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# **A Climate of Trust: exploring adaptation policy**

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## Abstract \*

A new form of adaptation research and policy within the field of climate change is being shaped by ideas that are borrowed from established international development discourses. This paper addresses some of the key issues arising from the use of sociological methodologies in this new international development arena. An overview of the science of climate change and language of adaptation forms the basis for an analysis of the application of adaptation policy in practice. Discourses of disaster and ecological crisis as they are expressed in international policy are examined in a critical light. I suggest the use of *emic* perspectives to complement the context provided by a world historical political economy. Alternative methods and concepts from the social sciences that might be useful in reframing the paradigm are explored with a view to adding depth and context to adaptation research.

*Keywords:* climate change, adaptation, discourse analysis, social science

## Introduction: the culture of climate

We inhabit a climate of trust as we inhabit an atmosphere and notice it as we notice air, only when it becomes scarce or polluted.

- Baier, 1986.

Scientists are trying to understand how and why the world's climate systems are changing. Out of this research has emerged the need to adapt to these changes. This has given rise to the new policy and research field of adaptation which borrows from existing paradigms of development, disaster mitigation, and livelihoods assessments. In doing this, adaptation also inherits the shortcomings of these paradigms, not to mention the question of the appropriateness of some of the concepts and methods employed.

There is an apparent split between climate change scientists, policy makers and development practitioners on the one hand, and anthropologists/sociologists/human geographers on the other. It is clear that different discourses and methodological practices are founded on different epistemological and ontological trajectories. Along another axis, development practitioners and climate change policy makers have found a common language in mitigation, vulnerability, adaptation and disaster management, which pits them against scientists, both social and physical, who have methodological concerns about the application of their science.

This paper aims to tease out and unpack the different value positions that inhere in the range of discourses and methods that currently permeate the field of climate change. In doing so, I will examine the underlying concepts, methods and their application by various actors and institutions. The phenomenon of ideas moving from academics in fringe

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institutions to centre-stage in the 'development industry'<sup>1</sup> is well noted. Classic examples are Robert Chambers' popularisation of participatory and 'rapid' methods, and Ian Scoones' articulation of the livelihoods analysis. In development discourse, which includes 'climate speak', it seems that notions of culture, power and difference, have been given inadequate attention. At the same time, disciplines such as anthropology and post-colonial studies are constantly advancing critical theory regarding these issues. Is it that in the translation between thick description and programme implementation, there is no traction for the kind of language that 'cultural analysis' uses?

This paper will show how adaptation has evolved in the climate change debate. It is intended for social scientists who have had little exposure to the climate change debate, as well as climate scientists and policy makers who have had little exposure to theoretical and methodological issues in the social sciences. It will review how various institutions have applied these ideas in their adaptation policy approaches before exploring other paradigmatic approaches to the issue that the social sciences may offer. I argue that the meaningful application of sociological methods and concerns in the climate policy debate would enrich the application of climate change research.

I take as my first thesis that climate change and adaptation debates constitute a new "cultural politics of nature" (Gregory, 1994: 80). Following Gregory's example in "being suspicious of any discourse that gathers to itself privileges and closures that sustain a supremely self-confident claim to a singular and universal 'truth' independent of subject position" (*ibid*), I aim to situate the 'knowledges' that inform the use of the social sciences in the context of climate change adaptation.<sup>2</sup>

My second thesis asserts that the discourse that allows the nascent field of climate change to talk about earth and its people in a particular way is worth examining. In this sense, there is a social theory (or theories) that underlies climate change adaptation work. To examine this newly forming body of theory is to draw attention to the embeddedness of intellectual inquiry in social life: to the contexts and casements that shape our local knowledges, however imperiously global their claims to know, and to the practical consequences of understanding (and being in) the world like *this* rather than like *that* (Gregory, 1994). To this end, I ask the question: how is the art and science of representation being conducted within development and climate change debates today? A useful starting point might be the consideration of political economy, as an interest in the mutual determination of political processes and economic activity in a historically viewed system of nation states. Such a line of inquiry provides perspective on how climate change discourses are growing and finding strength in development discourses.

## **Climate change science and adaptation policy**

The climate change arena is composed of a scientific community that is working on understanding the complex dynamics between the earth's atmosphere and climate, a

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<sup>1</sup> Development industry refers to governments, international agencies and other actors who determine the nature and direction of significant resource flows from both 'North' to 'South' and 'South' to 'North'.

<sup>2</sup> See Haraway, 1991, for discussion on the situated nature of knowledge in the context of new technologies for the production of knowledge.

policy community that is attempting to establish a global regulatory framework, social scientists concerned with the human dimensions of global environmental change, and development practitioners aware of the impacts of physical, political and economic changes that global warming might have on the beneficiaries of development projects.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organisation and United Nations Environment Programme (UNEP) in 1988 to assess scientific, technical and socioeconomic information that is relevant in understanding human-induced climate change, its potential impacts, and options for mitigation and adaptation. The IPCC is currently organized into three working groups: Working Group I (WGI) addresses observed and projected changes in climate; Working Group II (WGII) addresses vulnerability, impacts and adaptation related to climate change; and Working Group III (WGIII) addresses options for mitigation of climate change (IPCC, 2001a).

In 2001, the IPCC issued its Third Assessment Report (TAR), the scope of which was to assess the vulnerability of ecological systems, socioeconomic sectors and human health to climate change, as well as potential impacts of climate change, positive and negative, on these systems. It also examines the feasibility of adaptation to enhance the positive effects of climate change and ameliorate negative effects (IPCC, 2001a, b).

The United Nations Framework Convention on Climate Change was adopted on 9 May 1992, in New York, and signed at the 1992 Earth Summit in Rio de Janeiro by more than 150 countries and the European Community. Its ultimate objective is the “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.” It contains commitments for all Parties, particularly countries listed under Annex I, whose aim is to return greenhouse gas emissions not controlled by the Montreal Protocol (which targeted ozone depleting gasses) to 1990 levels by the year 2000. The Convention entered in force in March 1994<sup>3</sup>.

Of particular note in the Convention is the writing into international law of distinctions between ‘developed’ and ‘developing’ countries. Ostensibly, this distinction is based on historical levels of greenhouse gas (GHG) emissions, underpinning the environmental justice principle of Polluter Pays. It has serious implications for countries party to the convention, in the form of penalties if emissions reduction commitments are

**Box 1: Overview of Climate Change**

In 2003 it is widely agreed by the scientific community that rapid climate change is occurring. According to the Intergovernmental Panel on Climate Change, IPCC (2001a), the rate and duration of warming observed during the twentieth century are unprecedented for the past thousand years. Since the end of the nineteenth century, the global average surface temperature has increased by about 0.6 °C, with the 1990s likely being the warmest decade in the instrumental record since 1861. Increases in maximum temperatures, numbers of hot days, and the heat index have been observed over nearly all lands during the second half of the twentieth century (IPCC 2001a). The observed warming over the past fifty years can be mostly attributed to human activities (i.e., the human-induced changes in atmospheric greenhouse gas concentrations and aerosols). The warming trend in the global average surface temperature is expected to continue, with increases projected to be in the range of 1.4 to 5.8°C by 2100 in comparison to 1990. There is increasing observational evidence that regional changes in climate have contributed to various changes in physical and biological systems in many parts of the world. Physical and biological changes include the shrinkage of glaciers, thawing of permafrost, changes in rainfall frequency and intensity, shifts in the growing season, early flowering of trees and emergence of insects, and shifts in the distribution ranges of plants and animals in response to changes in climatic conditions (IPCC 2001a, b).

<sup>3</sup> See [www.unfccc.int](http://www.unfccc.int).

not reached (for Annex I countries), or because in the fulfilment of commitments, developing countries might receive considerable resources.

It is necessary at this point to make brief mention of the politics of international development. While the language of 'developed/developing' implies 'gaps' in areas such as infrastructure, Gross Domestic Product (GDP), and health, the underlying politics are rooted in colonialism and conquest. The alliance of 'developing' countries points to the fact that it is a political, if not always geographical, 'North/South' that exists. In forcing this political reality to consciousness, there are methodological repercussions for inquiry into social processes. This debate between *etic* versus *emic* perspectives is further discussed below.

The political and economic repercussions of the distinction between 'developed' and 'developing' finds concrete expression in the Kyoto Protocol, made infamous by the withdrawal of the United States of America. The Protocol was adopted at the Third Session of the Conference of the Parties to the UNFCCC in 1997, in Kyoto, Japan. It contains legally binding commitments, in addition to those included in the UNFCCC. Countries included in Annex B of the Protocol (which corresponds with the countries listed in Annex I of the UNFCCC) agreed to reduce their anthropogenic GHG emissions (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub><sup>4</sup>) by at least 5% below 1990 levels in the commitment period 2008 to 2012. The Kyoto Protocol has not yet entered into force (as of February 2003) (UN, 2002).

The Kyoto Protocol initiated the establishment of the so-called 'flexibility mechanisms' that would allow developed countries to meet their 'emissions quotas'. This carbon-trading scheme is a market-based mechanism. It is the trade in these credits between countries that will determine their price. The aim of the 'flexibility mechanisms' is to reduce emissions of greenhouse gases that have been identified as harmful to the earth's atmosphere.

In the climate change arena all parties continually make reference to the text of the United Nations Framework Convention on Climate Change. Each reference re-legitimizes the convention while establishing the claimant's bone fides. As a 'framework' agreement between 150 countries in 1992, it was originally broad and vague, and thus requires constant fleshing out, interpretation, additional agreements, protocols, accords and the like (Glazewski, 2001; Glantz, 2003). On one level, it re-articulates national identities through United Nations' discursive practices. At other levels, it represents the continued battle between states and their 'civil society' constituencies, and the opening of public arenas to corporate interests. It also represents a new field of research that is tightly circumscribed by global policy, a governing body, and small set of experts, all of which have a particular politics, history, and moral trajectory.

The climate change debate is concerned with two distinct projects: mitigation and adaptation. The initial thrust of the agreements that gave birth to the UNFCCC was on action that would reduce dangerous interference with the climate system by the stabilization of greenhouse gas concentrations in the atmosphere, commonly called mitigation. The second project is the reduction of vulnerability by the process of

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<sup>4</sup> Carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexa-fluoride, respectively.

'adaptation'. The evolution of adaptation research is a much more recent phenomenon, chronicled by Burton *et al.* (2002). Its growth from being handmaiden to impacts research in the mitigation context to its present emergence in a role crucial to the development of adaptation policy is recent and rapid, such that the field is quite open to a range of possibilities and influences.

GHG emissions trading is possible because GHGs are thoroughly mixed in the atmosphere – so it does not matter where emissions are reduced or produced. However, adaptation requires a totally different framework because each *place* is affected differently; every geographic locale needs its own specific response, because its geology, weather, economy, and culture turn that *space* into *place* (cf. Benko and Strohmayr, 1997). Burton *et al.* (2002) identify a shift in policy thinking from the question of gross and net impacts to questions about vulnerability, and how and where to deploy adaptation responses.

**Adaptation** is currently defined as “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (IPCC, 2001: 72). How this is interpreted and applied tends to vary, and the language employed in its application is revealing and deserving of further critical attention. The World Bank’s use of the concept includes “all those responses to climatic conditions that may be used to reduce vulnerability” (2002: 16). Alternatively, for some social scientists, “adaptation is a *process* by which strategies to moderate, cope or even take advantage of the consequences of climate events are enhanced, developed and implemented. Adaptation occurs through decisions made between individuals, groups and organizations and their networks” (Conde and Lonsdale, Technical Paper 2, forthcoming: 1).

The UNFCCC states its ultimate objective as being “the prevention of dangerous interference” (Article 2). Scientific understanding of the probable net impacts of climate change informs policy makers as to the level of urgency required in the political climate change negotiations, and also the targets and schedules that need to be adopted if ‘dangerous interference’ is to be avoided. Most research about adaptation as reported by the IPCC has been carried out in this “impacts and mitigation” context, and this is reflected strongly in the methodology employed (Burton *et al.*, 2002). Its central concern is mitigation: the greater the impacts, the more need for mitigation; by implication, the greater the effectiveness of adaptation in reducing vulnerability to climate change, the less the urgency to reduce emissions of greenhouse gasses.

Adaptation arises in the Framework Convention in another way: ‘developed’ countries party to the UNFCCC have committed to “assist the developing country Parties that are particularly vulnerable to adverse effects of climate change in meeting the costs of adaptation to those adverse effects (UNFCCC, Article 4.4). In this context, the emphasis shifts from questions of *impact* to *vulnerability*, and how and where to deploy adaptation responses. It is to the advantage of each ‘developing’ country, then, to show how vulnerable it is to climate change, because they are essentially in competition with each other for increasingly scarce donor funds that allow developed countries to meet their UNFCCC commitments.

While there are two directions and purposes in adaptation research (for mitigation policy and for adaptation policy), most research has been conducted in response to the mitigation

issue. Burton et al (2002) explain this by the predominance given to mitigation over adaptation in the text of the UNFCCC itself and in the negotiations leading up to the initial signing of the Kyoto Protocol in 1997. However, a new type of adaptation research was called for at the Sixth Conference of the Parties (COP-6) to the UNFCCC, and reinforced at COP-7 in Marrakech, where more attention was given to matters of adaptation, and three funds were identified as being necessary, each with an adaptation component. Burton *et al.* (2002) describe the gulf that has arisen between what they call 'first generation adaptation research', with its impacts and mitigation orientation, and a 'second generation' of adaptation research that is now beginning, which meets the needs of adaptation policy in its own right. This literature is most impressive in the identification and assessment of biophysical impacts. It is less developed and less convincing in the identification of socio-economic impacts, in part because less attention is given to socio-economic changes than to climate changes (Burton *et al.*, 2002: 152).

Two key concepts to have emerged out of this new approach to adaptation are **adaptive capacity** and its flip side, **vulnerability**. The UNFCCC defines adaptive capacity as "the ability of a system to adjust to climate change, including climate variability and extremes, to moderate potential damages, to take advantage of opportunities or to cope with the consequences". This has been qualified and explored further so that it is now seen as a function of wealth; population characteristics such as demographic structure, education and health; organizational arrangements and institutions; and access to technology and equity, to name a few of the variables (Burton *et al.*, 2002). Others define it as the ability of a society to reduce vulnerability, determined not only by the likely responses to climate change of resources such as water, soil and biodiversity on which individuals depend, but by the availability of resources and by the entitlement of individuals and groups to call on these resources (Adger *et al.*, forthcoming, TP7: 1).

Vulnerability has only recently emerged as a key concept in second generation adaptation studies. It has been described as a function of the character, magnitude and rate of climate change and variation to which a system is exposed, its sensitivity and its adaptive capacity. The UNFCCC further defines vulnerability as the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including variability and extremes (IPCC, 2001b).

It is important to note how the scientism of the language leads one to imagine that the vulnerability of a livelihood system could have a number attached to it. Attaching a numerical value to what is essentially qualitative data underpins the belief that only what can be numerically measured can be managed. The livelihoods framework relies on an economic view of people's assets that underlie their livelihood strategies, and thus has serious implications for method and analysis. The key concepts of climate change and adaptation rely on a particular language of assets and vulnerability, which is explored below.

### ***The language of trust and certainty***

In examining the language of climate change a persistent need for comparability emerges. The implications of this for the social sciences are subtle: what of the power of language in constructing a story about a unique place and people? In a sense, the whole of the IPCC enterprise is aimed at assuring trust and comparability in the science, in the interests of

mobilising mitigation action on a global scale (Burton *et al.*, 2002). Khan writes eloquently about the nature of a certifying agency that everyone can trust, and the costs involved in such a production of trust (Khan, 2002). "Trust, as economists have noted before, is a public good, a social lubricant which makes possible production and exchange" (Dasgupta, 1988, p. 64, in Khan, 2002: 1725). In the economy of knowledge within which climate change discourses exist, it is deserving of further critical analysis. Might the IPCC might rely on an individual pursuit of private vice (in the interface between flexibility mechanisms, mitigation and adaptation research, and national and corporate interests) for its commodification of trust to work in the interests of the public good? To complete Dasgupta's quote,

The point is that if your trust in me increases it certainly benefits me. But if there are good reasons for this increase in trust, it benefits you as well. The latter benefit I do not take into account when I try to build up my own reputation. This is the source of 'market failure' and, in particular, why there might typically be an under-investment in trust formation (Dasgupta, 1988, p. 64, in Khan, 2002: 1725).

In other words in order to transact the mechanisms of the Kyoto Protocol and the UNFCCC, there has to be trust in the claims to truth generated in climate change and adaptation research. The relevance of this logic to the climate change negotiations is demonstrated in the context of adaptation research and the nature of the whole project of the production of scientific knowledge. In understanding how language/discourse works to produce trust in climate change science, it is necessary to understand how the science deals discursively with certainty and truth.

### *Uncertainty*

The climate change arena is filled with uncertainty – but then again, it is also filled with atmospheric scientists, whose science is still very uncertain. While the climate systems analysts have a hard enough time understanding current climate patterns and past events, the emphasis has been on future climate, because of the political nature of the climate change negotiations. The Third Assessment Report (TAR) acknowledges that many of the conclusions reached are "subject to various degrees of uncertainty" (IPCC, 2001b: 79). A Bayesian probability framework has been used to assess and report "confidence levels", so that we are to understand that "the probability of an event is the degree of belief that exists among lead authors and reviewers that the event will occur, given observations, modelling results, and theory currently available" (*ibid*). To this end, a five-point quantitative probability scale has been developed, ranging from "very high confidence" (95% or greater) to "very low confidence" (5% or less) (*ibid*: 80).

For some conclusions, the 5-point quantitative scale is not appropriate as a characterization of 'associated uncertainty'. In these instances, TAR authors qualitatively evaluated the level of scientific understanding in support of a conclusion, based on the amount of supporting evidence and the level of agreement among experts about the interpretation of the evidence. The qualitative "state of knowledge descriptors" range from "well established", "established but incomplete", "competing explanation", to "speculative" (*ibid*). Of importance here is the language of certainty, the effects that it has on our sense of trust in the science, and the social nature of arriving at certainty.

The impact and vulnerability studies that form the basis of the TAR are based on a range of climate scenarios. The future-orientation of the whole field, and its predictive assumptions, are carried through to “socioeconomic” concerns. The IPCC acknowledges this to some degree: “[g]reat care is required in interpreting and comparing results from research or assessments that use different climate scenarios, particularly when some conclusions follow from static scenarios and others from transient scenarios. Unfortunately, such mixed use of scenarios is still a problem in the literature and in assessments of it” (*ibid*: 95).

### ***Socioeconomic uncertainty***

In addressing the uncertainties inherent in forecasting social conditions, the TAR acknowledges some of the problems inherent in such a methodology. A large source of uncertainty in assessments of impacts and vulnerability is the wide difference in assumptions (often not even stated) in the initial conditions and trends of environmental systems and ‘socioeconomic conditions’. These assumptions include information on population and related variables (for example population density), economic trends (income levels, sectoral composition of GDP, and levels of trade), other social indicators (education levels, private- and public-sector institutions), culture, land cover and use, and availability and use of other resources such as water (IPCC, 2001b: 95). What this kind of positivist paradigm finds difficult to include in its assessments is the structural questions of political economy and their related methodological difficulties with scale. However, these ‘variables’ are important not only for determining the forces driving global changes but also for understanding the general capabilities available to societies for adaptation. Projections of these factors for time periods such as the middle of the 21st century are at least as uncertain as projections of future climate. Moreover, as the TAR acknowledges in its discussion on uncertainty, ‘culture’ exerts important influences on socio-economic processes and problem-solving methods (IPCC, 2001b: 96). The formation of coalitions, social movements, and educational programs directed toward changing institutional norms that might influence people’s behaviour concerning climatic change is ‘culturally’ determined, like other complex social and psychological processes. It is important to note that the IPCC approach is impacts driven, rather than vulnerability driven, and this is reflected in the approach to “first generation” or Type 1 impacts and adaptation research design (Burton *et al*, 2002: 151).

The language of socio-economic scenario building is not able to encompass the complexity of layering of meanings and power plays, shifting structural forces and the subtleties of identity politics as they find expression through relationships between people. This is implied in the references to the conditioning and determining role of ‘culture’ in various social processes. The language of socio-economic scenario building deserves more critical attention.

### ***The Adaptation Policy Framework and the Technical Paper Series***

The Adaptation Policy Framework is an initiative funded by the GEF, EU, Norway, Denmark and Finland, although institutionally it is situated within the IPCC, which itself

is supported by people from various global organisations, such as UNDP. (The APF's lead co-ordinator, Bo Lim, works for UNDP - see Box 2). It is complemented by a Technical Paper (TP) Series that covers a range of issues, and is noteworthy for the tone and timbre of its discourse: expert, assured and evidently deeply concerned with the situation of impoverished rural subsistence farmers of the Least Developed Countries for whom National Adaptation Plans of Action are 'challenging'. It is a 'how to' series that borrows from development practice, and its project is to establish a common system, or a uniform approach that, on a good day, would allow for approaches and projects to be coordinated and harmonized, and on a bad day, would force projects to conform to a template and discourse that is constrictive, jargonised, and inappropriate<sup>5</sup>.

It is worth noting that the Adaptation Policy Framework is being established and written into policy by atmospheric scientists, ecologists, meteorologists, hydrologists, geophysicists, biologists, and economists. There is not a dedicated social scientist among the group that met in Montreal, 2001, to set this framework in motion. (UNDP-GEF Report, 2001).

The series outlines an approach that is set to become orthodoxy and widely used. It includes how to "scope, design and implement specific projects for developing adaptation strategies, policies and measures to reduce the potential negative impacts and exploit the opportunities of climate variability and change, and to enhance capacity to adapt" (TP1, forthcoming) to "establishing a framework for monitoring adaptation strategies that are actually implemented in order that the results can be evaluated" (TP9, forthcoming).

There are a range of key ideas that underpin this 'technical' set of texts. Notable is the concept of 'stakeholder', which neatly brings a range of differently powerful individuals and institutions onto one plane and imagines an 'equitable' decision-making process in which all are empowered as solutions are worked out jointly. 'Stakeholder' refers to "policy makers, scientists, administrators, managers in the economic sectors most at risk, including both public and private

#### **Box 2: Background to the APF:**

For developing countries, a key difficulty in vulnerability and adaptation assessments has been the integration of adaptation into sustainable development plans, and linking longer-term climate change to current problems caused by climate variability. Most National Communications completed to date have been more successful in the analysis of impacts than in their treatment of adaptation options, which has rarely gone beyond the preparation of lists of possible measures. In response to countries' requests, the National Communications Support Programme (NCSP) initiated a project to develop an Adaptation Policy Framework. This framework will be used as a basis for building capacity to design studies for prioritising adaptation policies and measures in the context of national sustainable development (UNDP-GEF Report, 2001).

<sup>5</sup> The APF is still in its infancy, and the Technical Papers are not open for citation, as they are still in the process of becoming trustworthy and quotable texts, that is, processed by institutions that produce trust, to borrow from Khan (2002). However, I consciously transgress this rule: this paper is in part a response or review, and the material is so fresh and will have such an impact on the field that it warrants examination now. I treat them as exclusively the view of their lead authors, and not of the institutions they represent. They are also publicly available on the web at [www.undp.org/cc/apf\\_outline.htm](http://www.undp.org/cc/apf_outline.htm).

enterprises and community members, who will act together to develop a joint understanding of the issue and create solutions to preserve and enhance their adaptive capacity” (Conde and Lonsdale, TP2, forthcoming: 1).

Chambers’ insight into the ‘professional realities’ of development practitioners illuminates the difficult fact that different modes of professional engagement allow for different discourses and different political projects (Chambers, 1997). The imagined ‘community’ and ‘concerned stakeholder’ are thus given a rebirth in the climate change discourse. In the context of ‘involving stakeholders’, the schema that has given planners a grasp on social processes (as well as headaches when it doesn’t seem to fit) that was originally articulated by Arnstein in her “ladder of participation” is given a new breath of life in the climate change debate. Pretty’s Typology of Community Participation (1994) has been adapted, and ranges from “passive participation”, through giving information, consultation, functional participation, interactive participation, self-mobilisation, to “catalysing change”, the holy grail of community participation (cf. Guijt and Shah, 1998).

The normative programming of such language leaves implicit the realities of differences in power and structural relationships of inequality. Because the texts are hortative, they make assumptions about the social structuring of the world and leave little room for a critical analysis that could inform any interruptive action. This normative language is built on notions of ‘community’ and the ‘local’. Local capacity, local needs, local people, and local problems, are all built on a notion of scale that, while radically relative, is imbued with a scope of political action, and a set of assumptions and values, that most of the time goes unquestioned.

“More in-depth projects aimed at preventing or ameliorating climate impacts and risks” that are being touted as exemplars of this new generation of Vulnerability and Adaptation studies mentioned above apparently have three new aspects: the development of a stakeholder or bottom-up approach, and more profound multi-sectoral and socio-economic analyses (Conde and Lonsdale, TP2, forthcoming: 10). These three aspects aim to support the integration of adaptation into other environmental and development policies (Conde and Lonsdale, TP2, forthcoming).

Conde and Lonsdale (TP2, forthcoming) recognize the importance of getting beyond the ‘usual suspects’ of development, and reaching beyond ‘local dignitaries’, businessmen and academics. They imply, but leave absent, a critique of the skewed power relationships that are the norm in development projects. How this might be achieved, however, is not suggested and thus provides no real confidence that climate change adaptation projects will be any different from run-of-the-mill ‘development-style projects’ in which these problematic relationships are born. At the centre of such relationships lies the question of control over information and decision-making power.

Central to climate change debates is the notion of scenario building. TP2 introduces the idea of participatory scenario building, simulation, role-play, visioning, and backcasting, as techniques that can be used with stakeholders to construct possible futures. The kinds of questions that these methods allow appear to be culturally and ideologically loaded: “what if the climate changes but the coping range does not?” (Conde and Lonsdale, TP2, forthcoming: 11). What does this say of the ‘stakeholders’ who might engage in these exercises? The techniques suggested do not seem to allow for an analysis of the interstices

between climate events: the processes that lead up to and follow events that climate models aim to simulate.

Of particular note for social scientists not familiar with the climate change debate is the notion of “socioeconomic conditions and prospects” that is introduced by Malone and La Rovere in TP6 (forthcoming). It brings up questions central to human geography, anthropology and other social sciences, such as scale and methods of knowledge-production. It suggests that in characterizing ‘socioeconomic’ scenarios in terms of *conditions* and *prospects*, it is taking an innovative approach that is preferable to a quantitative and model-based scenario approach. In order to appreciate this innovation, it is important to recognize that hitherto for, socioeconomic scenarios have been strictly a numbers game (GDP, population, mortality), reliant on Global Circulation Models (GCM). They were designed to produce data for emissions and mitigation scenarios for a bureaucratic class of advisors to governments.

In the context of climate change, “the challenge [of characterizing socio-economic conditions and prospects] is to relate both present and future climate to changing socio-economic conditions to *increase the realism* of the analysis, to identify *projected socio-economic conditions*....and to develop adaptation strategies appropriate to the societies of the *future*” (my emphasis) (Malone and La Rovere, TP6, forthcoming: 2). While the authors claim to be responding to problems of longer timescales and larger spatial (national and global) scales by focusing on strategies for characterizing socio-economic conditions and prospects in the near term and at sectoral and local scales (*ibid*), some of the issues persist. The language of “characterization”, “prospects” and “projections” is difficult for the social scientists who already struggle to do careful analyses of the particular in historical context, let alone a range of possible futures. A heavily economic discourse (of GDP as an indicator of social welfare for instance) and a reliance on proxy indicators that would allow researchers to ‘get on with the job’ of summarising the ‘conditions’ pervades the text. It does however provide a small window of opportunity for social analyses to shape the policy context.

### **Adaptation language applied: from disasters to livelihoods**

Climate change is observed most easily through sudden weather-related disasters, and thus research and policy has found a language and a method for responding to these challenges. Risk management, which entails the study of natural hazards and their social impacts, has become increasingly popular in the last decade due to the boost of the United Nations International Decade for Natural Disaster Reduction (IDNDR), declared in the 1990s, and economic challenges to the insurance industry posed by natural disasters<sup>6</sup>. Adaptation research has adopted the language of disaster because it is able to use a ready-made set of concepts, legislation and practice that has had several decades to mature. However, in adopting the discourse of disaster uncritically, the opportunity to examine its shortcomings and limitations is being overlooked.

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<sup>6</sup> A detailed study by Glickman et al (1992) found that between 1945 and 1986, 2.34 million people lost their lives to disasters and that 30 disasters and 56 000 deaths occurred on average per year. (Torrence and Grattan, 2002: 2).

Until recently, there were two separate fields of research. Earth scientists studied physical properties of the planet such as volcanoes, earthquakes, floods, and tsunamis, aiming to predict their occurrences and likely impact. Social scientists focussed on the short-term consequences of disasters and stressed cultural aspects of communities in determining their vulnerability to natural processes and their methods for coping with stress. Shimoyama insists that although they may be initiated by natural factors, “disasters are social phenomena” (Shimoyama, 2002: 20). “The required condition for a disaster is the existence of victims” (*ibid.*). As Blaikie *et al.* put it:

The ‘natural’ and the ‘human’ are so inextricably bound together in almost all disaster situations, especially when viewed in an enlarged time and space framework, that disasters cannot be understood to be ‘natural’ in any straightforward way (Blaikie *et al.*, 1994: 6).

### *The IUCN and disaster*

The World Conservation Union (IUCN) has expressed its concern with the impacts of climate change and necessity of adaptation in terms of disaster management. Their definition of vulnerability reflects this disaster-oriented approach:

Vulnerability is defined by the exposure to a hazardous event and by people's capacity to anticipate, cope, resist and recover from the impact of the event. (IUCN, unpublished: p10).

In the 1990s the economic toll of disasters reached record levels and the countries and regions affected have required significant ‘outside assistance’ (IUCN, unpublished). Today more people are affected by disasters than by conflict. The ability to respond to and recover from disasters is related to access to finance, security of land tenure, diversification of income, and other socio-economic factors (*ibid.*). The IUCN’s approach thus emphasizes the importance of risk reduction investment. Thus, adaptation is necessary because people need to strengthen their own resilience and to ensure the security of their livelihoods in the face of climate change and climate-related disasters (*ibid.*).

While the IUCN acknowledges the difficulties of mapping the links between local, national, and global scales, it has decided to go with the fashionable notions of poverty and vulnerability reduction through a livelihoods based approach. The IUCN Task Force has

acknowledged the need to bring the knowledge base of environmental and social policy, disaster management together with climate change adaptation... they urged including a fourth area of competence in this effort: poverty alleviation. They noted that promoting sustainable livelihoods in the context of climate change is a crucial element of improved adaptive capacity (*ibid.*: 12).

The IUCN’s concern with disaster management seems to lie in better environmental management. To reduce vulnerability to climate-related disasters, recommendations include improving hazard mapping, and utilizing integrated assessment tools (Risk Assessment, Vulnerability Assessment and Environmental Impact Assessment) in development planning, amongst a range of other technocratic and bureaucratic responses.

While 'community empowerment' and small-scale diverse adaptations (rather than large scale uniform projects) and the provision of access to resources for "sustainable livelihoods" (*ibid*: 13) is recommended, it seems rather an afterthought than the main thrust of their argument.

What does the IUCN mean by improved environmental management? If it means national policies, laws, guidelines, environmental management plans, environmental impact assessments, then it is hopelessly out of touch with 'people's everyday lives'. The language games of 'environmental management', of truth, authority, power and science, manoeuvre and manipulate resources and people. What do these discourses mean in a very local, concrete, and personalised way? What kind of reality are we constructing in the language of 'disaster', 'rural', 'urban', or 'environmental management'? Do not all the signposts point towards that which we are familiar with, bored with, in despair over: the same questions of development that the powerful have quibbled over and to which the poor and vulnerable have been subjected for decades?

Adapting to the effects of climate change has more to do with the ways in which we organise ourselves socially and politically than with the natural environment *per se*. The ways in which local realities are shaped by larger social and political forces holds true as much as the notion that the success of a particular farmer's crop is dependant on global climate patterns and regional weather events. The challenge for the IUCN, as they themselves have realised, lies in conceptualising the linkages across and between scales: from the micro to the macro, from the macro to the micro, and between localities (IUCN, 2001: 12). Quite apart from acknowledging that 'poor people' have always had to contend with adverse climate, the IUCN needs to go beyond discourses of environmental management. While climate systems analysts work at producing higher resolution forecasts of climate change from GCMs, so too should social scientists be working at making meaningful connections between the local particularities and global processes of resources and power.

An adaptation strategy focussed on disasters has the potential to ignore the more subtle effects of climate, which if ignored could be just as insidious and destructive. What defines a disaster? For example, if rural subsistence farmers slowly get less and less rain over 20 years, at what point does this constitute a disaster? When a city becomes water-stressed and diverts rivers and build more dams, are not the risks simply displaced to other people or ecosystems? (See Roy, 2002, for an eloquent exposition of the tangible political forces acting to displace people of the Narmada Valley in India). Chronic vulnerabilities always find expression in a range of concrete issues that can be tangibly addressed. Whether subsistence farmers are able to stay on the land and continue farming is dependant on a range of complex social realities and institutional arrangements, as well as blunt political forces (formal - local government, service provision - and informal - kinship and reciprocity networks, cultural institutions). This perspective helps to focus a key question: how can concerns around climate change help to focus existing development priorities, such as government extension and support for small-scale farmers, labour and migration issues, HIV/AIDS, land tenure arrangements, urban service provision, national and international trade and market forces, in short, all the other non-climate related variables?

## ***Ecological crisis and rural livelihoods: the World Bank and climate change***

The shift in language from impact assessments, tainted with a technocratic history, to livelihoods is possible only by borrowing from the lexicon of biology. While Holling defines ecological or ecosystem resilience as the magnitude of disturbance that can be experienced before a system moves into a different state (or stability domain) and different set of controls (Holling, 1996), social resilience has been defined as the ability of human communities to withstand external shocks to their social infrastructure, such as environmental variability or social, economic or political upheaval (Adger, 2000; Folke, 2001).

In attempting to understand drivers of global environmental change, there has been a shift from pure environmental and social indicators to a more systemic thinking, which heads in the direction of livelihoods approaches. Part of the background to this pressure-state-response conceptual modelling has been Social Impact Analyses (SIA), borne out of the field of Environmental Impact Assessments. Hjort-Af-Ornas (2001: 35) expresses an unusual ambition for SIA to include not only impacts but also mobilisation and security; not only environment-related elements but also even more central elements such as identity and belonging. He hopes to include in such a discourse ideas such as social capital, identity, and social networks. This brand of 'sustainable development' talk emphasises a "search for initiatives and empowerment instead of passive evaluation of assets and their changes. It concerns relations, usually expressed in terms of power, rather than assets or losses, usually expressed in monetary terms" (*ibid*: 36). This appears to be an attempt to fuse development discourses with other kinds of social analysis.

The World Bank uses the language of livelihoods, climate variability, vulnerability, and assets. It sums up our apocalyptic fears well in its 2002 report on poverty and climate change. Its motivation for concern stems from the fact that climate change is a reality, and that adaptation will have to occur, although the scope of adaptation responses is closely linked to the degree of mitigation. (This is a neat inversion of the original urge to adapt, which was to reduce the extent of necessary mitigation). It recognises that the atmosphere is already committed to a certain degree of warming due to the slow response of the earth's atmospheric system to past emissions (World Bank, 2002).

'Developing' countries' economies are often predominantly dependent on sectors (for example, forestry, agriculture, fisheries) that are particularly sensitive to environmental conditions. High population density; low-lying exposed coastlines; low levels of infrastructure; and low economic diversification may further add to a country's vulnerability. Climate fluctuations and extremes in the current climate can have serious consequences for the livelihoods and economic opportunities of the 'poor'<sup>7</sup>. Climate change resulting from the rising atmospheric greenhouse gas concentrations is superimposed on this existing climatic variability.

This narrative is built on the notion that there are two types of changes induced by climate change. The first is sudden disruptive changes, characterised by changes in the frequencies and intensities of extreme events; intensifying of the hydrological cycle in the form of

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<sup>7</sup> The World Bank uses the word 'poor' in a way that is disconnected from particular places or people and implies that they are a homogeneous group.

more intense precipitation events (and thus loss of nutrients, topsoil, erosion etc); increased risk of drought; and exacerbation of El Nino events.

The second is long-term decline, which can be just as pernicious. 'Poor' people are more reliant on primary production and have a lower adaptive capacity; poor people's livelihood sources are usually narrower and more climate sensitive than those of the 'non-poor'; many of the 'poor' depend directly on goods and services provided by eco-systems and the quality of, and their access to, natural resources; the continuing steady pace of environmental degradation and resource depletion contributes to diminishing disaster coping capabilities. Climate-induced degradation of ecosystems and natural resources can therefore lead to significant increases in poverty and vulnerability (World Bank, 2002: 7).

In its focus on poverty, the World Bank's recognises that except in non-managed natural systems, adaptive capacity is generally socially constructed, in the sense that it is conditioned by cultural, religious, and political structures. It is also determined by factors such as economic resources and other assets, technology and information and the skills needed to use them, infrastructure, and 'stable and effective' institutions. Since most 'poor' countries and 'poor' people are the least endowed with these attributes their vulnerability to climate change is higher (*ibid*: 9; IPCC, 2001b).

"Even among the poor", their 2002 report states, "social vulnerability is differentiated, since some groups are more lacking in the financial, social, and political means of securing alternative livelihoods less exposed to risk than others" (*ibid*: 10). The World Bank has adopted the livelihoods framework as the basis for their response to poverty alleviation, which conditions their language and analysis and which is given new life in the context of climate change.

The narrative of rural poverty in social and ecological crisis is retold in this World Bank report. Climate change could be devastating for the livelihoods of the 'rural poor' (World Bank, 2002: 10). Water scarcity will be exacerbated; warm seasons will become dryer, thus increasing the frequency of droughts and land degradation; crop yields are projected to decrease; control of natural pests may become increasingly destabilized; loss of landmass in coastal areas may displace populations. There will be an increase in temperature-related illnesses and death; increased death and injury from extreme weather events such as flooding, landslides and storms; also increased incidence of diseases associated with such events. Potential direct and indirect impacts of climate change on human health could re-impact poverty by increasing vulnerability and reducing opportunities by interfering with education and the ability to work (World Bank, 2002: 13).

In addition to the economy-wide effects of climate change, such as decreased agricultural output and infrastructure damage or loss, climate change would also put a heavy burden on poverty eradication efforts. In addition to indebtedness, HIV/AIDS, food insecurity, environmental degradation, the impacts of global trade, conflict, economic decline, increasing urban poverty, increasing inequality, and macro-economic shocks, climate change provides an additional threat that adds to, interacts with, and can reinforce these existing risks, placing additional strains on the livelihoods and coping strategies of the poor (*ibid*: 16).

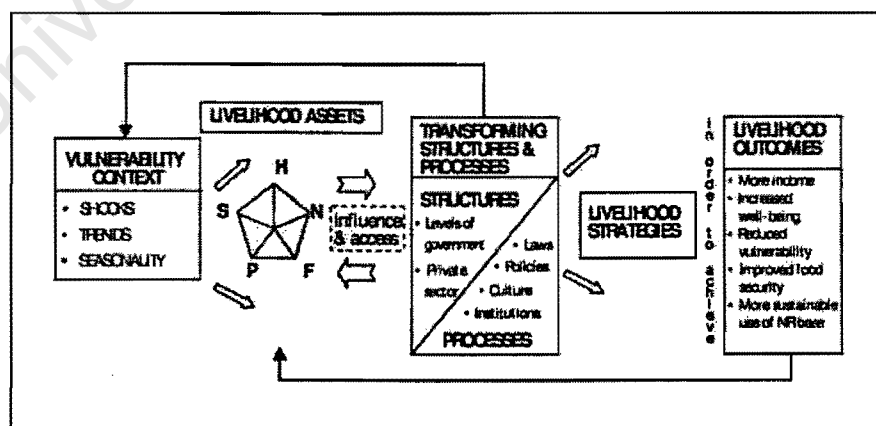
The language of crisis includes Africa in its most extreme form. In addition to the risks described above, adaptive capacity in Africa is low due to low GDP per capita, widespread poverty, inequitable land distribution and low education levels. There is an absence of safety nets, particularly after harvest failures. More than a quarter of the population lives within 100km of the coast, and most of Africa's largest cities are along coasts vulnerable to sea level rise, coastal erosion, and extreme events. Individual coping strategies for desertification are already strained, leading to deepening poverty. Dependence on rain-fed agriculture is high (*ibid*: 7).

With 37.3 % of people in Africa living in urban areas in 1999, and a growth rate of 4.87%, Africa is the continent with the fastest rate of urbanisation. The urban population of developing countries is expected to reach 50% in 2020. Of the 23 cities expected to reach more than 10 million people by 2015, 19 of them will be in 'developing' countries<sup>8</sup>. In this light, it would seem that the questions of urban poverty in the context of climate change are pressing. However, for a range of reasons, many of them discursive (cf. Sen, 2001; Chambers, 1997), poor people in the third world are seen to be predominantly rural. The implications of this kind of thinking are huge: what methods are available for coming to grips with the impacts of climate change on the urban poor? To what extent are urban issues around climate change visible in the minds of adaptation specialists?

The livelihoods approach, which has gained much ground in the last ten years since Scoones, Chambers and Conway, and the Institute for Development Studies at Sussex University first popularised it, asserts that livelihoods are dependant on assets and entitlements. A person or group will seek to deploy the different assets they possess, which include human, financial, natural, physical and social assets, to best effect within the range of the livelihood choices they possess and command. A livelihood is deemed 'sustainable' when it can cope with and recover from stresses and shocks and maintain and enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Chambers and Conway, 1992). The rural roots of this paradigm have placed its applicability to urban contexts and at larger scales in question, although there have been attempts to apply the analysis to urban contexts in a meaningful way (cf. Beall and Kanji, 1999).

Whilst the livelihoods framework highlights the changing combinations of modes of livelihood in a dynamic and historical context, its strength lies in its careful use. In this regard, Murray

argues that the model should be supplemented by an adequate understanding of the broader processes within which particular household livelihood profiles and choices have



[FIGURE 1: Livelihoods Framework - from Carney, 1998: 5]

<sup>8</sup> From [www.unhabitat.org](http://www.unhabitat.org).

their existence. This includes the need to understand intra and inter-household conflicts and struggles, as well as inequalities of power and conflicts and interest between communities of 'poor' people and local elites or government agencies (Murray 2001).

In addition, there are two further weaknesses in the framework. First, it is easy to assume that the measurement of poverty or the assessment of livelihoods can somehow proceed through a sort of simple *cumulative enumeration* of assets in the "asset pentagon". As Murray remarks, even "economic" capital is best conceived of as a *social relation* between people. The same is true of social, human, physical and natural capitals: they only are what they are because of the broader relationships, practices, institutional frameworks and discursive formations within which they are caught. What may count as "social capital" or "human capital" in one context cannot necessarily be so counted in another. For this reason even the simplest enumeration of basic household assets needs to go beyond simple quantification, and has to involve a detailed *qualitative* and *relational* understanding of social processes (Du Toit, 2003: 7).

Second, it is possible for research not to go beyond a vague and general approach to the understanding of the issues that are indicated by the rather vague reference to "transforming structures and processes" in the Department for International Development's (DFID) diagrammatic representation of the livelihoods framework (see figure 1). Forms of analysis and theoretical accounts are needed that can mediate between different arenas and levels of social process – that can link, for example, household-level micro-analyses with accounts of global, national, regional and sub-regional processes (*ibid.*).

### **Exploring the social sciences: sustainability, territory, power and meaning**

To gain some perspective on this recently popular paradigm, it is useful to look at the climate change debate from a range of other disciplines in order to widen the vocabulary available to adaptation debates. One way of integrating the environmental question, including climate change, into an understanding of spatialised social processes lies within a movement that criticizes prevailing paradigms. The disciplinary perspective of the regional sciences, for instance, has "remained largely fixed on a certain way of seeing the world...the positivist approach to spatial processes (Bailly and Coffey, 1994 in Acsehrad, 1999: 38). In particular, it has excluded the social dimensions from its universe and has treated human beings as inanimate objects rather than as thinking subjects, ignoring itself as a "science of the mental representation of space and of the practices that result from these representations" (*ibid.*). Whilst the livelihoods framework explicitly aims to highlight the importance of human capabilities and agency, in an attempt to provide development research with an applied and implementing edge, it has become narrow because it overlooks the relational nature of capital.

For all the concern with local practices and cultures, the climate change policy makers would benefit from understanding the principles of inductive analysis. What are the indigenous categories that the people, for whom adaptation policy is being made, have created to make sense of their world? What are practices that they engage in that can be understood only within their worldview? Anthropologists distinguish between *emic* and *etic* perspectives, the latter referring to the labels and worldview imposed by the

researchers. Analysing indigenous practices (*emic*) begins by understanding them from the perspective of its practitioners, within the indigenous context, in the words of the local people, in their language, within their worldview (Patton, 2002: 455).

### ***World historical political economy***

Marcus and Fisher (1986) describe an experimental moment in the human sciences that took shape in the 1980s that attempted to take account of world historical political economy – knowing communities in larger systems. The extent to which adaptation discourses are able to situate the relationships that exist between specific people in a specific place within a larger political economy needs to be explored if sociological analyses of adaptation are to offer meaningful contributions.

The challenge Marcus and Fisher (1986) describe is how to represent the embedding of richly described local cultural worlds in larger impersonal systems of political economy. This would not be such a problem if the local cultural unit was portrayed as an isolate with outside forces of market and state impinging upon it. What makes representation challenging and a focus of experimentation is the perception that the “outside forces” in fact are an integral part of the construction and constitution of the “inside”, the cultural unit itself, and must so be registered, even at the most intimate levels of cultural process.

An understanding of political and economic processes at the level of facts was in doubt (*ibid*: 76). Bearing in mind that Marcus and Fisher were writing shortly before the fall of the Berlin Wall and the stampede in the 1990s towards a discursively globalized world, they suggested that the processes themselves are more complex than the dominant paradigms seem able to represent. Thus, the possibility exists for political economy to rebuild understandings of macro-level systems from the bottom up. In its most radical form, the new political economy is pushed towards the particularistic, toward the interpretive and cultural, and finally toward the ethnographic (Marcus and Fisher, 1986: 80).

They confront head on the discursive practices that are entailed in acts of representations of people and places by writers and social scientists. In order to escape the habit, deeply engrained in Western theory, of fixing the states of society and culture as already formed, and understood as such, by social actors, they quote Raymond Williams’s concept of the “structure of feeling”. As the main concern of realist writing, it is the “articulation of richly described experiences of everyday life with larger systems and subtle expressions of ideology” (Marcus and Fisher, 1986: 78). Realist writers – whether fictional or ethnographic – should, according to Williams, try to merge their preferences for the understanding of their subjects’ point of view in circumscribed social settings with the difficulties of representing accurately the penetration of larger forces.

Most local cultures worldwide are products of a history of appropriations, resistances, and accommodations. In writing about them, Marcus and Fisher describe the challenge as one of resisting the conventions of ethnographic description as a measuring of change against some self-contained, homogeneous and largely ahistoric framing of the cultural unit. They suggest that we view cultural situations as always in flux, in a perpetual historically

sensitive state of resistance and accommodation to broader processes of influence that are as much inside as outside the local context.

Some recent ethnographic writing has reacted to the ahistoric quality of much past ethnographic writing by taking the forms and content of indigenous historical consciousness as their problem. They juxtapose an indigenous consciousness with the dominant form of Western historical narration through which the experience of 'third-world' peoples has been understood in the West. Thus, the historicized ethnography tries not only to correct its own ahistoric past, but is also a critique of the way Western scholarship has assimilated the 'timeless' cultures of the world (Marcus and Fisher, 1986: 78).

An ability to suspend paradigms for the sake of free play with concepts and methods, to give attention to micro-processes without denying the importance of some vision of larger world-historical trends is what is needed to give weight and meaning to representations of people in the climate policy talk.

A landmark example of this kind of research is Paul Willis' *Learning to Labour* (1977), a British study of the schooling of working-class males and their preparation for labour in industrial production. He argues that impersonal processes that organize modern societies must be understood as historically and culturally generated in a contingent manner, and this requires an approach that explores the subtle details, forms of behaviour, and manners of speech exhibited in everyday life. The abstract concepts of major paradigms such as Marxism, in which Willis works, must be translated by ethnographic enquiry into cultural terms and grounded in everyday life.

The extent to which paradigms of development, social exclusion, and sustainable livelihoods are able to do this, needs rigorous analysis and critique. Through ethnographic enquiry, however, one gains an understanding of human subjects who exist buried as abstractions in the language of systems analysis, economics, and climate change. Without ethnography, one can only imagine what is happening to real social actors caught up in complex macroprocesses. Ethnography is thus the "sensitive register of change" at the level of experience, and it is this kind of understanding that seems critical when the concepts of systems perspectives are descriptively out of joint with the reality to which they are meant to refer (Marcus and Fisher, 1986: 83). The ability of such methods as Rapid Rural Appraisal and livelihoods analyses, in themselves approximations of complex social realities, is thus called into question.

Marcus and Fisher imagined a new kind of ethnography with which climate change adaptation researchers should be encouraged to engage. As ambitious as it sounds, it would mean leaving the language of regional planning in order to draw new connections between the micro-context of locale, with its particularisms and idiosyncrasies, and larger processes. This new text would take as its subject not only an isolated group of people or a region, affected in one way or another by climatic-political-economic forces, but the "system" itself – the political, economic and geographic processes, spanning different locales, or even different continents, but grounded in the personal. Ethnographically, these processes are registered in the activities of dispersed groups or individuals whose actions have mutual, often unintended, consequences for each other. This kind of experimental

ethnography would combine analytic techniques to grasp whole systems and the quality of lives caught up in them (*ibid*: 91).

The question that presents itself for climate policy makers concerns the nature of the narratives and the politics of representation that inhere within the narrative. The art of representation being conducted within development and climate change debates needs to be examined. Discourses in the climate change debate are still in the process of being shaped and formed. The immediate challenge is to be able to find a way to “accurately describe the penetration of larger forces” into subjects’ experiences and perspectives, and vice versa. In sum, an understanding of the mutual determination of political processes and economic activity in a historically viewed system of nation states needs to inform climate change research and policy.

### ***Climate change, culture and the nature of difference: from Geertz to Harvey***

Clifford Geertz has had a significant impact on how culture is conceived. While Geertz emphasized the way that culture structured *meaning*, the Foucauldian or Saidian perspective emphasizes the way in which culture structures *power relationships*. Ortner’s (1999) discussion of this provides a useful starting point to examine the difficulties of understanding culture within the discourse of climate change (cf. Foucault, 1980; Said, 1979). The concept of agency is integral to this discussion of culture.

In using the livelihood framework adaptation research refers to the agency of actors affected by climate change. However, their use of the concept of agency needs to be explored. Ortner (1999) states that *agency* is both a question of meaning and power. In the context of questions of power, agency is that which is made or denied, expanded or contracted, in the exercise of power. It is the (sense of) authority to act, or of lack of authority and lack of empowerment. It is that dimension of power that is located in the actor’s subjective sense of authorisation, control, effectiveness in the world. Within the framework of questions of meaning, on the other hand, agency represents the pressures of desires and understandings and intentions on cultural constructions. Much of the meaning uncovered in a cultural interpretation assumes, explicitly or implicitly, an actor engaged in a project, a game, a drama, an actor with not just a “point of view” but a more active projection of the self toward some desired end. In the first context, agency (or empowerment) is both a source and an effect of power, in the second (more than just the “actor’s point of view”), it is both a source and an effect of “culture”. By weaving back and forth between Geertz and Foucault/Said, Ortner is able to show how the cultural construction of power is always, simultaneously, the cultural construction of forms of agency and effectiveness in dealing with powerful others (Ortner, 1999: 147).

Geertz conceptualised culture as a text, which separated cultural products from their historical production and from the relations of power and domination in which they are necessarily enmeshed. Thus, suggests Roseberry, we should rather think of culture as a “material social process”, as “production” rather than as a “product”, constantly asking how, by whom, and for what ends it is being produced (Roseberry, 1989: 22).

It is this kind of analysis that needs to underpin research into the adaptive capacity of both rural people in the ‘south’, governments and climate change scientists and international

technical advisors. There is always a circumscribed agency and set of sensibilities, desires, and so on, that constitute the cultural, in terms of both meaning and power.

In enquiring into how a sense of justice is historically and geographically constituted, Harvey (1996) argues that spatial and ecological differences, of which climate change and its attendant politics are an expression, are not only constituted by, but constitutive of what he calls socio-ecological and political-economic processes. His argument forces one to realise that radically different socio-ecological processes imply quite different approaches to the question of what is or is not just (Harvey, 1996: 5). This presents a profound challenge for social scientists who recognise that the international politics of the climate change negotiations have an insidiously determining effect on the uniformity and stricture of methodologies and conceptual frameworks available to adaptation research.

Harvey sides with literary theory arguing strongly against the large segment of social theory and the physical, biological and engineering sciences that sits comfortably and unquestioningly in the positivist paradigm. He argues that an understanding of dialectics can deepen our understanding of socio-ecological processes without entirely abandoning findings arrived at by other means. In particular, he offers a dialectical way to emphasise relations and totalities, as opposed to isolated causal chains and fragmented hypotheses (*ibid*: 6).

To warn against fetishizing the relational quality of the 'capitals' referred to in the livelihoods framework it is worth remembering that identities are fluid sites that can be understood differently depending on the vantage point of their formation and function (Friedman, 1995, in Harvey, 1996: 7). However, the reduction of everything to fluxes and flows has its limits. Harvey calls our attention to the "things, institutions, discourses and even states of mind of such relative permanence and power that it would be foolish not to acknowledge those evident qualities" (Harvey, 1996: 8).

If one replaces the fixed idea of 'values' with an understanding of processes of valuation, we can better understand how and why certain kinds of permanence get constructed in particular places and times so as to form dominant social values to which most people willingly subscribe. It is important to understand the processes of valuation, of which money is a dominant symbol, that underpin the nascent field of climate change. The theoretical and methodological limitations imposed by the economic interests that underpin the climate change negotiations are an example of the processes of valuation to which Harvey refers. The process of money valuation, as Harvey points out, is simultaneously a process defining space, time, environment, and place (*ibid*: 11). The valuation of certain kinds of stories, from the mysteries of the atmosphere to the victims of climate, deserves careful attention.

### ***The politics of truth: from ideology to discourse, and back to the modern***

Marx's various definitions of ideology have a critical core. Whether he speaks of illusion and mystification, the critique of religion or the theory of commodity fetishism and other forms of reification in capitalism, Marx's use of the idea is negative in that it conceives of ideology as some sort of distortion of thought. It is also an epistemological usage in that Marx proposes a distinction between knowledge or science on the one hand, and ideology

on the other: he makes claims about the inadequate knowledge status of ideology (Barrett, 1991: 19). Foucault however, rejects the concept of ideology because (1) it is implicated, as the other side of the coin, in unacceptable truth claims, (2) it rests on a humanist individual subject, and (3) it is wrapped up in the unsatisfactory and determinist base-and-superstructure model within Marxism. The alternative 'post-structuralist' critique of the theory of ideology uses the concept of 'discourse' as the focus of an alternative theoretical model. Foucault's elaboration of the concept of discourse goes beyond the common-sense definitions of text, or spoken word, or language, to 'the rules that rules follow', which are taken for granted as an unconscious a priori (Said in Barrett, 1991: 126).

It is with this awareness of the nature of ideologies and discourses that the possibility of a modernist discourse of ecological crisis and scientific certainty in the climate change arena is explored. I use these analytical tools not as truth claims, but as a way of seeking an alternative language for adaptation research.

In some readings the growth of ecology as a discipline reveals the end of modernity, the final breakdown of modern confidence, the settling up of accounts between exploited nature and an exploitative society. The rise of ecology seems to support the diagnosis of the postmodernists, notably Jean- Francois Lyotard, that modernity was a temporary phase of self-destructive overconfidence. There are many postmodern theories, but they share the view that modern culture was infected by a narrow rationalism, a naïve faith in progress and in Western techno-reason as the salvation of mankind. Myerson (2001) argues that ecology, to the contrary, is not postmodern at all. The ecological vision, of which climate change is an integral part, belongs to a moment of modernisation, another modern leap towards the future in which the grounds of modernity are re-established (Myerson, 2001: 6).

Climate change research, then, fits neatly into the modernist project of ecology, which now claims to add a grasp of environmental consequences to the previous industrial system. In the year 2000, ecology provided plenty of new arguments for the legitimacy of modern order, and was the year of the 'death of the postmodern', according to Myerson (*ibid.*)

Modernism has always had a dissident side. Although ecology can be adapted to support the mainstream it is also the source of an alternative vision, which is not postmodern. Rather, it is a new wave of radical modernism, which can trace its lineage directly to the early twentieth century theories of nature and society. Myerson calls this radical ecology 'the Ecopathology of Everyday Life'. According to Myerson, ecology is the science that presides over the new modernisation: it is a new story of progress that weaves a grand narrative around the new politics. The goal becomes not just a technologised world, but also an ecologised world.

Freud's theory of Psychopathology ended the distinction between normal and pathological psychology in everyday life. He titled his most popular volume 'The Psychopathology of Everyday Life' to underline this challenge. By analogy, this new 'Ecopathology of Everyday Life' undermines the division between normal and pathological, from an ecological point of view. Freud saw little psychopathological symptoms everywhere in normal life. Ecopathology sees eco-symptoms breaking out everywhere in our mundane routines. It always emerges at a particular kind of moment: when expertise reads deep

significance into tiny and apparently insignificant details of our lives (Myerson, 2001: 51). Ecopathology, like Psychopathology, finds great significance where everyone else sees none at all.

Thus, Myerson draws a close parallel between Freud's Psychopathology and contemporary Ecopathology. Behind the analogy lie the five main principles of Radical Modernism: (1) small is significant, (2) there is always a deeper explanation, (3) to understand means to connect, (4) the hidden meaning is always disturbing, and (5) the less direct the connection, the more significant it will be. While phrases like "out of control" abound, the language does not really challenge the legitimacy of the authorities or their experts: on the contrary, the greater the threat, such as global warming, the more 'we must do as we are told'.

While proclaiming the death of postmodernism in this text, Myerson applies postmodern techniques from which we might beneficially borrow. While postmodernism may or may not be dead, some of its techniques, such as discourse analysis, would be useful to interrogate the discursive formations through which the science of climate change is constructed.

## **Conclusion**

This paper explores the key issues around the social aspects of adaptation and climate change that deserve more rigorous attention. Whilst the difficulties that Chambers identifies in crossing between different professional discourses are acknowledged, many social science concepts, methods and approaches are being reapplied to adaptation research in new and sometimes awkward ways.

In tracking the development of adaptation as a focus of research and policy in its own right, it is clear that the vocabulary of sociological ideas being used in this freshly formed discourse is inadequate and unsophisticated. In exploring the limits of language and method provided by such theorists as Myerson (the end of postmodernism), Harvey (the relational and dialectical approach), Marcus and Fisher (scale and world political economy), as well as criticisms by du Toit and Murray of the livelihoods framework, I do not suggest that climate change is not real, nor that adaptation research should not be done. Rather, we should be exploring new ways of applying insights already critically theorised from a significant body of field experience produced in disciplines such as human geography, sociology, and anthropology. We need a new articulation of climate change theory and critical social theory that will encourage a more effective and realistic approach to adaptation research, policy, and practice. A critical reflexivity and awareness of the political economy of climate change adaptation, and of how adaptation research constructs agency for both researchers and their subjects, will serve to produce a stronger sense of trust in the research, as well as 'increase the realism of the analysis'.

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