Discussion Paper for the UNDP-DDC/BCPR and UN - ISDR Expert Workshop *Drought Risk and Development Policy*, January 31 - February 2, 2005, Nairobi.

14

more complex by the political advantages of portraying drought impact as essentially the inevitable result of the whims of nature

3.0   Relationship(s) between drought, food security and sustainable development

Building upon the proposition and finding developed thus far, this section introduces the complex interactions between drought, food security and sustainable development. Furthermore, it raises the question of whether and how governments and development agencies can address this issue through the integration and mainstreaming of drought policy with other development issues in order to realize sustainable development. A simple model of two ideal-type societies, one drought vulnerable and another drought resilient is used to illustrate the complex interactions between drought and other factors which influence development, which in turn mediates the impacts of drought.

3.1
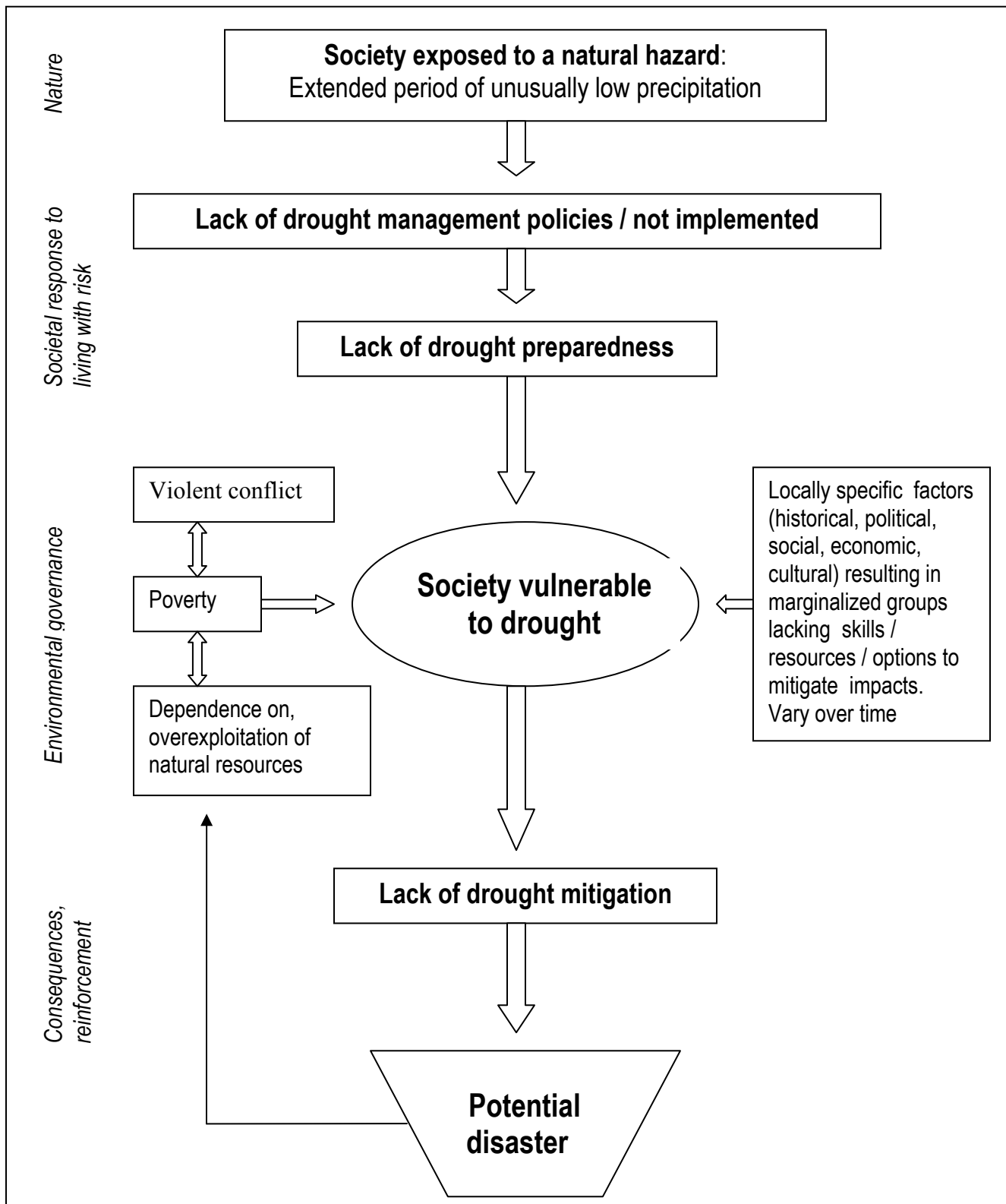## Drought and development

There are complex interactions between drought, food security and sustainable development. Drought has profound effects on food security, especially in less developed countries and particularly where economies are heavily weather dependent. Whenever there is a severe drought or prolonged famine the affected populations draw upon their 'social adaptive capacities', typically complemented by aid and relief food. A number of development actors have recognised the complex interactions between drought and food security and are consequently seeking to integrate and mainstream drought issues into broader development initiatives in order to realise sustainable development, the definition of which must include resilience to climate shocks.

3.2
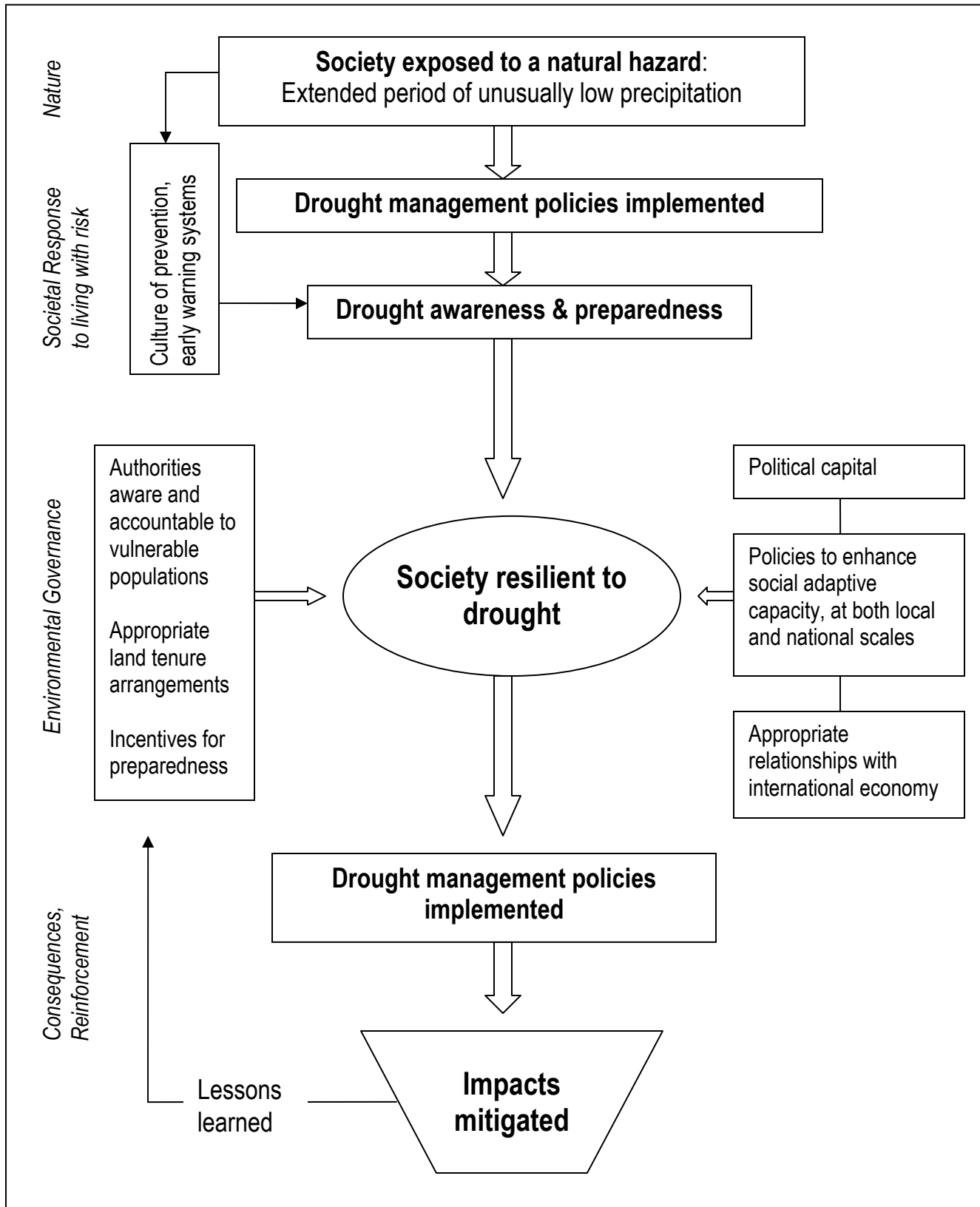## Vulnerability and resilience to drought

The United Nation Inter-Agency Working Group on Drought (2003) has generated a simple model of two 'ideal type' societies for the purpose of illustrating some connections between drought and the socio-economic complex it acts upon; one a 'drought vulnerable society' and the other a 'drought resilient society'. These are represented graphically in the following two figures which illustrate the complex interactions between drought and other factors. UNDP-DDC tested this analytical tool with the Environment Group of Ethiopian parliamentarians, inserting Ethiopia-specific information, and found it to be a useful aid in identifying key relationships and the implications of policy decisions on drought vulnerability.

They also repeated this analysis for a series of major droughts in Ethiopia, asking each time whether drought impact had increased or decreased and if so why. This exercise provided a rapid sketch of the evolution of policy thinking and drought practice in Ethiopia over the last three decades. This is one example of how analytical tools can be developed in order to help policy makers think through how to best "drought proof" their population and economies and safeguard their development gains.

Discussion Paper for the UNDP-DDC/BCPR and UN - ISDR Expert Workshop *Drought Risk and Development Policy*, January 31 - February 2, 2005, Nairobi.

15

Figure 3 A Drought Vulnerable Society

Nature

Society exposed to a natural hazard:
Extended period of unusually low precipitation

Societal response to living with risk

Lack of drought management policies / not implemented

Lack of drought preparedness

Environmental governance

Violent conflict

Poverty

Dependence on, overexploitation of natural resources

Society vulnerable to drought

Locally specific factors (historical, political, social, economic, cultural) resulting in marginalized groups lacking skills / resources / options to mitigate impacts.
Vary over time

Consequences, reinforcement

Lack of drought mitigation

Potential disaster

U.N. Inter-Agency Ad-Hoc Working Group on Drought, ISDR, Geneva 11-12 March 2003

Discussion Paper for the UNDP-DDC/BCPR and UN - ISDR Expert Workshop *Drought Risk and Development Policy*, January 31 - February 2, 2005, Nairobi.

16

Figure 4   A Drought Resilient Society

Nature

Society exposed to a natural hazard:
Extended period of unusually low precipitation

Societal Response to living with risk

Culture of prevention, early warning systems

Drought management policies implemented

Drought awareness & preparedness

Environmental Governance

Authorities aware and accountable to vulnerable populations

Appropriate land tenure arrangements

Incentives for preparedness

Political capital

Society resilient to drought

Policies to enhance social adaptive capacity, at both local and national scales

Appropriate relationships with international economy

Consequences, Reinforcement

Drought management policies implemented

Lessons learned

Impacts mitigated

U.N. Inter-Agency Ad-Hoc Working Group on Drought, ISDR, Geneva 11-12 March 2003

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17

It should be apparent from this models that sustainable development can only be realized if all the major factors that impact on drought and food security are addressed appropriately and timely. Policy changes will be inevitable in order to mainstream, incorporate and integrate drought and food security with other factors of development HIV/AIDS, gender, governance land tenure, water management and others at local, national, regional and international level and through established planning and prioritization mechanism such as PRSP's.

<u>4.0</u>   Drought and society: Towards policy options

This section examines some of the societal responses to drought. It explores some of the ways in which societies and groups address the risk of drought, such as drawing upon coping strategies and social adaptive capacity and how policy decision can either reinforce or undermine adaptive responses to risk. In particular, the impacts of agricultural policy on water and food security are examined. Similarly, the context for agricultural policy, the international political economy of food, clearly illustrates how some societies have overcome water shortages and manage drought risk by engaging in trade in virtual water. This section, also examines how the concept of virtual water is generally understood and applied and how it can be used to 'insure' a population against the worst effects of drought impacts.

<u>4.1</u>
Societal responses to drought

Different communities have different approaches and capacities to manage risk. In the past communities in drylands typically controlled, managed, conserved and protected their resources communally. They had accumulated a wealth of knowledge, ideas and experience of managing and coping with disaster risk, even in the face of severe droughts. Today much of these responsibilities have been conferred to governments, which in turn have established institutions and mechanisms through which drought issues are addressed either directly or indirectly. These institutions are charged with the responsibility of reducing and managing drought risk, alerting communities of drought events and assisting in coping with them. However pastoralist and other communities who live in marginal areas which have been neglected by central authorities are still primarily relying upon their own social adaptive capacity in order to cope with drought.

<u>4.2</u>
Social adaptive capacity

A quick survey of history, or indeed just examining a cross section of drought-prone societies today reveals that different societies manage the risk of drought impact in different ways. This is partly a function of different levels of economic development, which partly determines a society's options, as illustrated by the UNDP study, which found a very high inverse correlation between GNP and human mortality in the face of drought.

One way of explaining differences in drought vulnerability between societies or policy environments is to think of the 'drought exposure – drought impact' relationship as being mediated through *social adaptive capacity*. This term is employed in this paper to mean the ability of a system or a society to accommodate, adjust and adapt to a stress, specifically a drought-induced stress (Figure 5). We distinguish between social adaptive capacity and coping strategies by considering the former to be an attribute or potential resource while the latter are particular expressions of resilience's in a particular situation, and typically at the household or community level.