
On Farm management
Capacity Building
Biodiversity
Water
Land

The relevant State agencies in water management in Victoria as Catchment Management Authorities are concerned are the Department of Sustainability and Environment (DSE), the Department of Primary Industries and the Environment Protection Authority. In essence, DSE pays for the implementation of the Regional Catchment Investment Plans (RCIP) which is the responsibility of the Catchment Management Bodies (CMBs).[216] Additionally, the Catchment and Land Protection Act 1994 sets up a framework for integrated management and protection of catchments, encouraging community participation in managing land and water resources, and establishing a system of control on noxious weeds and pest animals.[217]

The Act (Catchment and Land Protection Act) also establishes a Catchment Management Council to advise the Minister.[218] The future of this Council is uncertain.[219] An Environmental Sustainability Commissioner has been appointed, and will report directly to Parliament. It is thought that the Commissioner will influence the NRM agenda and thus investment in the Regional Catchment Strategies (RCSs). Each catchment and land protection region has a Catchment Management Authority that reports to the Minister through a Board.[220] CMBs have broad-ranging functions including preparing a regional catchment strategy and coordinating and monitoring its implementation, advising the Minister on regional priorities and resource allocations, and recommending actions to prevent land degradation on Crown land. The Board is appointed through advertisement and approval by the Minister.[221]

Criteria for Board membership include that more than half the members must have primary production as their principal occupation; the composition of the Authority must reflect the major land and water uses in the region including urban, rural, private and public uses and members must have (between them) experience and knowledge of land protection, water resource management, primary industry, environmental conservation and local government. It is possible that the expertise on particular Boards does not encompass some of the major natural resource issues in the region, particularly for those issues which there is less expertise around and issues which are not highly visible (e.g. soil acidification).[222]

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[216] Pannell DJ ' Catchment Management Bodies in Four Australian States; Structures, legislation and relationship to government agencies' at 2.

[217] Section 1 Catchment and Land Protection Act 52 of 1994.

[218] Section 6 Catchment and Land Protection Act 52 of 1994.

[219] Pannell DJ et al. Op cit (n216) at 2.

[220] Section 15(1) Catchment and Land Protection Act 52 of 1994.

[221] Section 15 Catchment and Land Protection Act 52 of 1994.

[222] Section 15 (2) & (3) Catchment and Land Protection Act 52 of 1994.

Under the Victorian Environmental Assessment Council Act 2001, an Environmental Assessment Council provides independent and strategic advice to the Government of Victoria on matters relating to the protection and ecologically sustainable management of the environment and natural resources.[223] It may also appoint any committees that it considers necessary and must establish a community reference group for each investigation. In Victoria, each catchment and land protection region (there are 10 catchment regions) has a Catchment Management Authority that reports to the Minister through the board.[224]

3.7. Water management; practicality

Water management has been extensively been decentralised in Victoria from the 1980's to the current water management institutions. These decentralisation initiatives in Victoria are important and have contributed to the current water regime. The paper shall examine this water management schemes before diving into the current catchment management authorities. The institutional arrangements shall be traced from prior the 1980's and to the current institutional arrangements.

1. Water resource management; prior 1980, the water resource management was all done from Melbourne (Victoria's capital city). There was no staff located in the Victorian country and all valleys had appointed water advisory committees. There were no costs that could be recovered other than administration fees such as licence fees. Currently only policy and some technical specialists are in Melbourne, other work is split between regional offices or "outsourced" to Rural Water Authorities. Catchment Management Councils and Rural Authorities have board and water services committees for stakeholder input and decision-making. This is regarded as public good and is funded by government.[225]

2. headwork's management; prior to 1980, all site staff were controlled in Melbourne, there was no stakeholder input in decision making processes as well as no cost recovered. As currently, all headwork's management have transferred to fully autonomous Rural Water Authorities (RWA's). Rural Water Authorities have board and water service committees for stakeholder input and decision making.

[223] Pannell DJ et al. Op cit (n216) at 2.

[224] Ibid.

[225] Blomquist W et al. Op cit (n136) at 11.

There is full recovery of operations and maintenance and renewals. There are also initial limited capital grants by government for compliance costs, costs such as dam safety.[226]

3. Irrigation scheme management; prior 1980 all operations and maintenance staff were working in accordance with Melbourne sourced standards. All schemes had appointed water advisory committees, and there was a limited recovery of operation and maintenance costs. As of currently irrigation scheme management has been fully transferred to autonomous Rural Water Authorities and each scheme has a water-user based water services committee that oversight operations and maintenance, budgeting and pricing.[227]

4. Urban water supply was a function specifically created for local authorities prior 1980. It had a very limited consultation processes other than the normal council processes. The pricing of urban water supply was largely based on property taxes and the cross subsidies were common. As of currently in Victoria however, local authorities were disbanded in favour of a smaller number of urban water supply state-owned corporations. Public consultation is now common and the supply pricing is based on metered supplies. The cross subsidies were removed and urban water supply authorities are now expected to pay a dividend to the government.[228]

5. Floodplain management was a function specifically created for local authorities prior 1980; public consultation was very limited, other than the normal council processes. The owners paid a licence and the costs of local government programmes were covered in general by property taxes plus the state grants. Currently however, floodplain management has now been transferred to catchment management authorities, public consultation and partnerships are now part of the normal catchment management authorities processes. The levees fees still apply, however the catchment management authorities programs are now transparent. The property taxes were started but later rescinded.[229]

The State governments and Basin have been supplemented at the sub-basin level with Catchment Management bodies that are still developing their role in land, water and natural resource management.[230] In Victoria,

[226]Ibid at 12.

[227]Ibid.

[228]Ibid at 13.

[229] Ibid at 13.

[230] Ibid at 17.

these management bodies are called Catchment Management Authorities (CMAs), and they are studied in detail in the paragraphs that follow.

3.8. Catchment management authorities Victoria

3.8.1. Introduction

There have been rapid and frequent changes in the arrangements and structures surrounding catchment management bodies in Australia. These changes include changes the legislative powers of catchment management bodies, their responsibilities, their names, their reporting channels through government, and the names and structures of government agencies with which they must work.[231]

In Victoria the Catchment and Land Protection Act of 1994 divides Victoria into ten (10) catchment regions with a Catchment Management Authority (CMA) established for each region.[232] The Water Act of 1989 gives these CMAs management powers over regional waterways, floodplains, drainage and environment water.[233] The CMAs are guided by the six principles that govern CMAs throughout Victoria. The principles are the sustainable development principle, community empowerment, integrated management, targeted investment, accountability and administrative efficiency.[234] The principles guide each CMA in its decision making process and is the basis for which the catchment management authorities (CMAs) were established.

In addition to these guiding principles there is the CMAs statement of obligations which was issued in October 2006 under the provisions of the Water Act 1989; the statement of obligations specifies the government expectations of CMAs when performing their functions and exercising their powers under the Catchment and Land Protection Act.[235] It relates to existing functions, responsibilities and powers of CMAs under the Water Act as well as associated government policy.[236]

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[231]Panell DJ et al. 'Catchment ,Management Bodies in Four Australian States; Structures, Legislation, and Relationships to Government Agencies' at 1.

[232]Victorian Water Industry Association 'Catchment Management Authorities'. http://vicwater.org.au/victorian-water-industry/catchment-management-authorities (accessed 9/09/2014).

[233]State Government Victoria, Department of Environment and Primary Industries. www.Depi.vic.gov.au/water/governing water resources/catchment management authorities/. (accessed 9/09/2014).

[234] Ibid.

[235]Ibid.

[236] Water Act 1989 Statement of Obligations; Catchment Management Authority (2006).

Against this background, Victoria has been chosen over other states because Catchment Management Authorities in Victoria like South Africa are a creature of Statute (Catchment and Land Protection Act 1994) and water management in Australia lies at a state level. The Catchment and Land Protection Act (the Act) like the National Water Act, sets up a framework for integrated management and protection of catchments, it encourages community participation in managing land and water resources, and even goes further to establish controls on noxious weeds and pest animals.[237] The Act also establishes a Catchment Management Council to advise the Minister.[238] It is the objective of this study to establish how Victoria's state government has managed to delegate and assign powers to the ten CMAs established by the Catchment and Land protection Act.

In addition to CMAs, the paper examines the impact of Rural Water Authorities (RWAs) on Victoria's water management regime. These authorities are studied to assess whether or not Water User Association (WUAs) in South Africa can be made to function in similar auspices (as Rural Water Authorities) and if so, whether this could have a positive impact in the decentralisation process of South Africa's water management regime. The paper strives to determine whether corporatizing or formalising independent water user associations into a government managed system, with clearly set out objectives or goals to achieve will 'protect/conserve' the future of these associations. RWAs are discussed in the paragraph that follows while WUAs are examined in detail in Chapter 4.

3.8.2. Rural Water Authorities (RWAs)

RWAs are governmental, corporatized water suppliers managing all aspects of bulk water provision for municipalities and operating irrigation schemes (including all major dams off the main stem of the Murray).[239] They are virtually self sufficient financially and set their own water prices.[240] They prepare plans for managing section 51 licences (licence to take and use water) issued in terms of the Water Act of 2007; coordinate the development of statutory water management plans for declared water supply protection areas for both ground water and surface water; operate infrastructure and administer section 51 licences; monitor water systems consistent with bulk water requirements, state programs, statutory water management plans for declared water supply areas and local plan requirements; they undertake five yearly reviews of statutory management plans for declared water supply areas and implement plans at the local level.[241]

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[237] Pannell DJ et al. Op cit (n216) at 2.

[238] Ibid.

[239] Blomquist W et al. Op cit (n136) at 11.

[240] Ibid.

[241] Australian Environmental Management Plans 2012 Review at 120.

3.8. Critical assessment of the Australian water management regime

The Australian water management regime is not without criticism. Despite its obvious complexity there are a number of problems in its current management structure. Firstly, the unanimous decision making structure of the MDBC and the MDMBC is understood to be ineffective for their times when hard decisions have to be made with regard to the Basin and any decision which may be perceived to be against a particular state can be vetoed.[242] The original intention of creating a ministerial council with authoritative ties to the political structure was to assist in expecting significant political decisions; however, it is not implicit that members are willing and able to place the Basins interest over that of their jurisdiction in making hard decisions.[243]

Furthermore sub-basin institutions like Catchment Management Authorities (CMAs) are dependent on national funding, thus not considered independent.[244] States like Victoria have baulked at giving these bodies too much authority, in particular the power to raise their own funds through land taxes. The arguments against more autonomous CMAs that are empowered to make management decisions and raise land taxes boils down to the protest from landowners, especially farmers about the cost imposed upon them; concerns about creating a fourth tier government; and opposition from local government that fear encroachment upon their planning functions.[245]South Africa has similar ethos as will be seen in subsequent chapters (chapter 4).

Blomquist W et al. submit that the states reluctance to empower CMAs with autonomous revenue authority has to some degree been overcome by the national governments decision to disburse funds for natural resource management directly to properly constituted CMAs under the National Action Plan for Salinity, Water Quality and the Natural Heritage Trust Programme.[246] Of course CMAs generally still do not have powers to raise their own funds but rather receive funding from the national government. There is still that element of dependency on the national government as far as funding is concerned.

Having outlined the key role of catchment management authorities in Victoria, Australia, the equivalent position in South Africa is now turned to.

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[242] Bhat A op cit (n158) at 210.

[243] Ibid.

[244] Blomquist W et al. op cit (n136) at 27.

[245] Ibid at 17.

[246] Ibid.

CHAPTER 4: SOUTH AFRICA, CATCHMENT MANAGEMENT AGENCIES AND GOVERNANCE

4.1. Introduction; the legal context

South Africa's social, political and economic context has significantly shaped the formation of the country's environmental legal framework and the governance structures tasked with its administration.[247] The starting point in considering the administration of environmental law is the Constitution[248] which sets the framework for legislative, executive and the judicial arms of government.[249] The Constitution does away with the four provinces which prevailed in South Africa since its union in 1910 (the Cape Province, Natal, Orange Free State and Transvaal), and replaces them with nine new provinces.[250] Of particular practical importance for the administration of environmental laws are the respective powers of national, provincial and local spheres of government.[251]

As far as environmental law is concerned the national government has exclusive legislative competence[252] and executive authority[253] over the following functional areas: mining and fresh water resources,[254] national parks, national botanical gardens and marine resources.[255] Each of these areas is regulated by a specific national legislation (as administered by the national authorities); fresh water resources are regulated under the National Water Act

[247] Craigie F et al. "Environmental Compliance and Enforcement Institutions" in *Environmental compliance and Enforcement in South Africa* Draft Chapter.

[248] The Constitution of the Republic of South Africa Act 108 of 1996 (the Constitution).

[249] Glazewski J 'Environmental Law in South Africa' (2009) at 105.

[250] Glazewski J 'Environmental Law in South Africa' (2009) at 107 read with section 103 of the Constitution, the nine provinces being; Eastern Cape, Free State, Gauteng, Kwazulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West and the Western Cape.

[251] Glazewski J op cit (n243) at 105.

[252] Section 44 read with Schedule 4 of the Constitution.

[253] Section 85 of the Constitution.

[254] Mining and fresh water resources are not listed in either Schedules 4 (functional areas of concurrent national and provincial legislative competence) or 5 (functional areas of exclusive provincial legislative competence) of the Constitution and therefore fall within the residual competence of the national government.

[255] According to Craigie et al. the last three matters are specifically excluded from the functional area of concurrent national and provincial legislative competence relating to 'nature conservation' in Schedule 4 of the Constitution, and accordingly vest in the national government.

(NWA),[256] administered currently by the Department of Water Affairs and Sanitation. The national government does not have competence over environmental issues falling within the exclusive competence of provincial government, such as abattoirs, provincial planning, provincial recreation and veterinary services (excluding the regulation of this profession).[257] These issues are accordingly regulated by provincial legislation administered by provincial authorities.[258]

The South African constitution emphasis the notion of cooperative government by setting out a set of principles of cooperative government and intergovernmental relations; Included in this constitutional principles of co-operative government is the principle which provides that all spheres of government and all organs of state within each sphere must exercise their powers and perform their functions in a manner which does not encroach on geographical, functional or institutional integrity of government in another sphere.[259] It is in this spirit that the national government exercises concurrent legislative competence and executive authority over a range of additional environmental issues with provincial government, such as the 'environment', nature conservation, and pollution control.[260] Accordingly, all general environmental authorisation, compliance and enforcement powers under the National Environmental Management Act (NEMA)[261] are shared by the Department of Environmental Affairs and provincial environment departments.[262]

The South African constitution does not explicitly list water (fresh water resources) under Schedule Four (4) which outlines the functional areas of concurrent national and provincial legislative competence; water is therefore by

[256] National Water Act (NWA) 36 of 1998.

[257] Section 104 (read with Schedule 5) and s 125 of the Constitution.

[258] Craigie F et al. op cit (n247).

[259] Glazewski J op cit (n249) at 105.

[260] The national concurrent competence (section 44(a)(ii) of the Constitution states that the national legislative authority as vested in parliament confers on the national assembly the power to pass the legislation with regard to any matter; including a matter with functional area listed in schedule 4, but excluding subject to subsection (2), a matter within functional area listed in subsection 5; section 85 of the Constitution states that the executive authority of the Republic is vested in the president; and the president exercises the executive authority, together with other members of the cabinet, by implementing national legislation except where the constitution or national legislation (An Act of parliament) provides otherwise) and provincial concurrent competence (section 104, the legislative authority of a province is vested in its provincial legislature to pass any legislation with regard to any matter within the functional area listed in schedule 4 (read with Schedule 4 above) and section 125 of the Constitution states that the executive authority of the province is vested in the premier who exercises executive authority with other members of the executive council).

[261] National Environmental Management Act (NEMA) 107 of 1998.

[262] Sections 28 and 30 of NEMA give similar powers to the Director-General of the DEA and the heads of relevant provincial environmental departments.

default a national competence (as is a mineral which is not mentioned in either Schedule). In addition to this NWA states the South African national government is the public trustee of the nation's water resource and 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.[263] The Minister of Water Affairs must therefore ensure water is allocated equitably and used beneficially in the public interest, while promoting environmental values.[264]

In its endeavour to promote environmental values, South Africa has instituted institutional reform in its water management sector to bring it in line with the international practices. It has adopted Integrated Water Resource Management (IWRM) as a framework for managing catchment water resources to achieve equity and sustainability.[265] The proposed process of IWRM is inherently adaptive, allowing for reflection and learning in complex, uncertain environments such as catchments. Over a decade on, attention has now turned to its implementation.[266] The paper shall now investigate and assess this implementation process in South Africa.

4.2. Policy, legislative reform and the guiding principles

To implement IWRM and water reform policy in South Africa, there was a legislative review process in 1995 for water resource management (WRM) in South Africa. This culminated the 1997 *White Paper on a National Water Policy for South Africa* and the National Water Act (Act 36 of 1998).[267] The National Water Act envisaged decentralisation of water resources management to regional scale resource management by providing for the establishment of catchment management agencies.[268] Catchment Management Agencies (CMAs) are established so that water resource management can be delegated to regional and catchment level, and their primary purpose is to involve local communities in water resource management.[269] Currently there are four functioning CMAs in South Africa[270] and they are functioning in their initial functions in accordance with section 80 of NWA.[271]

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[263] Section 3(1) of NWA.

[264] Ibid.

[265] Pollard S & Du toit D 'Towards Adaptive Integrated Water Resource Management in Southern Africa' un-numbered.

[266] Ibid.

[267] Pegram G & Palmer I 'Guidelines for Financing Catchment Management Agencies in South Africa' at 4.

[268] Chapter 7 introduction of NWA 'Catchment Management Agencies'.

[269] ibid.

[270] Centre for Environmental Rights Virtual Library 'functioning CMAs being Limpopo-North West CMA, Breede-Gouritz CMA, Olifants River CMA and Pongola-Umzimkulu CMA'. www.cer.org.za/virtual library/national-water-act-1998. Accessed 06/09/2015.

The National Water Act (Act 36 of 1998) seeks to provide for the management of the nation's water resources to enable the achievement of sustainable and equitable use of water for the benefit of all water users.[272] It seeks to achieve this by implementing all the functions that underlie WRM to include sustainable utilisation and protection of water resources; equitable allocation of water and efficient use of water.[273] Sustainable utilisation and protection of water resources entail the consideration of the entire value in terms of how water can contribute to achieving equitable, beneficial and sustainable development across the country.[274] Equitable allocation of water requires that the distribution of water between sectors and users to be equitable, just and transparent.[275] It dictates that water management institutions must be mindful of the constitutional imperative to redress the past racial and gender discrimination and to achieve equitable access for all to the water resources under their control and meet international obligations;[276] and efficient water use. There is an obligation of efficiency of use by all water users as well as an obligation on those responsible to ensure that water optimally supports social and economic development.[277]

WRM as envisaged in the NWA and the 1997 White Paper on a National Water Policy for South Africa entail the following;

Integration of WRM functions

The framework for the integrated management of water resources is provided in the National Water Act via water resources strategies.[278] According to the Act, The national water resource strategy provides the framework for the protection, use, development, conservation, management and control of water resources for the country as a whole. It also provides the framework within which water will be managed at regional or catchment level, in defined water management areas.[279] Integration of WRM has been promoted as a prime objective in International dialogues such as the United Nations Water Conference 1977, the Dublin Conference and the Earth Summit. It is defined as a

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[271] Pegram G and Palmer I 'Guidelines for Financing CMAs in South Africa' at 4.

[272] Preamble of the NWA.

[273] Ibid.

[274] National Water Policy Review 2013 at 5.

[275] Pegram G & Palmer I op cit (n271) at 4..

[276] Preamble of the NWA.

[277]Thompson H 'Water Law' at 623.

[278] Karodia H & Weston DR 'South Africa's New Water Policy and Law' at 14.

[279] Part 1 Chapter 2 of the NWA 'Water Management Strategies'.

process which promotes the co-ordinate development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.[280] Underlying this approach to water resource management is the recognition that water should be managed in an integrated manner. Integrated water resource management is also a philosophy, a process and an implementation strategy to achieve equitable access to and sustainable use of water resources by all stakeholders at catchment, regional, national and international levels, while maintaining the characteristics and integrity of water resources at catchment scales within agreed limits. Integrated water resources management (IWRM) may be viewed as one the driving policy for WRM in South Africa, supported by the National Water Resource Strategy for 2013 that talk about effective development water management.[281]

Participation of stakeholders

Involvement of stakeholders and water users in WRM decisions represents a key policy requirement of WRM in South Africa. The challenge is to ensure that people want to, can and will continue to participate in WRM, either through statutory bodies or informal consultative bodies. Stakeholder participation has two key components, namely to:

• facilitate effective local decision making (based on local knowledge and priorities), which is required for equitable allocation and efficient use; and

• Foster stakeholder support (buy-in and ownership) of WRM decisions, which is particularly important for the effective delegation of WRM functions and acceptance of financial responsibility for WRM.[282]

Subsidiarity

An important component of fostering participation is to delegate (or assign) decision making power (and associated WRM functions) to the lowest appropriate level.[283] When a power is delegated, an institution like a CMA is effectively carrying it out on behalf of the responsible Authority such as the Minister of Water Affairs and Sanitation. A delegated power or duty may be made conditional or withdrawn.[284] Where a power or duty is assigned, such power of

[280] Bhat A op cit (n158) at 201.

[281] See Pegram G and Palmer I op cit (n271) at 4 and the 2013 National Water Management Strategy; the strategy builds on IWRM by acknowledging the principles envisaged by South Africa when it adopted IWRM, and in addition provides for South Africa's growth, development and socio-economic priorities in an equitable and sustainable manner over the next five (5) to ten years. It recognises that water supports development and elimination of poverty and inequality; it contributes to economy and job creation and provides that water must be protected, used, developed, conserved and controlled sustainably and equitably.

[282] Ibid at 5.

[283] Ibid.

[284] DWAF 'Water Management Institutions Overview' at 19.

duty is fully transferred to the CMA from the responsible Authority. The CMA therefore exercises the power or duty in its own right.[285] This highlights a policy imperative for outsourcing of functions to water management institutions (WMI) to ensure local participation in decision making (which is different from outsourcing to achieve efficiency in performing non-core functions). However, this imposes greater requirements for institutional coordination and capacity building.[286]

Viable water organisations

Participation of stakeholders and delegation of responsibility to a local level is provided for in the NWA through the establishment of various WMIs, particularly catchment management agencies (CMAs) and water user associations (WUAs). These organizations must be technically, administratively and financially viable; otherwise the potential of the NWA is unlikely to be achieved. The viability of all these WMIs must be considered in the context of the parallel establishment of water services institutions (particularly water boards). They must also be considered within the technical (human resource) constraints, especially in developing countries like South Africa.[287]

Financial responsibility

The financial viability of organizations is crucial to their sustainability and effectiveness.[288] This imposes a stringent requirement for collection of user charges to pay for the implementation water resources management functions at a local and regional level, supported to a limited extent by fiscal transfers. It should be noted that WMIs like CMAs are public enterprises and must therefore operate according to the strict controls and requirements of Chapter 6 of the Public Finance Management Act (Act 1 of 1999).[289]

4.3 Catchment Management Agencies (CMAs)

In South Africa CMAs are a result of policy and legislative reform and represent the 2nd tier in the water resource management framework.[290] They are responsible for the progressive development and broad

[285] Ibid.

[286] Pegram G & Palmer I op cit (n261) at 5.

[287] Ibid.

[288] Ibid.

[289] Chapter 6 of this Act deals with controls and requirements of public entities. CMAs and other WMIs as public entities must be registered under schedule 3 of the PFMA. This schedule covers public entities with lesser degrees of autonomy. It outlines the fiduciary and other responsibilities of the governing boards of these entities, which are similar to the responsibilities of accounting officers.

[290] DWAF op cit (n277) at 8.

implementation of a catchment management strategy (CMS).[291] As public entities, CMAs are regulated through the NWA and the Public Finance Management Act (PFMA) as states above. In accordance with these Acts they are required to submit business plans and annual reports to the Ministers as stated above. Their CMS are also required to be consistent with the National Water Resource Strategy, within its water management area.[292] The NWA makes provision for water resource management through the identification of Water Management Areas (WMAs) and the respective establishment of Catchment Management Agencies (CMAs) responsible for the management of the identified WMAs.[293] It also makes provision for the establishment of a CMA in each of the nineteen (19) WMAs in South Africa,[294] however that number has since been reduced to nine (9) in the entire country.[295] These establishments of CMAs will allow for the delegation of water resource management to a catchment level and will aid the involvement of local communities in water resource management within the framework of the National Water Resource Strategy (NWRS).[296]

CMAs can also acquire a range of additional powers and duties, these powers can be delegated or assigned to the CMA by the Minister (Minister of Water Affairs and Sanitation).[297] A power or duty will only be delegated once a CMA has demonstrated the ability and capacity to fulfil the responsibility associated with the power, duty or function and has necessary measures in place to enhance water resource management.[298] The assignment of a duty, power or function to a CMA may only be effected once the minister has considered the capacity of the CMA concerned to exercise the power or perform the duty and the desirability of performing such power.[299] Ultimately CMAs will be responsible for the issuing of water licences; however the delegation to do so has not yet been handed

[291] Part 2 of Chapter 2 of NWA; Catchment Management Strategies.

[292] Part 2 of Chapter 2 of NWA; Catchment Management Strategies.

[293] Part 1 of Chapter 7 of NWA; Catchment Management Agencies

[294]DWAF 'Guidelines for Drafting Business Plans for Catchment Management Agencies Guide 2; Rural Agricultural-Industrial/Mining (Medium)' at 4.

[295] DWAF 'Media Release Catchment Management Agencies' at 1.

[296] DWAF op cit (n294) at 4.

[297] DWAF op cit (n284) at 19.

[298] Thompson H 'Water Law' at 630.

[299] Ibid at 626.

to the CMAs.[300] There is however an obligation on the Minister to promote the management of water resources at a catchment management level by assigning powers and duties to CMAs when it is desirable to do so.[301]

The delegation of water resources management functions to a CMA does not release the Minister from his/her responsibility as the custodian of water resources in South Africa and as such must ensure that CMAs undertake water resources management effectively and in alignment with the objectives of the NWA.[302] The following paragraph looks at the different types of CMAs which can exist at each Water Management Area (WMA) in South Africa and their respective characteristics. The following paragraphs looks at the different types of CMAs which can exist within a specific water management area and the characteristics of each and how they can evolve.

4.4. Categories of CMAs in South Africa

Water Management Areas (WMAs) have characteristic water uses and institutional strengths and as such will face different water resources management challenges. Along with varying economic strengths of the WMA's, it was suggested that provisions in South Africa should be made for different types of CMAs. These CMAs will have different organisational strengths relationships with institutions within the WMA. Three general types of CMAs have been identified in the *Guidelines on Organisational Structure of Catchment Management Agencies.*[303] They are as follows:

I. Rural-agricultural-community dominated (small) CMA; Water use is limited to low levels of irrigation, forestry and domestic use. The WMA is primarily rural in nature.
II. Rural agricultural-industrial (mining) CMA; Water is significantly used for industry, power and mining along with irrigation, forestry and domestic use. The WMA is rural in nature and is usually water stressed.
III. Urban dominated (large) CMA; Water use is mainly municipal and industrial, with limited irrigation and forestry in the WMA. The WMA is characterised large urban-industrial complexes.

The different characteristics of CMAs brought about the need to develop different guidelines for the three different types of CMAs to ensure that the reporting focus is applicable to the CMA.[304] A wide range of water resource

[300] DEAP 'Western Cape IWRM Action Plan; Status Quo Report Final Draft' at 33.

[301] Ibid.

[302] Section 2 read with section section 72 & 73 of the NWA.

[303] DWA 'CMA BP Guidelines' at 5.

[304] Ibid.

management functions can be delegated to these CMAs, depending upon the local priorities and capacity including: developing strategies for integrated water resource management within the WMA; developing and supporting organisations in the WMA, including coordination and capacity building; regulating water use, including authorisation and charging of water use; managing information to support other water resources management functions; implementing physical interventions, including conservation and demand management and possibly infrastructure development and/or operation; and auditing water resources management, in terms of the stated objectives of organisational business plans and water resources management strategies.[305] In addition to the different characteristics, CMAs can evolve in accordance with capacity and capable, the next aspect of the paper focuses on the evolution of CMAs.

4.4.1. The evolution of CMAs

According to the South African document *Guidelines on Organisational Structure of Catchment Management Agencies* CMAs can evolve into three phases.[306] These phases are in accordance progressive realisation of the functioning of CMAs and can be summarised as follows:

i. Developing relationships and legitimacy

This phase involves the CMA establishing itself within the water sector institutional environment during which it will legitimise itself. In this phase a CMA is characterised by the initial functions identified in section 80 of NWA, which largely deals with the development of catchment management strategy, the coordination of organisations and facilitation of stakeholders.[307] Any other additional water resource management functions may be delegated or assigned to the CMA once it has demonstrated the ability to perform these initial functions throughout its WMA.

ii. Build Capacity and Consolidate

CMAs build capacity and consolidate after formulating their CMS (Catchment Management Strategy). The phase largely consists of developing capacity to implement CMS and taking responsibility of delegated functions.[308] The process of delegation begins with financial and administrative functions such as the registration of water users and making and collecting water user charges. Once the administrative and financial capacity has been created,

[305] Pegram G and Palmer I op cit (n261) at iii.

[306] DWA op cit (n294) at 5.

[307] Pegram G and Palmer I op cit (n261) at iii.

[308] DWA op cit (n294) at 5.

water resource management functions may then follow based on the particular priorities outlined in the CMS.[309] In this period, operational functions will be delegated to the CMA according to the WRM priorities set out in the CMS.[310]

iii. Become fully functional and responsible

In this stage CMAs has demonstrates the capacity to perform general WRM functions, including the management of WMA through monitoring and information systems. The phase is characterised by the delegation of responsibility authority functions.[311] This means once a CMA has demonstrated capacity to fund and exercise water management functions, the powers and duties of responsible authority may be delegated to a CMA, and they relate to the ability to authorise, license and regulate water use.[312]

In addition to CMAs, there are other WMIs like Water User Associations (WUAs) which play a specific role in the water management sector. They are creatures of statue and the future and the future of these organisations is uncertain as there are reports that this organisations/associations are being phased out. In an effort to savour these organisations or associations, the study will further look at whether WUAs can be made to function like Rural Water Authorities (RWAs) in Australia (as discusses in chapter 3 above). This is mainly because RWAs as they function are viable organisations and their function may offer solution to WUAs fate. WUAs are discussed below.

4.4.2. Water User Associations (WUAs)

Water User Associations are associations of individual water users that undertake water related activities for their own benefit.[313] They are statutory bodies which took over the role of Irrigation Boards under previous water laws and are established by the Minister in terms of the National Water Act. WUAs are, in effect, co-operative associations of individual water users who wish to undertake water-related activities for their mutual benefit.[314] Although WUAs are water management institutions their primary purpose, unlike CMAs, is not water management.[315]

[309] Chapter 8 of NWA 'Water User Association'.

[310] Ibid.

[311] Ibid.

[312] Ibid.

[313] Ibid.

[314] Ibid.

[315] Ibid.

The broad role of a WUA is to enable people within a community to pool their resources (money, person-power and expertise) to carry out water-related activities more effectively.[316] The establishment of a WUA must also assist in achieving the purposes of the Act.[317] WUAs, firstly, enable members to benefit from addressing local needs in terms of local priorities and resources. Secondly, they provide a mechanism through which a CMA (or the Minister) can devolve the implementation of aspects of the Catchment Management Strategy to the local level.[318] Although in accordance with the NWA WUAs will normally operate at a localized level, there will be some exceptions, such as when the length of a river managed by a WUA is so long that it relates more to a regional than a local interest.[319] A WUA may be concerned with a single purpose, such as controlling recreational activities on a river or providing water for emerging farmers.

Water management activities may be devolved to WUAs in which case they become the third tier of water management institutions.[320] A WUA is therefore obligated to exercise water management powers and duties only if and to the extent these have been assigned or delegated to it.[321] The WUA is accountable, for exercising a delegated function, to whoever gave the specific delegation.[322]

A WUA may also be multi-sectoral, dealing with a variety of water uses within its area of operation for as long as they operate within the framework of national policy and standards, particularly the National Water Resource Strategy. [323] The Minister may exercise control over them by giving them directives or by temporarily taking over their functions under particular circumstances.[324] And the Minister may also disestablish WUAs in accordance with the procedures of the NWA.[325]

In terms of section 98 of NWA, Irrigation Boards must be transformed to WUAs however existing Irrigation Boards, Subterranean Water Control Boards and Water Boards established for stock watering purposes as per the

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316 Karodia H & Weston DR op cit (n271) at 17.

317 Chapter 8 of the NWA.

318 Karodia H & Weston DR op cit (n271) at 17.

319 Ibid.

320 DWAF 'Water Management Institutions Overview' at 8.

321 Chapter 8 of the NWA.

322 Karodia H & Weston DR op cit (n271) at 17.

323 Karodia & Weston op cit (n271) at 17 read with DEADP 'Western Cape IWRM Action Plan: Status Quo Report Final Draft' at 33.

324 Chapter 8 of the NWA.

325 Section 96 of the NWA.

Water Act of 1956, are recognised until they are re-structured as WUAs.[326] It is Department of Water Affairs and Sanitation's (DWASs) mandate to transform Irrigation Boards (and other water boards) to WUAs and to establish WUAs in areas where water resource management is needed.[327] There are areas where there is no Irrigation Board or WUA currently operating. The DWAS has identified these areas as critical areas where WUAs must be established.[328]

Despite the legislative imperative for South Africa to decentralise WRM to catchment level, the decentralisation process in South Africa has at least been slow and in some instances unsuccessful. This has lead to some CMAs being disestablished and other operating in their initial functions.[329] The next aspect of this paper highlights the 'failure' to decentralise and the contextual challenges faced by South Africa in this process.

4.5. Decentralisation; the water challenge in South Africa

Despite several efforts by South African authorities to decentralise and implement IWRM at a catchment level, decentralisation of water resource management to catchment levels has not been altogether successful due to a number of factors. Some CMAs function on their initial functions while some are not operational but only gazetted. South African authorities are now seeking alternative ways in which water resource management can be decentralised to catchment level to bring about effective IWRM. To establish this alternative ways using the Australian method, it is pivotal to understand why the decentralisation of water resource management has CMAs has failed in South Africa in the first place. This is important in understanding the context in which CMAs function and how best the Australian method can be imported and implemented in South Africa. Factors that have contributed to this failure are examined in this part of the paper.

Different CMAs fail in managing a WMA for a variety of reasons which may not be altogether applicable to the other CMA. There are however those hindrances which trend across various CMAs which can observed across a variety of CMAs. The paper will explore these hindrances to establish the South African context and try to find solution to the water management problems in chapter 5. Additionally, these contextual elements hinder effective implementation of IWRM as it effectively advocates for WRM at a catchments level.

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[326] Section 98 (1) & (2) of the NWA.

[327] Chapter 8 of NWA.

[328] DEADP 'Western Cape IWRM Action Plan: Status Quo Report Final Draft' at 33.

[329] CER virtual library; CMAs like the Crocodile West and Marico in the North West province have been disestablished, and Thukela and Mvoto CMA converted to Umzimkulu CMA in Kwazulu-Natal; while Breede-Gouritz, Pongula Umzimkulu and Olifants CMA still function in their initial function. cer.org.za.

According to the International standards, IWRM requires:

I. A stable institutional framework supported by legislation. Roles and responsibilities should be well defined so as to overcome fragmentation and duplication of responsibilities. Regulation with respect to decisions around fair water allocation and polluter pays principles to ensure fairness;
II. A strong knowledge base that is supported by systems for monitoring both quality and quantity which in turn can be used for fair decision making of proposed developments;
III. Integration across all natural resource issues and specifically considering sustainability from a regional perspective;
IV. A program for strong community awareness and participation.[330]

4.5.1. Implementation of IWRM in South Africa

Pollard and Du Toit have identified a range of factors that are critical in supporting the evolution of IWRM (and in particular sustainability) in a way that is tenable and appropriate and that reflects the cornerstone of water reform.[331] They conclude that they are practice based understanding of the policy, the role of leadership and communication, governance, collective action and regulation, and self-organisation.[332]

According to Archer, although the National Water Act (NWA) and the National Environmental Management Act (NEMA) in South Africa make provision for the parameters in international standards of IWRM but there are many challenges experienced in their implementation.[333] She adds that while the NWA and NEMA make provision for the implementation of 'polluter pays principle' and the 'risk averse approach', the enforcement of principles is difficult to enforce in the face of strong developmental drive to house the poor and develop employment opportunities especially in municipalities with limited resources.[334] in their study known as the 'Shared Water Initiative', Pollard and Du Toit examined the multiple factors that both constrain or enable compliance with the NWA and hence the implementation

[330] Archer L op cit (n1).

[331] Pollard S & Du Toit D 'Towards Adaptive Integrated Water Resource Management in Southern Africa' un-numbered.

[332] Ibid.

[333] The Preamble of the NWA envisages the principles of IWRM in that it recognises that the aim of water resource management is to achieve sustainable use of water for the benefit of all users; the protection of water resources is necessary to ensure sustainability of the nations water resources in the interests of all users and integrated management of all aspects of water resources, and where appropriate, the delegation of all management functions to a regional or catchment level so as to enable everyone to participate. NEMA preamble recognises that sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations.

[334] Sections 19 read with section 20(7) of NWA and principle (ii) & (viii) of NEMA.

of IWRM in six rivers/catchments.[335] They found that despite the legislative framework for water reform and environmental flows since 1998, the integrity of most of these rivers has not improved and continues to degrade both in terms of quality and quantity.[336]

On the other hand Karar and Seetal in reviewing catchment management Fora in Kwazulu-Natal (KZN) identified some of the strengths in this water management area; they concluded that the strong institutional collaboration between the different role players in the water industry in KwaZulu-Natal; The existence of capacity to plan and implement water resource management goals suitable for South Africa; The existence of enabling legislation which provides the mandate and framework for implementing catchment management; The extensive databases of natural resources information that exist with spatial definition.[337]

On the contrary, drawing from their experiences in Letaba and Crocodile Catchments, Pollard and Du Toit (identified earlier) stated that organizational transformation in this WMA (Water Management Area) leads to a somewhat confusing picture of roles and responsibilities, both nationally and at local levels. Archer observed a similar scenario in Umgeni catchment management agency and concluded that although the NWA has been the law since 1998 it is relatively recently that changes are being felt at a local level, with local and district municipalities struggling due to lack of capacity to meet the legislated responsibilities and this making it difficult to avail time and resources to participate in catchment management meetings.[338] In conclusion the assignment of WRM functions from National DWA to local level organizations is still unclear in most catchments while In some catchments local government officials have assumed, incorrectly, that they are responsible for WRM.[339] There is also lack of awareness and understanding of the Water Act (NWA) by government department officials including DWAS (Department of Water Affairs and Sanitation) officials. There is also a lack clear demarcation in responsibility between the Regional and local government structures.[340]

Moreover South African population is still markedly divided by class and socio-economic circumstances with many people per catchment living in relative poverty. In contrast to many farms and businesses which are among the

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[335] Pollard S & Du Toit D 'Towards Adaptive Integared Water Resource Management in Southern Africa' un-numbered.

[336] Ibid.

[337] Karar E & Seetal A 'Catchment Management Fora in Kwazulu-Natal: Review of the Lessons Learnt Using Swot Analysis' at 14.

[338] Archer L op cit (n1).

[339] Pollard S & Du Toit D op cit (n335).

[340] Karar E & Seetal A op cit (n337) at 15.

wealthiest in this country.[341] Due to this class division and socio-economic circumstances there are disparities in environmental awareness between stakeholders where stakeholder input is obtained from the knowledgeable few. There is also a lack commitment from stakeholders especially in communities who fail to perceive the benefits of involvement in the management of natural resources.[342] Pollard and Du Toit therefore conclude that transformation of CMAs can significantly change output in terms of scale and detail, but most importantly in respect to inclusion of most stakeholders.[343]

In addition to the above Archer notes that there is no funding for sub-basin institutions such as catchment management forums that depend solely on the generosity of participating organisations. In addition to lack of financial support, the forum does not see itself as totally independent.[344] Karar & Seetal in their study in the KZN area observed that the information sharing between the Catchment Management Forum (CMF) steering committee and the forum at large requires a level of input that is difficult to achieve. They also observed a lack of direct funding in this area in the interim until the CMA was in place.[345] According to Archer there was a general lack of funding at Umgeni as well.[346] Although these particular problems may seem only applicable to certain CMAs/CMFs, they indicate a serious lack of understanding of the functioning and running of a CMF. CMFs as bodies created by the Department of Water Affairs and Sanitation, with many of the Forum members belonging to a government department or parastatal are somehow bound by section 39 of the constitution to uphold the agreement of corporation.[347]

Archer notes that at the sub-basin level there is no clear way of support for CMFs at this point. The CMF as a non-statutory body is dependent on volunteers and voluntary attendance. The proposal at Umgeni to formalise the establishment so as to be able to hold a bank account and raise funds for projects was not supported by the Department of Water Affairs (and then Forestry).[348] Karar & Seetal submit that this form of bureaucracy and empire

[341] Archer L op cit (n1).

[342] Karar E & Seetal A op cit (n337) at 14.

[343] Pollard S & Du Toit D op cit (n335).

[344] Archer L op cit (n1).

[345] Karar E & Seetal A op cit (n337) at 14.

[346] Archer L op cit (n1).

[347] Archer L op cit (n1) read with section 39(2) of the constitution which deals with interpretation of the bill of rights. It obliges the forum, a tribunal or a court of law when interpreting any legislation, or developing the common law or customary law to promote the spirit, purport and objects of the bill of rights.

[348] Ibid.

building poses a major threat to implementation of IWRM in South Africa,[349] and in effect hinder decentralisation of WRM to CMAs. Other challenges in KZN as noted by Archer include lack of transparency in decision making; the importance of local participation being diluted by the urgency to deliver; CMFs playing a cosmetic role once the CMAs are in place; protectiveness over information especially primary research information which is usually costly to attain; the difficulty in performing catchment management in an integrated manner because of responsibilities and legislation relating to managing water and land residing in different governments departments.[350]Additionally the catchment issues that persist in Umgeni River according to Archer are similar to those in the Murray Darling Basin as far as water allocation and pollution associated with both urban waste and agricultural nutrient loaded run-off being significant are concerned.[351]

Despite all these challenges Karar and Seetal recognise potential for many positive opportunities as far as WRM in KZN is concerned. they conclude there exists an opportunity to promote sustainable resource use with the full involvement of stakeholders who can ensure decisions are made at the lowest appropriate level; there is an opportunity for legislative foundation reinforcing the unity of the water cycle, addressing historical disadvantages and encouraging co-operative governance and representatives in WRM to provide opportunity for success; an opportunity for capacity building and opportunity for experience to be gained in natural resource management; improving networking between role players especially Regional and local authorities, DWAS and agricultural and private sector; streamlining functions and funding when the CMA is in place ensures accountability; water related information collected and updated as part of the responsibilities of one institution would provide an opportunity for minimising duplication and waste of resources; when CMF acquire appropriate capacity more responsibility can be devolved to them; and utilisation and co-ordination of existing local capacity for effective resource management.[352]

Owing to these challenges Pollard and Du Toit have formulated ingredients for effective and successful implementation of IWRM at a catchment level in South African context; Firstly they state that for a successful WRM, there must be an overarching appreciation of IWRM as an adaptive and learning management approach for water governance (rather than a 'silver-bullet') in complex environments is central (stakeholder, community members and the central government).[353] Secondly the ability to plan, monitor and enforce within a complex context is reliant on a nuanced and related suite of factors. These include an understanding of the legal requirements for water reform by

[349] Karar E & Seetal A op cit (n337) at 15.

[350] Ibid.

[351] Archer op cit (n1).

[352] Karar E & Seetal A op cit (n337) at 15.

[353] Pollard S & Du Toit D op cit (n335).

the regulator and stakeholders; availability of catchment-scale benchmarks against which to monitor (the Reserve, international requirements); the presence of a 'watchdog' to monitor benchmarks; the role of leadership with authority (a champion) and responsiveness to the manager and users; the ability to self organize; the development of trust, collaboration and learning between the role-players; the internal mechanisms for monitoring and action; and the development of a flexible management system that is understood and respected by the users. Thirdly and critical to the above, there should be leadership and authority.[354]

From this chapter, it is evident that decentralization and implementation of IWRM in South Africa has been extensively catered for in legislation. However, the main challenge has been the implementation of these principles in accordance with the legislative framework. The challenges hinted on above have hindered the implementation of IWRM hence decentralization of WRM in South Africa. The paper shall now turn to Australia which has been referred to as 'benchmark' for effective implementation of IWRM, for guidance and lessons on the practical implementation of both IWRM and decentralization of WRM.

[354] Ibid.

CHAPTER 5: COMPARATIVE ANALYSIS OF SOUTH AFRICA AND AUSTRALIA AND RECOMMENDATIONS.

The implementation of IWRM and decentralization of water resource management is complex; involves a lot of stakeholders and role players. Australia has however been held internationally as a benchmark for Implementation of IWRM and effective decentralization of water resource management. This chapter outlines how Australia Implemented IWRM and the decentralization process. It highlights where South Africa lacks in this regard and how it can improve in these aspects and make recommendations to South African Authorities. The decentralization process in these counties shall be examined through the lens and principles of IWRM as IWRM makes provision devolution of authority/subsidiarity, stakeholder participation, financial self-sufficiency, viable water organizations and central and local relationships.

It is worth noting that the decentralization process in Australia is also complex, complicated and involves a variety of stakeholders. Commentators have argued that this decentralization process would not work in developing countries such as South Africa as the different contextual elements which exist in Australia have made their implementations possible. Nevertheless, Australia has one of the best water management regimes in the world and is used often as a reference point in the implementation of IWRM. It can be argued henceforth that understanding the implementation of IWRM in Australia, is understanding how IWRM can best be implemented.

Australia has implemented a top-down method of decentralization where all power and/or authority is devolved from the highest form of governance the Coalition of Australian Governance (COAG) through to the Commonwealth of Australia, the states and ultimately the Catchment Management Agencies (CMAs). In South Africa, the South African Constitution has made provision for delegation of authority, it is however silent about assignment. In terms of section 238 of the Constitution an executive organ of state in any sphere of government may delegate any power or function to 'another executive organ' provided the delegation is consistent with the empowering legislation.[355] Delegation in terms of legislation is therefore provided for. The National Water Act has enabled decentralization, delegation and assignment of water management functions. However as we shall see throughout this Chapter, using five IWRM key factors identified above, the decentralization process has not been altogether successful in South Africa.

All these IWRM principles are discussed in details and as applied in both countries to highlight where the countries differ, the significant progress if any which has been made by South Africa and the lessons and areas of

[355] Section 238 of the Constitution.

improvements that South Africa can learn and make. All these principles have been dealt with in detail in Chapter 4 and are repeated in this chapter for emphasis and facilitation of better understanding.

5.1. Stakeholder Participation

Participation of stakeholder's requirement seeks to ensure that people want to, and will continue to participate in WRM. This can be implemented through statutory bodies or informal consultative bodies. Participation has two key components which are; to facilitate effective local decision making bodies (based on local priorities) required for equitable allocation and efficient use and to foster stakeholder support (buy in and ownership) of WRM decision. This is one decentralization aspect that ensures public participation.

In **Australia**, this requirement has been actively achieved. All levels of water management are supported by one stakeholder advisory group of one kind or another. The Basin population (such as in Victoria) has nearly twenty (20) years of experience in community and government partnerships and bring highly informed and sophisticated capabilities to this task. The Basin itself is managed by an independent Basin Commission with community representation through the community advisory group. Water management committees serve as advisory committees, providing a community perspective on water allocations and environmental flows. Public consultation is now a norm in Australian water management regime. Water user groups also play a community participation role with financial assistance from the Victorian state government, although this groups are generally oriented towards the interest of their members and industry.

It is worth mentioning that Australia context and nature, as a developed nation with financial muscle in its corner has contributed in the implementation and achievement of stakeholder participation feasible. Firstly the participants in Australian water management cluster are not vastly divided by race, class, religion and other socio-economic cluster. It has one of the best education systems in the world and has some of the highest numbers of university graduates. In addition to these socio-economic factors, the internal basin institutional arrangements consist of both basin level and sub-basin institutions which are firmly supported through human resources by state and commonwealth governments. It can be concluded that the level of economic development for all stakeholders and government has made it possible to commit time and resources to knowledge generation, travel, meeting plans and various tasks associated with IWRM. The financial and otherwise support

that has just been mentioned can easily achieved if governments like South Africa can invest more into water management skills development, decentralization of skilled labour and investment into water management institutions.

In **South Africa** participation of stakeholders has not been altogether achieved.

South Africa is a young democracy marked by a strong history of racial segregation. The racial segregation also extended into management of water resources of the country. 'Black' South Africans were previously excluded from

the management of water resources and there is now a constitutional and legislative imperative to redress racial and gender discrimination of the past. Despite these efforts the country is still markedly divided by race, religion, class and education. There is therefore a lack of skilled public participants in the water management sector and often local communities are unaware or uneducated on important issues of water management such as sustainability, equality and conservation. In order to harness education and skills in the water management, the South African government will need to 'drastically' invest in skills development, education on water issues and encouragement of youth to engage in water management related sectors. In future should devolution of authority be effected, this community service aspect can be devolved to CMAs or other sub-basin institutions.

5.2. Subsidiarity or devolution of authority

One of the key components of fostering public/community participation is to delegate (or assign) decision making power (and or associated WRM functions) to the lowest appropriate level. Where a power is assigned or delegated, CMAs are effectively it on behalf of the responsible authority. This delegation of powers can be made conditional or withdrawn or assigned completely which means the assigned authority is exercising this power in its own right.

In **Australia**, the requirement devolve water management authority has easily been achieved. The institutional make-up of water resources management has been decentralised or devolved for most of its existence. The current institutional structure and direction is shaped by strong history of water management and environmental protection and the current water management institutions simply aim to improve these decentralised bodies. The arrangements have been tailored to the particular circumstances of Australia's federalism, climate and topography as well as to the management of the Basin (Murray Darling Basin) in Australia.

The management of water resources and environmental protection has been traditionally the responsibility of states; the powers of the commonwealth government are limited as far as water resource management is concerned. Because of this fact states like Victoria and other states have been able to make inter-state agreements on shared water courses or sources and manage their water resources from within. States are able to create their own sub-basin institutions and regulate them according to their own laws. Most sub-basin institutions evolved from land care groups which were already community oriented water resources management groups. There are also mechanisms and funding in place to allow for the development of sub-basin catchment institutions that are committed to resource protection.

In **Victoria** CMAs are creatures of statute (Catchment and Land Protection Act). The Act makes provision for integrated management of water resources, protection of catchments, encourages community participation in the management of land and water resources and establishes a system of control on noxious weeds and pest control.

Victoria's CMAs perform all this functions as provided or catered for in the Act. The Act also provides for other institutions to aid CMAs in these tasks. The Department of Sustainability and Environment pays for the implementation of the Regional Catchment Plans (RCIP). CMBs (Catchment Management Bodies) are responsible for the implementation of these plans and advice on all aspects of natural resources management. The Catchment Management Council advises the Minister on water management issues, although the council's future is uncertain.

In addition to the Catchment and Land Protection Act, the Victorian Environmental Assessment Council Act of 2001 provides for an Environmental Assessment Council; which gives an independent and strategic advice to the Government of Victoria on matters relating to the protection and ecologically sustainable management of the environment and natural resources.

Currently there are ten (10) fully functioning CMAs in Victoria with full power bestowed upon them, and this is a management goal for South Africa. Apart from CMAs functions the construction, operation and maintenance of infrastructure and the provision of service such as water supply have been removed from the state. Water resources department or ministries have been combined with natural resources or environmental departments that encompassed portfolios such as agriculture, land use planning, forestry and fisheries. Of course South Africa has tried this shifting of ministries on several under the current administration (Zuma administration) and so far the yields of these shifts have been unclear as far as water resources management is concerned.

One of the key differences in South Africa and Victoria in these aspects is implementation of subsidiarity or devolution of authority.

In **South Africa** the National Water Act (the Act) as framework legislation makes provision for delegation and assignment of water resource management to lower levels of water management institution such as CMAs. The Act makes provision for this delegation and assignment subject to the Minister (Water Affairs and Sanitation) powers and rights as a trustee of the nation's water resources. It also envisions progressive realisation of devolution of authority, in accordance with cooperation of the Ministry, provincial governments and water organisations as envisaged in the constitution of the South Africa.

The Act further makes recommendation on how this devolution of authority can be implemented, the powers and duties of the responsible authorities and their constitution. It also sets out the requirements through amendments and proclamations how CMAs can become a responsible authority. Despite its legislative provisions, it has been a struggle for South Africa to devolve powers and duties, mainly due to the contextual elements that exist in this country. The main challenge has been that the devolution can only be done progressively according to 'either or both an approach of proven ability and capacity by the agency or a plan developed jointly by the Department of Water

Affairs and Sanitation. The joint plan could be followed in water management areas with relatively good management and proven income generating capacity. The plan would include strategies and objectives to ensure that the CMA develops the required capacity to carry out additional powers, duties and functions by specific date.

One of the challenges in devolution of authority is the disparity in education as far as water management is concerned. The Act requires integration of water resources management, redress of past racial and gender discriminatory laws and the participation of local authorities. This means in addition to capacity, CMAs must contribute to redress in relation to race and gender and the participation of mostly "uneducated' communities. CMAs in South Africa therefore face a hefty of challenge of encouraging local communities to have interest in water management, educating the said communities and ensuring participation of these local communities. All this should be done, unlike in Australia, with very little financial support from the central government in order to ensure capacity.

Of course the Act prescribes progressive realisation of this rights and duties. If we were to go the Australian route, we would allow for time for history and context to shape South African water management regime. So that local decisions can aspire to involve local communities and harness local knowledge in water management. The quicker solution, being relatively a number of years, would be investment into education and financial interest. The department seems to be taking the financial route in that it has provided for bursaries and scholarships for those interested in water management.

5.3. Financial self-sufficiency

Financial viability of CMAs is crucial to their sustainability and effectiveness. This is because there is a stringent imposition of water user charges to pay for the implementation of water resources management function at a local or regional level. The fees must be supported to a limit extent by fiscal transfers and endowments from the central state or provincial government.

In **Australia**, **Victoria** There is a strong history of funding mechanisms in Australia. In 1917, the Murray River Commission was created among in states including Victoria to ensure that these riparian states received shares of the Murray Rivers through the provision of capital funds for water development. There are also capital funded projects of New South Wales, Victoria and South Australia; the commonwealth meets these costs equally, while the states handle the costs for operating and maintenance according to a cost sharing formulae in which users of higher volumes pay a larger percentage. The country has also learned to adapt through out history to the changing values and economic development. This level of economic development for all stakeholders has made it possible to commit time and resources to knowledge generation, travel, meetings to plan and implement the various tasks associated of IWRM. While there has been inequity in the distribution of water resources favouring irrigators, there are mechanisms

and funding in place to allow the development of sub-basin catchment institutions that are committed to resource protection for ecological flow requirement and pollution control.

It is important at this juncture to acknowledge the financial status of Australia. This level of economic investment might be tough for developing countries like South Africa that have other challenges like education and health care. However, according to international sources we are fast depleting our available natural resources and it would be prudent to invest in water management and development. Australian water management regime has also been criticised in this in financial viability as far as water viability is concerned. Critics have been that CMAs depend on the commonwealth and states governments for funding, and they still cannot generate their own income. In addition to that, there is nothing legislative to prevent both the commonwealth and states government from withdrawing their financial support should there be a change its politics. In South Africa, the generation of income from water licences and water user charges has been legislatively provided for subject to a CMAs having a requisite capacity and capability.

In South Africa, CMAs (where established) and quasi CMAs as provided for in the Act still function in their initial functions. Thus far they do not have their own muscle and depend on the national government for funding. It is their hope to generate their own income through the issuance of water licences and water charges. The financial viability of CMAs in this country is dependent upon its capacity and capability and it attaining its full powers and functions. Once a CMA has established its capacity and Capability, full water management functions will be delegated on it.

5.4. Viable water organisations

In South Africa the National Water Act (NWA) makes provision for participation of stakeholders and delegation of responsibility to a local level through the establishment of various Water Management Institutions (WMIs), particularly CMAs. These WMIs must be technically, administratively and financially viable otherwise the potential of implementation as envisaged by the NWA is unlikely to be achieved. The viability of these WMIs must be considered in the context of parallel establishment of water services institutions (particularly water boards). This has been true for Australia; CMAs have functioned alongside other viable WMIs which have made the realisation of their full powers feasible. These various WMIs (and how they coordinate with CMAs) shall be considered in both Australian and South African context.

In **Australia Victoria** there has been an extensive restructuring of WMIs. States like Victoria as 'managers' of water have taken a thorough examination of organising and financing functions such as headwork's operation; bulk water supply for irrigation or municipalities and delivery of water services. This examination has assisted states in their transition in terms of water pricing and cost recovery and has brought in line with practices consistent with contemporary water management principles and has facilitated a round of other changes.

WMIs in the Murray Darling Basin (Basin) have evolved from a focus on managing rivers for water quality and security of supply (ensuring a drought proof agricultural development) to integrated catchment management designed to maintain water quantity and quality and better water use or human consumption with that required to maintain a healthy riverine system.

The Murray River Commission was created among different states to ensure that the riparian states (Victoria included) received funds for water development. Then the Murray Darling Basin Commission (MDBC) upon its creation took over the responsibility of the Murray River Commission which was the trans-boundary water management as well as new, but limited responsibility for coordinating catchment management across the whole Basin (Murray Darling Basin). To ensure the MDBCs sustainability, the MDBC office is composed of the River Murray Division and the Natural Resource Management Division.

Generally then, CMAs were created as coordinate entities with the responsibility for the protection of both water quality, riparian and floodplain conditions. To ensure their capacity and viability, they evolved from an advisory role in the past (progressive realisation) to now having statutory responsibility as well as funds to support their implementation of action plans.

In addition to CMAs, there are other viable decentralised catchment bodies with a mandate to advice on all aspects of natural resource management. Water management committees serve as advisory committees, providing a community perspective on water allocations and environmental flows as well as floodplain protection and riverine facilities operations. Water user group's play a community participation role with financial assistance from the state though they are generally more oriented towards the interests of their members and industry. There are also Rural Water Authorities which were discussed in Chapter 3 and will be compared to Water User Association in 5.4.1 below.

At a state level (specifically Victoria) there are other viable water organisations such as the DSE, as mentioned above it pays for the implement regional Catchment Investment Plan (RCIP). There is also an Environmental Sustainability Commissioner and an Environmental Assessment Council whose function have been discussed in 5.2 above.

In **South Africa** water management is still centralised and the Department of Water Affairs and Sanitation (the department) still has a major sway on how water is managed in this country. The department along with its provincial MECs and departments serve as coordinate entities and in some places as quasi-CMAs where CMAs have not been established or lack capacity. There are also Water Users Associations (discussed in Chapter 4 above), and as already stated the future of this associations is uncertain and their comparative analysis with Rural Water Authorities will be carried out in 5.4.1 below. There are also Catchment Management Forums which have been created by the department. These are non statutory bodies dependent on volunteers and voluntary attendance. They are dependent

on financial generosity of its participants, and according to the department's precedence they cannot hold a bank account. Without financial muscle, these organisations cannot fully perform their tasks and are therefore not viable.

5.4.1. Water User Associations (WUAs); are Rural Water Authorities (RWAs) the answer.

As already mentioned, the future of WUAs is uncertain, some reports have suggested that this associations are being faced out. This aspect seeks to determine whether or not these associations should rather function as RWAs in Australia. As already highlighted in Chapter 3, RWAs are governmental corporatized water suppliers managing all aspects of bulk water provision for municipalities and operating irrigation schemes. Should WUAs be transformed in to these organisations, they evolve from water management to water suppliers, hence although created by the NWA, would be regulated by the Water Services Act (108 of 1997) which falls beyond the scope of this study.

By transforming these associations into water supplies, we are changing their manifesto as 'co-operative associations of individual water users who wish to undertake water related activities for their mutual benefit'. These are community members who pool their resources together to carry out water-related activities more effectively (water management). It is submission of the writer that rather than re-invent these associations as 'suppliers' rather than 'managers', they should be incorporated into CMAs as they will contribute to human resources and the skills pool. This will be beneficial because these are community members who already have a interest in water management.

5.5. Central and local relationships

The requirement to devolve authority and decentralise water management does not absolve the Minister of his responsibilities as the trustee of the nation's water resource. In fact this devolution and delegation of authority is made subject to this power of the trustee. It is therefore vital for the central government and local authorities to maintain a relationship for checks and balances of the minister. This part of the work investigates how this has been maintained in Australia (Victoria) and in South Africa.

In **Australia** water resource management is still driven by the policy and audit groups in each state including Victoria, but all actual management is carried out at regional levels in local offices with almost complete delegation for policy implementation including water sharing. The management and operation of dams and irrigation schemes has been transferred to entities designed for complete day to day management of water resources. Australia is not without criticism in this regard. One relates to the system of past and current water rights, and the other fact has been alluded to in financial self-sufficiency where sub-basin catchment management bodies have virtually no financial

resources of their own and are for all practical purposes completely dependent on funding contributed to them by the state and commonwealth government.

This requirement is very tricky to assess in **South Africa** where virtually all water management institution derive their powers from the department whether through application and/or licence to authorise a certain conduct. In this country, the department through the minister assess whether or not an 'applicant' such as a CMA has the requisite capacity and capability and guides the said enterprise on how to conduct an authorised function or duty. Central and local relationship in this country is that of an 'overseer', where a CMA or any other WMI has to conduct itself in accordance with the guiding principles afforded to it by the department. There are other water business enterprises with a limited autonomy such as Rand Water or Sedibeng Water, however this enterprises fall beyond the scope of this study as they are not 'water resources' as encompassed by the Water Act (NWA).

5.6. Legislation

In addition to the stable institutional framework, IWRM requires strong legislation where roles are clearly defined to overcome fragmentation and duplication of responsibilities. There must be regulations with respect to decision around fair water allocation and polluter pays principles to ensure fairness. As already highlighted this should be supported by a strong knowledge base and integration of all natural resources.

In **Australia**, states parliaments enjoy plenary legislative power. That is they can make laws about any topic. By the 19th century Australian states enacted water resources legislation on this basic model, gradually curtailing the common law rights to water resources and requirement. In accordance with legislation entitlement regimes have been much reformed to create the contemporary water entitlement regimes. States have also entered into intergovernmental agreements allocating water flows of the Murray River and providing for the construction and operation of infrastructure on the river.

Furthermore there is a strong national level leadership in water policy with states consent. The Coalition of Australian States Government (COAG) instituted a national water policy reform initiative which has been revisited over the years and has been labelled the National Water Initiative (NWI). This has been referred to as the blue print for national water reform and is overseen by the Natural Resource Management Ministerial Council. The 1994 and 2004 reforms have been labelled 'the most significant water law reform for a century'. The Water Act of 2004 sets down for the use and management of Australia's water resources; most significantly through requiring the development of a "Basin" plan prepared by the Authority.

At a state level, Victoria has enacted the Catchment and Land Protection Act (CLPA) which divides Victoria into ten (10) catchment regions with a Catchment Management Authority (CMA) established in each region. CLPA sets up the framework for integrated management and protection of catchments, encourages community participation

in managing land and water resources, and establishes a system of controls on noxious weeds and pest animals. These CMAs derive their powers from the Water Act of 1989 which give CMAs management powers over regional water ways, floodplains, drainage and environment water. There is also an Environmental Assessment Council Act, which creates Environmental Assessment Council that provides an independent and strategic advice to the government of Victoria on matters relating to the protection and ecologically sustainable management of the environment and natural resources.

In **South Africa**, there have been several laws regulating and managing water prior to its democracy. The National Water Act (democratic Act) repealed over 100 Water Acts and amendments including the Irrigation Act of 1912 and Water Act 54 of 1956. It is a framework legislation and it extinguishes all previous public and private rights to water (schedule 7 of NWA). According to this Act the national government is a trustee of the nation's water resource and must ensure that water is protected, used, developed, conserved, managed and controlled in a sustainable and equitable manner. It also provides for delegation and assignment of water management authority.

All these previous laws (prior to South Africa's democracy) are beyond the scope of this study however they are merely used here to show water management deviation and history in South Africa. The 1912 Irrigation Act was based on riparian rights and its scope was limited as far as industrial development and population growth is concerned. It was inadequate to address water management issues at the time, and it had parallel application in that it did not apply to the entire country but only a certain race. There was therefore a need for an adequate legislation to address emerging water challenges. The Water Act of 1956 which has been hailed as a very important piece of legislation in the history of water regulation in South Africa was also heavily based on riparian rights. It vested the Minister of Water Affairs at the time a large measure of control of public water through the principle of government control areas (see section 59(2) for catchment control areas) and made provisions for racial segregation and disparity of water supply. Both this Acts illustrates how water management has been centralised and segregated through out history in South Africa.

In addition to the National Water Act, there is the Water services Act (108 of 1997), which is also beyond the scope of this study but also plays a role in water management in South Africa. This Act mainly provides for water service and provides for the rights of access to basic water and basic sanitation.

The Public Finance Management Act 1 of 1999 (PFMA) applies to CMAs as public entities listed in schedule 3 of the Act. NWA obliges CMAs as public entities to be registered as such under this Act for financial purposes. Chapter 6 of this Act outlines the fiduciary and other responsibilities of the governing boards of these entities which are similar to the responsibilities of the accounting officers (see section 46 of the Act).

Amendments and laws are made to regulate certain acts or behaviours as per need of that regulation. Australia has managed to make laws in its water management challenges to address the needs and loopholes in its water management structure. South Africa as a young democracy will get to make those laws and regulation in accordance with its context and challenges. It would seem currently that the NWA and the Water Amendment Act (27 of 2014) and its regulations is sufficient to deal with challenges in South Africa currently. In fact, its legislation is ahead of its institutional framework and has been the guiding principle.

5. CONCLUSION AND COMMENTS

Decentralisation in WRM is comprehensive and requires a policy shift and a shift in institutional arrangements. Often this requires investments into the decentralised units, the human capital and water resources development. Despite its requirement for extensive restructuring, there is no guarantee that the decentralised units will succeed or inspire community participation. Often the central government decentralises on hopes, and not guarantees. The main question then to the decentralising government should be whether there is a need for decentralisation or devolution of authority and whether the objectives for decentralised units are feasible and necessary.

Because the international community has observed water as a finite commodity that is fast depleting due to human wastage, sustainable water management has never been this crucial. Each and every one of us has an obligation to conserve water and utilise it in a sustainable manner. Sustainable utilisation of water is not feasible without shared knowledge and community participation in conservation of water. Decentralisation of water management will contribute to this knowledge creation and ensure community involvement and contribution. Decentralisation in this context is therefore vital for water scarce countries like South Africa.

Using the Australia as a blue print for effective implementation of IWRM and decentralisation of WRM to a catchment level, South Africa should adopt a top-down method where power is devolved from the central government or authority and water management would be carried out at a regional or catchment level. And because each province is different geographical, climatically and contextual, the delegation of authority should be bestowed unto provincial government, using section 238 of the South African constitution. According to Richard D Heffner, the central government cannot administer the affairs of each locality better than the citizens themselves; therefore provincial governments are better acquainted with local affairs than the central government, and can easily make informed decisions regarding application for establishment of CMAs than the central government.

In this way, an aspirant CMA will apply to a provincial government for an establishment of a CMA. Each province will enjoy reasonable plenary discretion to make regulations and set requirements for an establishment of a CMA. The provincial department will easily monitor the progress made per CMA and its capacity to allow for delegation of more powers and/or authority. Of course the provincial department will act as an "agent" of the Minister. The Minister as the trustee of the nation's water resources will oversee or monitor the progress in each province and monitor/approve the regulations and requirements as per province. The public protector's office in South Africa acts in a similar fashion, where each provincial office is independent and operates within its jurisdiction, but is subject to the rules and regulations of the 'head office' and submits report to the said office. So this is really not novel, but already operational in South Africa.

The main challenge then would be does a CMA apply to the provincial government for funding or does it apply directly to the Minister. In this instance I would propose the CMA applies straight to the minister through the provincial government. Because the provincial government acts as a principal to a CMA, it is aware of its financial needs and constraints, once a CMA has applied for funding the provincial department will submit its report on the said CMA, and provide its own report on financial need of that CMA. This will act as a supporting or declining affidavit in the information provided to the Minister for the said application. The provincial department can also set minimum and maximum tariffs on issuance of water licences and water user charges as per its province. This will be guidelines for CMAs and CMAs support system.

The devolution of authority to provincial governments will also cater for the shortage of human resources in that each province will be acquainted with its human capital and how each human capital would be spread in each province. It will also assist each province its outreach programmes to encourage stakeholder participation and community involvement as they are aware of the local 'mother tongue' and the different contextual or geographical elements.

The biggest lesson that South Africa can learn from Australia, is to adapt water management to its context. Therefore water management in South Africa to be effective should be adapted to local needs rather than to allow for local needs to adapt to it. Adaptation takes time.

As Far as WUAs are concerned, the writer submits that these associations are composed of skilled and experienced water managers who already have an interest in water management. It is the submission of the writer that rather than face off or reinvent theses associations, their members will rather benefit CMAs with their expertise and increase capacity needed for delegation and assignment of authority. Therefore WUAs members will contribute positively in certain aspects of running CMAs.

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