

Translation of water rights and water management in Zambia

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The human right to water was articulated in the UN Economic and Social Policy Documents. At the national level this approach is challenging to adopt, especially for the least developed countries. The limited financial resources of countries like Zambia compound these challenges. Water rights in Zambia follow a common law property rights system. Common law is mostly applicable in urban centres whereas customary law is more applicable in rural areas. The dual application of the laws makes the translation of water rights at grassroots level an interesting case to explore. Two different rural areas will be used to highlight the issues faced by the communities in managing their water resources and their perceptions of water rights. The cases also bring out the role of the state and other actors like NGOs and community based organisations in water management.

Key words: Human rights, water rights, customary law, common law, grassroots

Introduction

Field evidence from Zambia will be explored in order to highlight some of the mechanisms that generate discrepancies between legislative and de facto management of national water resources. Such mechanisms hinge upon the key issues of water rights, equity, gender and second order water scarcity. Zambian law recognises a human right to water to some extent although this is not codified within the Constitution. Field observation reveals some discrepancy between the practices in place and the ideals foreseen by a human rights approach. This paper explores these divergences.

The paper uses two case studies, one in the Western Province of Zambia near Mongu and the other in the Northern Province near Mbala (Figure 1). The Western Province of Zambia is mostly a flood plain and there are large volumes of water during the rain season mainly coming in from the North Western Province. The Northern Province of Zambia also receives lots of rainfall averaging about 1138 mm annually compared to 808 mm for Western Province (SADC Website). The study site in Western Province has an irrigation scheme that was set up to encourage the local community to increase their agricultural productivity and food security. The case study explores issues of equity and gender in water management and customary land and water laws. In the Northern Province the study site is a village that is experiencing both first and second order water scarcity for various reasons. The different orders of scarcity are elaborated on in the case study.

Zambia is a country with a population of about 10 million people. It is one of the most urbanised country in Southern Africa and receives sufficient rainfall overall. It is a country with limited national resources like most third world countries. Taking a human rights based approach to water would prove challenging for Zambia as the government may not be able to keep its promises for all citizens. The rights based approach has only been alluded to in the National Water Policy and the Water Act. This paper starts with a look at human rights and the human right to water. It then turns to water rights in Zambia and customary law relating to land and water in the Western province of Zambia. This case study is followed by the second case study in Northern Province, which looks at the different orders of water scarcity.

The human right to water

Internationally, basic needs water uses are now formally recognised as a human right, and the right of access to clean and affordable water and sanitation was acknowledged in the Dublin Principles (Budds and McGranahan, 2003). Previously these rights were enshrined within the 1989 Convention on the Rights of the Child, and were implicit within many other agreements (Gleick, 1998)¹. Water as a human right has been most actively pursued under the terminology of economic, social, and cultural rights, but trends towards 'participation' have more firmly bracketed water rights within the discourse of civil and political rights. In any case, the UN has always considered these two branches of 'rights' as indivisible and inalienable.

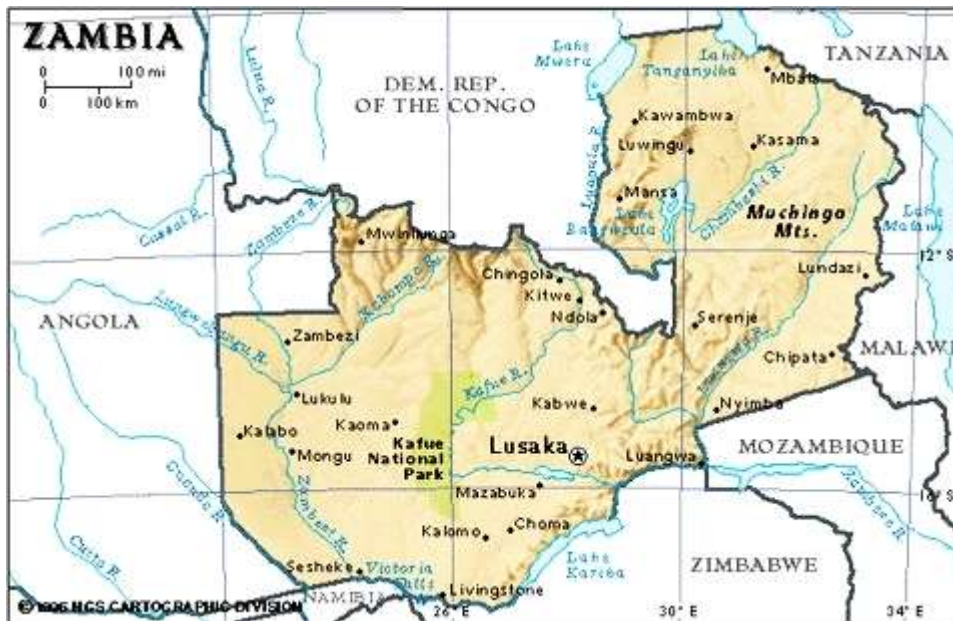


Figure 1. Location of study sites with water bodies in close proximity

Source: <http://www.afriprov.org/images/zambia.jpg> (Accessed on 20/03/03)

Gleck (1998) maintains that although human rights more generally have been inadequately upheld, the concept of a human right to water would provide 'the' water community with a useful tool in tackling one of the most elemental failures of development. Conversely, Robinson, (2002) implicates the notion of water as a human right in the exclusion of poor and rural communities from water service provision (heavily subsidised or negative cost recovery management for already connected households does not generate investment revenue). While privatisation of water management is not a major issue in rural Zambia, donor priorities and the presence of non-governmental organisations (NGOs) impacts upon the governments ability to ensure and fulfil a legislative human right to water.

Water rights

Water rights clearly exist independently of their correlation or otherwise with the various human rights agreements. Hodgson (2004) defines a legal water right as a right to:

- Abstract or divert and use a specified amount of water from a natural source;
- To impound or store a specified quantity of water in a natural source behind a dam or other hydraulic structure; or
- To use water in a natural source

However, even official Zambian water laws and policies exhibit pluralism. Meinzen-Dick and Bakker (2001) refer to a hierarchal distinction between use and control rights, in both legislative and customary rules, categorising access, withdrawal, exclusion, management, and alienation rights as the components, which equate to a 'bundle' of water rights. Actual ownership is defined as the totality of this bundle.

- *Access rights*: the rights to enter a defined physical entity. This might apply to recreational water use (like swimming), where the main 'use' is simply to be in the water, and generally refer only to non-consumptive, in-stream uses.
- *Withdrawal*: the rights to obtain the benefits from that entity by taking out some of the flow.
- *Exclusion*: the rights to determine who will (or will not) have access to the resource.
- *Management*: the rights to regulate use patterns, thus transforming the resource and potentially altering the stream of benefits from that resource. Management rights also provide the ability to define access or withdrawal rights.
- *Alienation*: the rights to sell, lease, or bequest rights to the resource.

The ownership of all water in Zambia is vested in the President (as opposed to the state) though legal pluralism exists within state law. The use, diversion and apportionment of all water is assumed to fall under the Water Act (1948) which provides for the ownership, control and use of mainly surface water (Republic of Zambia, 1949). The Act also makes a clear distinction between private and public water. Private water is defined by the riparian principle. A landowner in this case would include the President, and a mortgager or lessee. Public water means all water flowing or found in or above the bed of a public stream, whether visible or not, including lakes, swamps or marshes. A public stream refers to either a watercourse or a dambo (seasonally flooded wetland) of natural origin, forming part of a natural drainage system, where water flows in ordinary seasons where such water is not private water.

There is also a classification of primary, secondary and tertiary uses of water (ibid). Any person shall have the right to the primary use of public water that is found in its natural channel or bed at such places to which access may be lawfully had. This could be reasonably interpreted as an implicit human right to water encoded in law. Primary use of water is defined as the use of water for domestic purposes and the support of animal life. Secondary use of water refers to the use of water for the irrigation of land and pisciculture. Tertiary use is defined as the use of water for mechanical and industrial purposes for the generation of power. Primary uses of water have priority where conflict over water uses and allocations arise.

The Water Act is the main legislation that deals with water allocation in Zambia. Water rights are obtained through the Water Development Board under the Ministry of Energy and Water Development (MEWD). The water rights are issued for volumes above 500 cubic metres. Lower volumes are considered domestic and not applicable for water right application. The Water Board co-ordinates the water rights at the national level especially for large-scale water users like water suppliers, industrial users and commercial farmers. For the large-scale users, property rights and common law are prominent. Zambia however has a dual law system. Customary law is more prominent at the local level. The next section looks at the role customary law plays in water management especially when related to land tenure.

Customary Water Rights

Water management in Sefula, Western Province, is not circumscribed by the Water Act, and is governed as a riparian system. The land in Sefula is classified as traditional land that is under the custody of a traditional ruler on behalf of his people. Customary land tenure is exercised for a period of 14 years following authorisation by the chief. The Induna's (local chief) authorisation gives the applicant a right of occupancy to the land. The Induna uses his own discretion to allocate the land. The Litunga, the paramount chief of the Lozi people who form part of the Barotse Royal Establishment, selects Indunas. The position of the Litunga is hereditary and he inherits some Indunas from the previous Litunga. Control of land rights was legislated via a separate treaty signed by the Barotse Royal Establishment with the British Protectorate. Mamdani (1996) details similar forms of legislation in his critique of the bifurcated nature of the contemporary postcolonial African state.

Traditionally owned land is not subject to state law though it amounts to around 70 per cent of Zambia. Therefore traditional water laws and regulations are in actual fact more significant than the formal water law. In traditionally governed systems, water rights are riparian, which is juxtaposed with the non-priority permit system that the government administers on public water. The occupier of traditionally governed land must register the water bodies on their land and any intended use for the water body including estimated daily volumes. The register is held at the land and deeds register. Unfortunately enforcement of the registration is rather weak and most traditional landowners do not adhere to the legal requirement. Following Meinzen-Dick and Bakker's (2001) approach, an example of water rights in Sefula, Western Province is illustrated in Table 1.

In terms of women and land ownership the colonial system emphasised male ownership, as British gender assumptions were transposed onto varying Zambian norms. Currently, NGOs try to work with the Indunas and not go against 'traditions' so often maintain the status quo. However, although they tread very carefully, NGOs attempt to encourage women to participate in decision-making and have helped highlight the plight of the female-headed households and the challenges they face. Women can register land in Sefula, and be allocated control rights by the Induna on behalf of the Litunga. A woman may or may not use a male representative when approaching the Induna, but preference for land allocation will be given to men first as they are perceived to be 'bread winners' and they argue that women can marry to get land rights. The Induna only allocates land

Table 1. Summary of water rights for uses and users in Sefula, Western Province

| Use | Users | Proximate source | Basis of Claim | Rights | Mediating institutions |
|----------------------|---------------------------------------|---------------------------------------|--|---|--|
| Field irrigation | Subsistence farmers (male and female) | Canal, Wells, Stream | Customary rights, Political advocacy, Recognised by government | Withdrawal | Induna, Government institutions (Water Board, Department for Water affairs, Ministry of agriculture), NGO (Can only advise), Water Committee |
| | Commercial farmers | Private borehole, Stream, River | Land ownership, Riparian water law | Withdrawal, Exclusion, Management, Alienation | Water Board, Ministry of Agriculture |
| Homestead irrigation | Male and female | Borehole, Canal | Customary rights | Withdrawal, Exclusion | Induna, Water Committee |
| Livestock | Livestock | Borehole, Stream, River | Customary rights, Recognised by government | Withdrawal, Exclusion | Induna, Water Board |
| | Pastoralists | Dambo, Stream, Rivers | Customary rights | Withdrawal, Access | Induna |
| Pisciculture | Male Farmers | Canal | Recognised by government | Withdrawal, Access | Induna, Water Committee |
| Domestic | Settled community - women | Piped water, Wells, Boreholes, Canals | customary rights, recognised by government | Exclusion, Management | Chief/ Induna, Water Committee, Water Supplier |
| | Migrants | Irrigation canals, Dambo | Recognised by government | Exclusion, Management | Settled community, Induna |
| Business enterprises | Industrial | Dam, Piped water, Private boreholes | Private ownership of land, Riparian law | Withdrawal, Exclusion, Management | Water Board |
| | Artisans e.g. hairdressers | Piped water, Private borehole | Recognised by government | Tolerated use, Withdrawal | Water Committee, Water supplier |
| | Micro enterprise e.g. brick making | Private borehole | Recognised by government | Tolerated use, Withdrawal | Water Committee, Water supplier |
| Environment | Wildlife | river, canal, dambo | Recognised by government | Tolerated use, Access | Wildlife Authority |
| | Recreation e.g. swimming | Rivers, Canals, | Customary rights | Tolerated use, Access | |
| | Tourism | Dams, Rivers, Canals, Piped water | Recognised by government | Tolerated use, Access | Tourism Board and Ministry of Tourism |

| Use | Users | Proximate source | Basis of Claim | Rights | Mediating institutions |
|-------|---|--------------------------------|--|-----------------------------------|------------------------|
| Other | Spiritual/cultural celebrations (migration of Litunga, baptism) | Springs, Dams, Rivers, streams | Customary rights, Recognised by government | Tolerated use, Access, Withdrawal | Induna |
| | Landless or dis-possessed people | Springs, Rivers, dambos | Fundamental basic need | None | Themselves |

(Adapted from Meinzen-Dick and Bakker, 2001)

under his jurisdiction if it is not occupied. He has a right to withdraw land for a valid reason like non-cultivation or if the owner is not abiding by the rules and regulations of the chiefdom. It is common for natural water bodies to be used as boundary demarcations for land plots to maximise the number of water users for a particular water body. There is a local court where any conflict matters are resolved. If the Induna is not able to handle the matter it is referred to the main court held by the Litunga. In Sefula, once land is allocated by the Induna, it can be sub-let by the occupier, especially if the occupier is not making productive use of the land. The sub-letting is a private arrangement that the Induna may not always be aware of.

Use of water can be consumptive and non-consumptive. A non-consumptive use in which all the Lozi people participate is the Kuomboka ceremony. This is a traditional ceremony during which the Litunga migrates from the flood plain palace to the higher ground palace. Other than that there are some rituals that are used when someone dies or spirits have to be consulted. Some of these ceremonies are done near the water and are also non-consumptive.

Rights Transfer

In terms of the transfer of control rights, formal Zambian water law operates a permit system via the Water Development Board, so partial ownership (for example under a 99 year lease) may be transferred through sale and purchase of land. In terms of state land, transfer of control and use rights are structurally apportioned, whereby management, and exclusion rights may be sub let by individual permit holders or transferred as hereditary rights (for example under the 99 year lease system). Under traditionally governed water rights, there is a more flexible, and pro-poor range of transfer modalities because of the socially embedded character of the transactions, which mediate against unwieldy bureaucratic obligations. However, internally governed water regimes can exist in a position of false autonomy due to their interdependence with the entire watershed.

In Sefula, Lozi women and men both can hold land and water rights though this particular governance system is patriarchal. Migrants may be granted control rights depending on land availability and the mediation of the Induna. For single women, additional labour for cultivation often impels (re)marriage, but single women can and do own and cultivate their own land if they wish. Upon widowhood, a male relative tends to 'mediate' to ensure that land is kept in the family. It is possible for a widow to transfer rights to her children but this requires the approval of the Induna because he is responsible to maintain the customary 14-year tenure period. Other men in the village may compete for the land tenure if it is more fertile or closer to a water source than their land. Traditionally in Sefula, women are expected to get married when they reach a certain age and be supported by their husbands, although they carry out most of the work. This is not a generic trend as some Zambian tribes are matrilineal and ownership rights are inherited through the mother. Similarly, female chiefs command ownership rights in other areas. For matrilineal tribes, the women are more significant and may have been the landowners before the colonial days. It is apparent that in customary governance systems, micro politics principally determine the equity of access to water rights.

Equity

The human rights dimension of plural legal water rights is an issue of equity. The Oxford English Dictionary (1994) defines equity as "fairness and impartiality". In terms of actual water laws and policies, 'equity' is often defined ambiguously to maintain political acceptance. Water allocation disputes and decision

processes tend to focus upon 'needs' rather than 'rights' because the principle of equitable use is imprecisely defined (Giordano and Wolf, 2001). Issues of equity apply spatially, in terms of both physical and political boundaries, and temporally in terms of the historical and future dimensions and implications of water development, including seasonality. Equity is often conceived as an economic issue in terms of efficiency, and a political issue in terms of control. However, a multidimensional concept of 'equity' remains an appropriate lens to view a multifunctional resource like water. Tisdell (2003) analyses the dimensions of equity in prevailing water doctrines, concluding that non-priority permit systems (state controlled water allocation) allow for the greatest degree of equity, whereas Shiva (2002) concludes that close knit decentralised systems are more equitable. Syme *et. al.*, (1999) correlate equity in water allocation with procedural and distributive justice, noting that equity can be successfully negotiated at both universal and situational levels within specific catchments. Clearly, a multi-scalar approach is necessary if equity is to be a considered factor in water rights allocations.

In Sefula, an irrigation scheme was recently set up, with the help of a donor agency, to introduce irrigation to one of the farming communities in the area. The community was traditionally a farming community accustomed to rain fed cultivation. Historically the community grew rice in the latter part of the rainy season after some water had subsided from the flood plains. The irrigation scheme infrastructure was used to control and manage water levels in the flood plains to enable the communities produce two crops each year as opposed to one crop using rain fed farming. A perennial stream was converted into the main canal of the irrigation scheme and lateral secondary canals were also built. In terms of spatial equity, this development has a relatively low impact on 'external' water rights allocations because irrigation water replenishes groundwater, though the diversion of the stream reduces the potential viability of future downstream irrigators.

Sefula is legislated via a separate treaty signed by the Barotse Royal Establishment with the British Protectorate and which further complicates the pluralism of the water rights framework. International negotiations, for example over the Zambezi, are enacted by the government under Statutory Law which compounds both the degree of separation from, and the legitimacy of rights for, individual customary water rights holders. This is an issue of administrative equity. Historically, Western Province was treated as a labour pool for the mines, with corresponding agrarian underdevelopment. Temporal aspects of equitable water rights allocations are contentious because of state dynamics in addition to legal pluralism. Customarily governed rural areas become politically marginal at macro level, where uniform -equality based- water development laws and policies obscure historical discrimination, for example market based strategies, or subsidy to historically advantaged citizens. The vast array of institutions who have a political stake in water in Sefula means that allocation of water rights are mediated between families, Indunas, local government, donor agency staff, the water committee, and sometimes NGOs. The presence of donor agencies and NGOs simultaneously empowers and diminishes the capacity of various existing water institutions, while government can both strengthen and marginalize customary rules and norms.

For example, donor agencies and NGOs choose their locations with the help of the local authority who is usually the council and NGOs also work with line ministries such as Education and Health. They additionally base their choice of location on the willingness of the community to participate in projects and have a list of criteria like: number of people that will benefit from predetermined types of intervention, the possibility of assistance from other sources such as government, type of assistance required etc. Such institutional outreach is perceived to be capacity building, the discourse is of strengthening communities, whom often feel they are being empowered with skills and management tools. However, conflicting institutional priorities weaken local government as the communities become more dependent on the external institutions and more faithless in their local government agencies. Centrifugal water management dynamics compound the fragmentation of rights and responsibilities (Trottier, 1999).

In Sefula, the irrigation scheme members are encouraged to grow a variety of crops like wheat, winter maize and vegetables. The scheme has about 300 members and operates under a local water users group. The user group has regulations that the members should follow. The regulations are drawn up by the members of the scheme and are enforced by a committee that is elected by the scheme members. The scheme members currently use a first come first served (prior allocation) principle for plot irrigation. The uptake for the scheme is currently around 50 percent or less under cultivation. Later there are plans to have block irrigation with rotation for the different blocks. So each block will be able to irrigate a couple of days a week. The water user group committee draws up the rules. However, community participation has not necessarily

translated into a wholesale enabling environment. Some local farmers see the period of customary tenure as only 3 years, when in fact the rule tends to be 14 years. According to their perception, if they did not cultivate their land but instead rented it out for 3 consecutive years then they may lose their right of occupancy. The tenant on the plot of land was then believed to get the right of occupancy. The 3-year limit results in some plots of land in the scheme lying dormant during the dry season when irrigated cultivation is now viable.

Fieldwork has also shown that in cultivation at the household level or small scale, women usually have the task of weeding and planting. The watering is left to the men most of the time even if women are obliged to collect the water. When a water committee is set up there is a rule to say 50 percent should be women though some men explain that women are not forthcoming to take up positions. In one community the women said when they thought of water infrastructure like wells or boreholes, they felt men should be in the committee as they were good at fixing things. In this example, women are reluctant to participate in structures that they feel might give them extra labour burdens. A quota approach may have no immediate benefit to women, in terms of actual access to water, or increased political power. Generally, women are usually given the post of treasurer and standard committee membership, though the chairperson of the committee in Mongu irrigation scheme is a woman. Gender norms have significant impact upon the equity of water rights allocations.

Gender

“Gender is a constitutive element of social relationships based upon perceived differences between the sexes, and a primary way of signifying relationships of power.” (Jacobson, 1999, p175). Gender is the third pillar of the Dublin Principles. In terms of official legislation, Zambia is a signatory to a number of international instruments but water and land reforms have not sufficiently engaged with gender¹. Debates on land reform obfuscate the positive values of customarily governed resources, which precludes strategic policies to ensure women and men have a more equal footing in customary systems, despite the majority of Zambia being governed under customary riparian systems (Machina, 2002).

The gendered productive (which includes domestic) rights to water can be neglected by bureaucratic institutions, largely because ‘the poor’ water users, and indeed ‘women’ are viewed as homogeneous groupings (Van Koppen, 1998; Joshi, 2002). Joshi (2002) analyses some generic characteristics central to the failure of ‘gender sensitive’ water projects, including at an organisational (as opposed to solely at a ‘grassroots’) level. The failure stemming from the treatment of women as a unitary category leads to further exclusion of marginal people, and a lack of self reflection into gender normalisation erodes the basis for strategic gender empowerment, for example within institutions.

Gender sensitive water management interventions tend to reflect institutional gender practise, which directly impacts upon how effectively gender equality is promoted ‘on the ground’ (Longwe, 1997; Joshi, 2002; Guerquin, et. al., 2003). Guijt and Shah (1998), and Cornwall (2003) critique the fashionable notions of participation where it is treated institutionally as though technical management solutions are able to constructively deal with micro and/or macro political issues. External institutions are sometimes faced with the dilemma of whether to address pragmatic or strategic gender needs, but at least theoretically, this should be possible to negotiate with the women who are after all experts in their own lives (Østergaard, 1992; Guijt and Shah, 1997). Longwe (1997) analyses how extant gender policies can ‘evaporate’. There are several dimensions to this process, notably to focus on increasing women’s access to resources, not access to decision making structures, and also the tendency for gender to be isolated as a specific issue rather than a cross cutting concern. Conversely, addressing strategic gender needs, for example, increasing women’s participation in water committees can erode practical gender needs such as the informal strategies necessary to gain access to water (Zwartveen and Meinzen-Dick, 2001). This can be even more problematic where women are encouraged to form 50 percent of the water committee, but have no other position of power in community politics.

Gender is not a synonym for women, but because women are structurally disadvantaged in the majority of the world’s cultures, it is prudent to address this structural disadvantage as a priority issue. Due to gendered responsibility for social reproduction, gender is fundamental to the issue of water as a human right. The relation between gendered water and human rights is rhizomatic, extending to the construction of water scarcity

as an overpopulation, or ‘cultural’ issue (Hildyard, 1999). There is some potential for gender to become an integral unit of analysis within pluralist water legislation at local scales following Green’s (1998) approach:

- What are the workloads and tasks for women, girls, boys, men? How and why are they shifting? In what way would new proposals help whom? How could any existing work overload of women and girls be reduced, and how would that extra time be spent?
- What labour obligations (women to men, men to women and intra-generational) currently exist, and how are these evolving? Are women ‘compensated’ for extra work, and if so how? What actions can avoid increasing women’s total workload and/or deterioration of household food and nutritional security?
- How are household budgets divided in terms of income sources and expenditure obligations? To what extent has increased market involvement shifted obligations regarding food, childcare, and other household provisioning? What extended family budgetary processes exist? How can women’s incomes be augmented, and provisioning obligations be made less onerous?
- What has been the historic pattern of access to land (individual and/or household basis)? How were women’s rights to land to meet provisioning obligations ensured? What steps, beyond recognition of female-headed households and granting equal access can tangibly redress the increasingly inequitable position of women?
- Are water and fuel supply purely women’s/girl’s obligations? Are construction and maintenance/operation tasks male and/or female? What are the implications for voluntary male input into reducing women’s subsequent workload (in terms of chores as well as for water-source/tree management structures, and improved water, wood, tree access)?
- Why do women farmers remain largely invisible to agricultural extension services (even when they do, in fact, address them)? How does this impede the functional efficiency of extension services and, especially, of female headed households? Are new crops/techniques assessed in terms of gender impact? Do small stock, crops, and trees particularly relevant to women receive adequate attention? Why not (e.g. because nobody knows which they are)? How can nutrition (and especially child feeding) linked to agriculture and health services be an entry point for participatory female-led initiatives (including income generation)?

(Adapted from Green, 1998, in Guijt and Shah, 1998, p76-77)

If the various components of water rights ‘bundles’ are explicit, then it becomes more clear as to how pragmatic and strategic gender needs could be met, for example in targeting irrigation governance systems to account for, implement appropriate policies, and monitor gendered divisions in the use, allocations, and control of water. This is dependent upon institutional norms and perceptions of gender and relies to a great extent upon a reflexive and self-critical institutional culture, as uncritical and uniform gender strategies are viewed as ineffective (Zwartveen and Meinzen-Dick, 2001; Joshi, 2002). Gender politics crucially determine the social scarcity of water.

In Sefula the local community have their own perceptions of water rights, which are closely linked to their land title or occupancy. The community obtains no formal water rights for their irrigation purposes. Even though the volumes used in irrigation are substantial. The water rights should be obtained through the Ministry of Agriculture and Cooperatives which is the authority on the setting up of irrigation schemes. The internal relations within the government and among the different institutions mean there is no enforcement of the water rights for irrigation schemes. The schemes seem exempt from official registration of water uses as required by the Water Board. The Sefula case study highlights some of the challenges faced in the plural legislation of water in Zambia. The water rights system remains in the common law realm and is apparently not translated into customary law and local perceptions of water management. The translation here refers to the adaptation of the water rights system in customary settings. The next section draws from another case study, which highlights some results of the local perceptions and the apparent non-translations of water rights.

Second order water scarcity

The concept of second order water scarcity distinguishes between an actual physical lack of water (which is a first order scarcity), and social-political construction of water scarcity (second order water scarcity). Therefore, second order water scarcity ranges at a scalar level from macroeconomic and institutional underdevelopment, to micro-politics. The centrifugal dynamics of institutional control of water in Zambia can be viewed as a confounding variable to the government’s ability to ensure a human right to water. The

human right to water though alluded in the Water Act is not outwardly advocated for in the government publications and national discourse. The rural water sector in Zambia is heavily dependant on donor aid while the urban water sector is in the process of commercialisation. The commercialisation of urban water is simultaneously being implemented in various African countries. The idea of commercialisation and community participation in the management of resources is part of the economically viable development strategy for Africa. The structure of the New Economic Partnership for Africa's Development (NEPAD) is dependant upon the sovereignty and unity of African states (de Waal, 2002). Transformational approaches such as the African Peer Review Mechanism for donor aid may promote partnership and participation, but how this could translate into any pluralist framework for water management does not seem clear, given that NEPAD is firmly embedded within neo-liberalism.

For example, systems of market based tradable water rights have been increasingly advocated by institutions such as the World Bank as a mechanism to avoid conflict over first order water scarcity, but these mechanisms often create a second order water scarcity which erode the human and water rights of poorer people (Perret, 2002). In Zambia, fieldwork has demonstrated that in the majority of cases, the relative abundance of water precludes any development of tradable water rights via market mechanisms. However, even given Zambia's abundance of water, there is rampant second order scarcity.

A micro scale example of second order scarcity can be found in Chulu Ngoma, a village on the outskirts of Mbala with a population of about 500 households. There is a stream running along the edge of the village boundary. The village shares the stream with a privately owned farm. The villagers came to the current location in the 1960s, the farm was already privately owned. When the village was being set up the river used to flood and form a lake which the local people used as an open access water source, which appears to have led to a tragedy of the commons as no governance structures developed in order to regulate access. As the village grew the trees were cut down and the demand on the stream increased. Eventually around the mid 1980s the stream stopped flooding. People in Chulu Ngoma now use the stream and open access hand dug wells close to the stream as water sources.

When two boreholes were drilled in the village, the villagers were involved in the selection of the site where the boreholes would be located. Unfortunately, only one of the boreholes was in operation at the time of the field visit. According to the village headman only about 10 households were using the borehole whereas the chairman of the village development committee had over 50 households on his register for the borehole users. The operational borehole was drilled and a hand pump installed, which subsequently broke down. The residents blamed the breakdown on improper use of the pump and overuse. The District Water And Sanitation Health Committee (DWASHE) team repaired the borehole and installed a bucket and wind lass. Now the villagers complain about the size of the bucket which they feel is very limiting, and indeed collecting water even solely for domestic use is very cumbersome. Fortunately the wells dug near the stream have not yet dried up during the dry season.

When DWASHE rehabilitated the borehole, a water committee was formed to maintain the borehole. The committee was no longer functional but the treasurer who happened to be the wife of the chairman of the village development committee still collected water fees from the borehole users. The water committee chairman was allegedly very inactive as was the village headman. This lack of proper leadership resulted in a few other problems in the village. For instance to ease the suffering of the village when it came to water, water projects had been applied for, as opposed to developing more effective, or even functional governance systems. The community have actually now opted to get a furrow in their village to enable them carry out small scale farming in the dry season. Financial contributions had been collected from the villagers to go towards obtaining water rights. The water rights were for the stream that passes through the private farm. Villagers have been accused of trespassing when they tried to obtain water from the farm. The water right had not been granted yet but the community were very hopeful. The construction of the furrow would involve getting water from the stream on the private land and diverting it into the village. This is legally possible according to the documents held by the water board. The villagers who feel that development in their area was being hindered by the lack of clean and safe water have already marked out a route for the furrow. They are considering strategies to get a local school and medical centre in the village. At the time of the field visit, the villagers used the services in Mbala central which was a good hour's walk one way.

In this case study, the villagers are simultaneously laying stake to their legal human and water rights, through endogenous political advocacy. The equity considerations are manifold, ranging from the potential transfer

of existing ownership from the farmer to the community, the livelihood of the farmer as balanced against the health of hundreds of people, the zealous rent collection by the treasurer of the water committee in relation to the governance of the borehole, the historical exclusion of Zambians from free-hold tenure and political participation, and future management of the water resource (inter- and well as intra-generational sustainability). Strategic gender issues relate to the governance systems which regulate water rights and community politics more generally, whereas pragmatic gender issues include the considerable labour burdens of coping with the bucket and wind lass. Second order scarcity is evident in the lack of effective leadership and governance over the water which in this case has already developed into a first order scarcity of water. Centrifugal water management strategies at macro level, compound the locally induced water scarcity in Chulu Ngoma, and many other areas in Zambia.

Extensive research by Syme, *et. al.*, (1999) analyses how first order scarcity increases community participation, cooperation, and equity if clear steps are taken to negate the second order scarcity. Empirical evidence from Zambia supports the notion of first order scarcity leading to eventual cooperation and at least micro-scale diminution of the second order scarcity. One example is of irrigation arrangements where upstream users get water in the afternoon and those down stream make use of the water in the morning. This particular situation occurred because there was insufficient water in the dry season. Neighbouring farmers had to negotiate among themselves on a friendly understanding. Initially the farmers would horde the water but now they know each one's livelihood depends on farming so they have to co-operate and make the best use of the water for their benefit as a group.

Conclusion

There is a theoretical argument that water rights are not human rights where people live on the margins of citizen hood (Manzo, 2003). There is empirical evidence that could support this argument, but also evidence demonstrating that communities actively stake claim to aspects of their legal human rights from the state by means of water permits. For a successful human right to water approach in Zambia, there would have to be considerable political advocacy, informing people of their legal rights and entitlements. People would then be more empowered to create strategies whereby they may achieve these rights. It is an approach that would take time in Zambia for a variety of reasons, because the legal customary rights of people are not well documented, especially the fact that water is associated with land tenure in customary systems. The advantage of the rights based approach to water is that it theoretically rules out exclusion from needed services according to the ability to pay and gender norms. This is crucial in ensuring the delivery of quality services to poorer people. One of the disadvantages is that a formal rights based approach precludes informal strategies, and therefore could further disadvantage people, particularly women, in the short term.

Water rights in Zambia are linked to the right of occupancy or title to the land where the water body is located. This applies to surface water and ground water even though the latter is not well documented. Ground water is to be included in the revised water act. At the moment formal water rights are granted to all applicants as Zambia has abundant water resources. Localised conflict for different water users may exist but can be resolved at the local level or through the Water Board.

There is a danger that the national water policy framework, legal framework and institutional framework will focus on the urban water sector and provision of water rights to the more affluent Zambian communities. So-called grassroots institutions and norms are excluded from policy formulation. At the grassroots level most Zambians see water in terms of survival and a basic human right which is not the view at national level, or legislatively speaking. At national level the drive is to maximise the economic potential of water resources. In effect, the legal pluralism debate is part of the wider debate on governance and government. Human rights are currently impossible to legislate within systems of governance regardless of scale (i.e. from the World Bank to a small fishing or agricultural community). Despite the fact that actual human rights *may be* more effectively realised and promoted within certain governance systems, this is no guarantee that such rights *actually are*, or that they will *continue to be* in an ever more globalising – or fragmenting - world. Human rights can be legally upheld by democratic governments, assuming that democracy is defined as a process, or means to an end, rather than an object, or end in itself. Democratic government arbitration of a variety of governance regimes is proven to further promote legal and actual human rights to water (Wolf, 1998; Syme, *et. al.*, 1999). There may be potential for NEPAD to partially facilitate a coalescence of fragmented water management in Zambia in the future. The dynamics of macro level governance regimes,

for example structural adjustment, and corollary actors such as ‘apolitical’ international NGOs that are able to override democratic government tend to erode legal and actual human rights and hinder the evolution of pluralist frameworks.

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Notes

1. The General Comment on the right to water was adopted by the UN Covenant on Economic Social and Cultural Rights in 2002, so the 145 countries which ratified the Covenant agree that “the human right to water entitles everyone to sufficient, affordable, physically accessible, safe and acceptable water for personal and domestic uses” and are required to develop mechanisms to ensure that this goal is realised (Rijsberman, 2004). However, productive uses of water are not always meaningfully separated from domestic use, specifically in terms of subsistence agriculture (Moriarty, et. al., 2004) Water as a human right is implicit within the 1948 Declaration of Human Rights (non-binding), 1966 International Covenant on Economic, Social and Cultural Rights, 1966 Covenant on Civil and Political Rights, the 1986 Declaration on the Right to Development Under Article 10 of the UN Convention on the Law on Non-Navigational Uses of International Watercourses, basic human need should always be given priority in the event of any conflict (Gleick, 1998).
2. For example, Zambia is signatory to the United Nations Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the SADC Gender and Development Declaration (1997) and the Beijing Declaration (1995) (Machina, 2002).