Environmental Cultures of Development and Indigenous Knowledge: The Erosion of Traditional Boundaries in Conserving Wetlands in rural Zimbabwe

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Abstract

This paper is situated in the intersections between environmental cultures, indigenous knowledge, and development in the conservation of wetlands. One case will be explored to illustrate the continuing importance of complexity, context and contingency in our understanding of the intersections between development and indigeneity in local conservation practices in contemporary Zimbabwe. Indigenous knowledge literature emphasizes how small-scale societies and cultures have lived in harmony with nature and practiced sustainable development. In the process, these societies often have constructed profound knowledge of their environment, which is in danger of being lost and/or appropriated. The assertion of the importance of indigenous knowledge and practices is used in Africa to counter the notions that only the western type of development can bring progress. The focus of this paper is on how and in what ways local populations have articulated their knowledge and perspectives in complex settings in Zimbabwe's communal lands in light of the water sector reforms. In addition the paper focuses on how indigenous knowledge has been (and is being used) used by local communities in Bangira, Murombedzi and Kaondera villages (in their own specific ways) to counter (and/or embrace) misplaced ideas and practices in the use and conservation of seasonal wetlands to alter and or adjust their situations in the shadow of the water reform process in Zimbabwe. Finding the complex balances between local knowledge and practices with national, ecological and scientific concerns in an ever-changing hydro-ecological environment will continue to be one of the challenges in sustaining wetlands conservation efforts.

Introduction

Wetlands conservation can illustrate the multiplicity of laws that come into play in natural resources management at the international, national and local levels. In the case of water reform and the cultivation of seasonal wetlands (dambos) in Zimbabwe, there are important tensions within and between international, national and local laws and policies which have to be reconciled. In this paper I will focus on two dimensions of the water reform process in Zimbabwe's communal and resettled areas. The first is the tension between water as a social good and as an economic good. I see this tension

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between the principles of having the market play the most important role in the management of water in opposition to providing adequate water to all citizens most succinctly stated as water as a human right. I want to know if and how processes of globalization in natural resource management in general, and seasonal wetlands in particular, are being incorporated, transformed or resisted in contemporary Zimbabwe.

I have been studying water reform in Zimbabwe since its inception in 1997. In 1998 the Zimbabwe parliament passed a new water act which made all waters public. At the same time it created a new authority which is charged with managing Zimbabwe's waters and now owns all former government dams. All waters to be used for commercial purposes have to be paid for. I am intrigued by how the new water policy and its laws are being resisted by different groups of communal farmers and new settlers through the articulation and re-articulation of customary norms and principles viewing water as a common pool resource that should not be sold. It is worthwhile to find out how indigenous knowledge systems play out in the face of globalization.

Mhondoro smallholder farming area and Chegutu District were the research sites used to examine how these processes play-out in a local context. The first section of this paper explains the methodology followed by some remarkable international axioms over water while the second part focuses on trying to problematise and explain the concept "indigenous" in development and conservation efforts. The third section focuses on the water reform process in Zimbabwe as an example of how indigenous knowledge was incorporated or neglected in the reforms. Section four outlines the concept of primary vis-à-vis commercial water with regard to Zimbawe's Water Act and explains its implications for the access, use and governance of water and its multiple implications to wetlands cultivation and riverine gardens. The conclusion and recommendations forms the final section of this paper.

Methodology

Case studies, literature review, network analysis, direct observation, dialogue and "informal discussions" played an important role in data collection and helped me to pick out and record issues. Most of the data was collected through unstructured questions,

especially on issues to do with local leadership, rights to resources and settlement. The same method was applied on the role of spirit mediums, chiefs and other local leaders on how they construct, reinforce and maintain their indigenous knowledge system about plants and medicines, agriculture, water, cultural practices and rites, that brought about social cohesion within their communities.

The use of unstructured questions helped in getting so much detail on the topic of discussion with the interviewees. This enabled me to collect as much detailed data as possible without restrictions on the issues to be discussed. It also gave me room to follow leads to outstanding issues. On issues to do with ability and willingness to pay for water, and what the farmers did to conserve their water sources and environment, I used semi-structured interviews. I felt that the data I wanted was more to do with people's perceptions and attitudes. In order to have as close to a uniform application of the questions to each respondent, I felt that semi-structured interviews would be ideal especially when trying to elicit such responses. Thus semi-structured interviews and direct observation were mainly used to gather information on the specific cases selected and on the compilation of their life histories. I also attended Sanyati catchment and Lower Mupfure subcatchment council meetings in Kadoma and Chegutu respectively, where I observed how the catchment administrators, chiefs, farmers and their committees conduct their meetings and how different people participated or failed to participate.

Direct observation was utilised for detailing the everyday life situation and events of the different actors who cultivated seasonal wetland/riverain gardens in Mhondoro. Case studies are one of the most convincing methods usable within the limits of research periods and limited sponsorship to give the information that one can count on if the research is done properly. Through cases, one could observe how the individual or other actors arrived at certain decisions, how they manipulate resources of different kinds such as knowledge and claims of legitimacy to power in order to serve their various individual or group interests.

In this paper, I hypothesize that the water reform in Zimbabwe has failed to incorporate indigenous knowledge on water management. The second hypothesis tries to explain

whether or not indigenous water management principles are consistent with some international conventions?

Some remarkable international contestations over Water

The most important principles that so far have been agreed in international conferences on water management are embodied in The Rio Declaration on Environment and Development of 1992, Agenda 21 of 1992, and The Dublin Statement on Water and Sustainable Development of 1992. At the international level, the Dublin Principles are the most widely recognized axioms for water reform. The thinking behind them has been incorporated into policy documents authored by the World Bank and other donor organizations (World Bank 1993, 2002; FAO 1995; 2000). These principles are:

i. Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment;
ii. Water development and management should be based on a participatory approach involving users, planners and policy-makers at all levels;
iii. Women play a central part in the provision, management and safeguarding of water; and
iv. Water has an economic value in all its competing uses and should be recognized as an economic good.

These principles reflect an attempt to balance liberal economic thinking on international development policy voiced by international actors like the IMF and the World Bank with broader human rights concerns. A critical and important concern in relation to international and national water policy is how the concerns of the poor will be balanced against an increased market orientation. The World Summit on Sustainable Development held in Johannesburg, in September 2002 moved access to water to the centre stage in development and human rights discourse.

The Indigenous In Development And Conversation Contexts

The first part of this section problematises the notions of what constitutes "indigenous knowledge" and suggests that it is not a separate domain, unchanging or something that

can be pulled out and utilised, when needed. The second part explores how indigenous knowledge, although usually framed in more pragmatic terms, was mobilised to oppose some elements of a development project. In this context, claims of indigenous knowledge, institutions and practices in Mhondoro communal lands were used to resist and reshape the larger project.

Where and how is indigenous knowledge kept and transmitted? Who does this? How is it done (Ingold 2001)? How do urban youth fleeing from the countryside sustain indigenous knowledge and practices? What are the connections between different kinds of learning and perceptions that sustain indigeneity (ibid.)? In examining the profound changes that have taken place through out Africa how and where do we look for what is "indigenous"? How do we explore indigenousness not just in terms of ethno this or ethno that- ethno science, ethno botany, ethno pharmacology as opposed to real pharmacology, but in their own terms? Can we conceptualise a changing indigenous along with a changing western science? And who decides on what is genuinely indigenous and not? For example, in much of the debates surrounding gender, culture is used to justify knowledges and practices about women. Who gets to define what these are? How do we assess the range of interests involved? This paper does not attempt to answer all the above questions. The central issue, then, is not to determine whether one says yes or no to indigenous knowledge, or whether one asserts its importance or denies its effects. Neither is it whether one refines the words one uses to designate it; BUT to account for the fact that it is spoken about, to discover who does the speaking, the positions and viewpoints from which they speak, the institutions which prompt people to speak about it and which store and distribute the things that are said.

In settings which might be termed "traditional", development issues are often central to the proceedings. In Zimbabwe, these "traditional voices can be heard in "traditional settings", times when the "royal ancestral spirits" (known as Mhondoros) speak to their adherents, or in committees and workshops when spirit mediums, chiefs and lineage heads, comment on the development project issues. The "traditional" changes, just like everything else. For example, in Mhondoro and Ngezi, the mhondoros speak through

their spirit mediums. Initially, the mhondoros were opposed to the use of chemicals to grow market-gardening crops such as vegetables, tomatoes and onions at least those who expressed an opinion. This perspective changed over time as an increasing number of adherents and then some spirit mediums themselves began using chemicals on their own wetlands and riverine gardens. It was also the case that different spirit mediums/mhondoros did not all hold the same views on the use of the chemicals and management of dambos.

Development and conservation practices have overwhelmingly been viewed as antagonistic to indigenous peoples and knowledges. There is a large and overwhelming literature on the atrocities committed by the expanding European and North American nations against the indigenous peoples through out the world. Perhaps the most systematic recent account is that by John Bodley entitled **Victims of Progress.** Development efforts which incorporate indigenous knowledge and practice is now often viewed as morally and practically better than past colonial, statist and national policies to pursue development. Significantly, indigenous peoples have organised themselves to pursue their rights in national and international organisations. Their rights have been incorporated if all too often ignored in the United Nations (Draft) Declaration on the Rights of Indigenous Peoples. This paper will not attempt to address the thorny set of issues concerning who might be considered the indigenous peoples of Africa and what their rights should be. This is in part due to the disruptions produced by the slave trade and colonisation which has led to dramatic shifts in African populations combined with efforts to avoid distinctions between populations within nations. Nonetheless there are specific contexts in which indigenous people have become important- the Bushmen or San in Botswana, Namibia, South Africa and Zimbabwe or where “indigenous” has been used to mean non-western, non-white, or colonialist. This being done, for example, in the context of the former settler colonies including Zimbabwe. In my perspective, indigenous knowledge and practices are not separate from broader constructions of knowledge.

The separation of indigenous knowledges and practices from development no longer seem as prevalent as before. More recently, much attention has been given to how local knowledge or indigenous knowledge can be used for development or to counter misplaced ideas and practices in conservation practices. Should we, therefore, follow the perspective that the more indigenous, the greater the potential for living sustainably with the environment? I should be quick to point out that it is not sufficient to claim that all development and conservation projects and efforts have been western projects. While acknowledging the much greater power of dominant institutions and governments, many NGOs, international, national, and local have pioneered alternative strategies and perspectives. A case in point is the stream bank regulation in Zimbabwe. The regulation stipulates that no cultivation should be done within the distance of 30 metres from a river, stream, dam, and vleis. This regulation was enacted during the colonial period and continued in post-independence Zimbabwe. This development failed to recognize that people in communal Zimbabwe, especially in the Zambezi Valley and elsewhere have sustained their livelihoods for many years by practicing riverain and/or stream bank cultivation without posing a significant threat to the environment (Derman 1997a, Sithole 2002). A closer analysis to the practice of stream bank cultivation calls for an appropriate kind of science that would be community-sensitive, beneficial to society and humanity, and more holistic in stimulating spiritual depth and environmental situatedness.

Another example drawn from my fieldwork is the nutrition garden project initiated by a non-governmental organisation, Africa 2000, in Bangira village of Mhondoro. My initial study in water management in Mhondoro has demonstrated a surprising degree of consistency overtime and space in upholding the norm that no one can be denied drinking water (see also Dernam and Hellum 2002). The obligation to share extends to wells which are privately dug and on the functionally private land. Based on the practice of sharing it extends to boreholes constructed for principally commercial or dedicated use. The duty to share cuts across kinship and village borders. It was spelt out particularly clearly in drought periods. It is the view of most villagers that one risks having the water source poisoned if it is not shared. The norms of sharing and potential sanctions also

exist in areas under three river catchments that the Centre for Applied Social Sciences (CASS) water research team has been working (the Manyame, Mazowe and Sanyati catchments). Water use, access and allocation in Bangira village is regulated by the traditional institutions of authority – the local chief, the headman and spirit mediums maintain good links to the rural water and development program in order to obtain new boreholes for his people.

Chief Dande (pseudonym) sustains the principle that the regulation of water depends upon the performance of appropriate rituals, the recognition of spiritual and traditional leaders, and the maintenance of good ties between the living and the dead. In the Sanyati catchments, many chiefs share Dande's views. According to the CASS team's surveys seventy-five percent of rural Zimbabweans interviewed believe that customary authorities: chiefs and spirit mediums - should regulate water use. In the Zambezi valley, a research team utilizing aerial photographs concluded that areas under the control of chiefs have more intact forests than those under the government controlled Mid – Zambezi Rural Development Projects (Byers, Cunliffe and Hudak, 2001). It is not surprising that the externally-driven Bangira nutrition garden has not managed to be functionally viable owing to the "alleged" lack of respect of a people's way of life, that is, the day to day norms, rules and rights for water access, use and allocation, especially for riverine gardens. Are chiefs and spirit mediums/mhondoros the keepers of "indigenous knowledges" or are they the voices of a community consensus in the face of change (Sithole, 2003, Spierenburg 2003)?

With the drought in 2002 and the continuing economic crisis in Zimbabwe, the expansion of riverine and wetland gardens has caused increased pressure on existing water sources in the area. The shallow wells that people had dug on the vleis where many of the gardens are located were drying up along with the shallow wells adjacent to their home gardens. This has also adversely affected the balance in the wetland's ecosystem. One notable result of this is the decline in species of birds in and around a sanctuary in this area. These changes are more as result of the changes in biodiversity and hydro-geological changes at the global scale. The villagers in Bangira, Murombedzi and

Kaondera villages largely depended on alternative pest control methods such as the use of ashes and some herbs instead of using chemicals from the shelves. This has helped to reduce species depletion in this locality. It should be noted, however, that some farmers in the community have access and do actually use some "modern" chemicals for pest control in their gardens.

If water becomes scarcer, increased policing and control by the community to ensure that the common resources are reserved exclusively for drinking water will be required. The strength of local management systems in its prefectorial role can only be sustained in a stable political environment. In the name of "indigenous" no indigenous water management and land tenure systems will be allowed to stay in place in smallholder resettled areas. Apparently, a national African state has undertaken vast programs without utilizing the range of knowledge currently utilized by its citizens.

The Water Reform Process In Zimbabwe

Are customary norms part of the indigenous knowledge? What are the connections between indigenous knowledge, practices and institutions? How do we describe political and social representation at meetings, presence or absence of chiefs, spirit mediums and other formally labeled "traditional authorities" in Zimbabwe? In a highly bureaucratised process of committee meetings with formal agendas and notes how are customary norms and practices included or ignored? How does water reform proceed in Zimbabwe when rural surveys clearly indicate that local populations view chiefs and spirit mediums as the most important mangers of water? But traditions also do not stand still and "traditional authorities" and indigenous knowledge also changes. For example, a chief, trained as a planner was a member of the Zimbabwe National Water Authority and the chairman of the Manyame Catchment Council (one of Zimbabwe's seven catchments).

In this section a snapshot of how local level (or customary norms and practices) ideas and practices continue after a century of national water laws (both colonial and independent) illustrates the continuities between these periods despite efforts to change. The local, or the indigenous, or the traditional- whatever term is used- remains unincorporated into

national laws and policies. Yet at the same time, local level norms and practices reflect the international movement for a right to water. At formal Sanyati catchment and Lower Mupfure subcatchment council meetings that I have attended, the medium of communication is English. I noted that there are three chiefs who sit on the Lower Mupfure Subcatchment council committee. Their participation in these meetings were through the secretary (and sometimes myself) who had to interpret to them what would be transpiring in the meeting. One wonder why a catchment council committee comprised of only Shona speaking people would want to use a language most, if not, key participants do not understand. This scenario is different from the situation in the local villages where chiefs and village elders are considered to be the custodians of "indigenous" knowledge. One would expect the catchment committee to respect such customary principles and use a language that is easily understood by the key participants. Is this a direct disregard of indigenous knowledge? One is tempted to answer, Yes.

The water reform in Zimbabwe, like many other nations, has taken place as though there were no other water management systems than those of the state. Access to water, like most other natural resources, is regulated by both statutory and unwritten customary norms. Zimbabwe's waters have been divided into the categories of commercial and primary since the beginning of the twentieth century (Derman and Hellum 2002). In the Water Act of 1998, substantially different from earlier ones, primary water is defined as water used for: 1) domestic human needs in or about the area of residential premises, 2) animal life, 3) making of bricks for private use and, 4) dip tanks (Water Act 1998 Section 32 (1)). Commercial water is an economic concept including agriculture, mining, livestock, hydroelectric power and such other ventures. Water used for commercial purposes now must be permitted while water for primary use is not. To access primary water, no one's permission is needed.

Commercial agriculture is the largest user of Zimbabwe's water and consumes 75 percent of all water. The urban, industrial, and mining sectors consume 20% and the communal lands only about 5%. Water management for commercial purposes is done through utilizing thousands of small, medium and large-scale dams. Water use in communal

areas on the other hand, rests upon boreholes, open and closed wells, streams, rivers and small dams. Apart from dry season vegetable gardens located along streams, rivers, seasonally flooded grasslands (vleis) and increasingly boreholes, agriculture is primarily rain fed.

Primary Vis-à-vis Commercial Water, The Zimbabwean Scenario

The division between primary and commercial water in Zimbabwe reflects the dual legal system where imported Roman Dutch law and the British common law applied to the white settlers while relationships between black Zimbabweans were regulated by white settlers while relationships between black Zimbabweans were regulated by customary law (like the Western United States) and secondarily on English law. The principle underlying Roman- Dutch law is the notion of appropriate rights which can only be obtained from the state. Under this system, access to water could be obtained by landowners only through application to a water court which then granted water rights in perpetuity.

At first glance it would appear that the notion of primary water would be linked to the indigenous idea that no one should be denied access to water. However, this seems not to be the case. Primary water, in the sense of the Water Act of 1998 was not a category among African people in Zimbabwe. It was an introduced concept stemming from the earliest Southern African water laws. Derman (2001) contends that in discussions with drafters of the laws, they stated that they assumed the concept came from Roman- Dutch law, and remained unchanged and was then incorporated into the new Water Act without further reflection. There was no explicit concern with customary law and customary water rights unlike other areas of colonial regulation such as land, marriage, and inheritance. In contrast to current government law and policy it was believed that water could not be individually owned and that everyone had a right to use it as they saw fit within the norms and practices of different cultural groups.

As part of a broader study of water management in selected communal lands in three catchments, a survey of water use and awareness had already been carried out in two of the three villages, Kaondera and Bangira in Mhondoro (CASS BASIS survey data, CASS 2000-2001). The results showed the following: 20% of households were growing tobacco, all in one village; 70 % of households had invested in water; and 90 % of households had some form of dry season garden which requires hand irrigation. Derman and Hellum (2003), and Sithole (2003) made a hypothesis that trends in the commercialisation of agriculture would be reflected in the management of water. We expected to find decreasing open access to the water resources of the area. We also expected to find an increasing neglect of common water resources such as boreholes, wells and dams with the emphasis upon the 'private'. Lastly, we expected to find weak indigenous institutions for managing water. The reason being that water resources are dispersed and not linked to central authority.

Derman and Hellum (2003) contend that despite their expectation of increasing privatisation they found no evidence that this was taking place. Rather, there was a trend of private wells or boreholes funded for specific economic purposes being made available to all for drinking and cooking. Cutting across all the tenurial systems is the notion that no one should be denied access to safe drinking water. Seventy-three percent of villagers when asked who was the most important person in allocation of water sources said either the chief or the spirit medium. This is consistent with their view on what they do to maintain water supplies. Eighty-four percent said they observe rules and/or rituals to do so. The link between rainfall, the ancestors, social relations and the land remain strong despite other changes. In examining people's choices as to where to obtain water, kinship was more often decisive than physical closeness to the water source. It seemed, however, that a sense of entitlement, safeness, trust and water quality led people to not simply choose on the basis of physical closeness and cleanliness. In summary, our preliminary hypotheses were incorrect. Commercialisation in agriculture had not been followed by privatisation of water. The strength and resiliency of indigenous/traditional water management rested in place despite major changes including enclosed homestead wells.

Conclusions and Reflections

In this paper I have examined the Bangira nutrition garden project and the water reform process. In both development processes- intervention project and water reform- the interveners and the Zimbabwean state began from the notion that development agencies and the government know best. It has been, from that stand point, little different in their (the government and development agencies) approach to local knowledge and local practices than what many critiques of development have so often cited. From the perspective of local populations, it can be understood why African governments are seen to be often acting just like the former colonial powers.

The water reform in Zimbabwe does aim to re-allocate Zimbabwe's waters. Primary water will no longer remain just a residual category as efforts will be made to have it be used more productively, i.e. commercially. The water reform process has proceeded by workshops, reports, discussions with stakeholders and the formulation of new laws but, as pointed out in the section on Water Reform, completely ignoring the existence of alternative already existing water management systems. Are there indigenous models for managing an entire river system? There are not, at least not formulated in secular, scientific terms. Does this mean that deeply rooted but historicized environmental and economic understandings are irrelevant? Not quite, but they cannot be effectively ignored if conversation efforts at the local levels are to succeed.

The water reform process has been aborted (at least for now) by the redistribution programme which has undermined the capacity of the new water management authority, ZINWA, to fund the new institutions of water management. The new local institutions lack the resources to pay for water which was to fund the reforms. This means that in practice local institutions and norms remain in place. Transformed indigenous knowledges and practices arguably have outlasted initial government efforts to change them.

While at times the debate about what constitutes indigenous knowledge, its role in society and its relationship to exogenous (Western) knowledge systems and modes of thinking

can become quite heated and polarized, this small piece of work has tried to explain the utility of local knowledge in wetlands conservation. Finally, we must not expect the discourse on indigenous knowledge to tell us, above all, what strategy they derive from or what moral divisions they accompany, or what ideology – dominant or dominated – they represent; rather, we must question them on the two levels of their *tactical productivity* - what reciprocal effects of power and knowledge they ensure, and their *strategical integration* - what conjunction and what force relationship make their utilization necessary in a given episode of the various confrontations that occur.

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