

# Human Development Report 2006

Human Development Report Office  
OCCASIONAL PAPER

## Water and human development: capabilities, entitlements and power

Lyla Mehta

2006/9

# **Water and human development: capabilities, entitlements and power**

Lyla Mehta<sup>1</sup>

Institute of Development Studies  
University of Sussex

(Background paper for the 2006 Human Development Report  
'Beyond Scarcity: Power, poverty and the global water crisis')

## **1. Introduction**

Water and sanitation are key aspects of human development. For poor people, access to water and sanitation is a pre-requisite to achieving a minimum standard of health and to undertake productive activities. Moreover, water plays a key role enhancing agricultural and industrial productivity. Human freedom and access to water and sanitation go hand in hand. Without adequate, safe and affordable water and sanitation, billions of people around the globe are unable to lead healthy lives and lack the ability to build secure livelihoods. Women are denied their self-respect and dignity without sanitation and the lives of thousands of babies are dramatically cut short daily due to water-borne diseases and poor hygiene and sanitation. Poor women and men are also denied access to water and sanitation, either because it is too expensive or because they are excluded from the gains of large infrastructure projects such as dams and irrigation schemes. Finally, for many people, the basic choices regarding water and sanitation provision and the ability to participate in decision-making processes are simply not available, and consequently they lack the basic capabilities required for human functioning and flourishing in the realms of water and sanitation.

Human development is interested not just in economic growth, but in expanding human capabilities and in human choice (Anand and Sen, 2000). The concept of human development must take its inspiration, in part, from Aristotle. Aristotle was one of the first defenders of the human good, or human flourishing. In his *Nicomachean Ethics* Aristotle saw wealth which is often sought after, just as the means for providing the necessities of life such as food, health and so on (Nussbaum 1987). The end, for him was happiness, self-fulfilment and self-realisation which led to human flourishing. The Aristotelian notion of the human good links necessity to "first ascertain the function of man" and subsequently explores "life in the sense of activity." (see Sen 1999: 73 and Nussbaum 1987). Water and sanitation can thus be

---

Acknowledgements: This paper was written as a background paper for the 2006 Human Development Report. I am very grateful to Synne Movik for her stimulating advice, useful literature leads and overall help with the writing of this paper. The background papers prepared by her on gender and South Africa accompany this paper. I also thank Kevin Watkins for the interesting discussions and Petra Bongartz for her help with references. The reflections on scarcity emerged in the course of research for an ESRC funded project titled "Science, technology and water scarcity. Investigating the 'solutions' (RES-151-25-0021). Much of the paper was written during a fellowship at the Department of International Environment and Development Studies, Noragric at the Norwegian University of Life Sciences, Aas, Norway. I am grateful to my colleagues there for providing me with such an enabling and peaceful environment to make this and other work possible.

seen to be the most basic necessities, to enable the functioning of people and to allow human activity to flourish.<sup>2</sup>

Aristotle's mentor, Plato, illuminated the paradox of the value of water and diamonds. Plato in his *Euthydemus* 304B stated that "only what is rare is valuable, and water, which is the best of all things . . . is also the cheapest (cited in Toye 2005: 1). Thus, those goods that were rare were useless (like diamonds). By contrast, water was seen to be abundant and useful. Today, however, very few people would consider water to be abundant. In recent years, there has been much talk about the growing water crisis due to its scarcity. Currently about one billion people lack access to safe and affordable water and it is estimated that 2.7 billion people will face water scarcity by 2025 (UN 2003). Similarly, 2.4 billion people are denied access to sanitation and it is one of the silent and invisible aspects of development that until recently did not get the attention it deserved. Furthermore, water is the new liquid gold of the 21<sup>st</sup> century with increasing controversies concerning its commodification and privatisation.

This paper seeks to spell out a human development approach to water. (Sanitation is the topic of other background paper and requires special treatment, hence it is not the focus of this paper). This means moving away from aggregate understandings of the water problematique to instead explore how capabilities around water can be enhanced. This entails addressing two challenges: (1) advancing a human development approach to view the water crisis and water scarcity and (2) exploring how entitlements to water can be enhanced, by drawing in part on Amartya Sen's entitlements framework.

Beginning with sections on the unique nature of water and non-conventional ways to look at the water/ wellbeing nexus, the paper highlights how the multifaceted aspects of water are often neglected in official policy debates. The paper then looks at a human development approach to water scarcity and asks what entitlements and capabilities would mean with respect to water. Efforts are made to explore the entitlements framework for both water as a basic need/ right and for the wider and more productive uses of water. The paper demonstrates that the framework, developed for food, cannot be applied effortlessly to water. This is because water is not a classic commodity (like food) but is a fluid resource with multifaceted dimensions.

Finally, the paper argues that despite some limitations in the applicability of the EA to water, it remains a powerful tool to enhance equity considerations. This is because even though water policy rhetoric may be about rights and equity; in practice markets and efficiency considerations persist which may not have the interests of the marginalised upfront. Thus a human development approach to water is highly necessary that focuses on the 'good' and human freedoms of all. For this to work,

---

<sup>2</sup> Adam Smith, too, was concerned with necessity as the "ability to appear in public without shame" (quoted in Sen, 1999: 73). Thus he goes beyond income and 'necessity' is seen to encompass as Sen would say, the freedom to participate in the life of a community without shame. Thus the focus is not just on the commodities, but instead on the freedoms generated by them (ibid: 74). Here too the links with water and sanitation are obvious. Only through access to sufficient, safe and affordable water and sanitation, are individuals free of disease, clean, liberated from the time otherwise spent in water collection, and thus able to participate in the life of the community.

official policies and institutional arrangements must be accompanied by strong state commitments towards redistribution as well as accountability mechanisms when poor people's basic rights are violated.

### **The unique nature of water**

Water is a multifaceted resource. It is unique as a natural resource in that its state is variable across time and space (see Mehta 2003). It fluctuates in availability and is not easily controlled, and it cannot be produced in the truest sense of the word.

It has different faces and meanings in the everyday contexts within which people live their lives. It can be simultaneously perceived as a free, social, economic, cultural or symbolic resource. People across the globe value water for both its non-economic and economic roles. In addition, water has deep cultural, symbolic and spiritual significance in many cultures ranging from the holy significance of the Rivers Ganga and Narmada in Indian cosmology to the role of the Balinese water temples in irrigation management in Indonesia.<sup>3</sup> Official water resources management discourses (such as those endorsed in the 1992 Dublin principles) tend to focus on the material values of water. But merely viewing water through an economic lens can undermine its embeddedness in the everyday symbolic, cultural and social contexts within which people live their lives. In doing so, water is robbed of its multifaceted meanings. Similarly, access to water in everyday contexts is highly differentiated, usually shaped by power and politics. It is mediated through institutions, social relations, property rights, identity and culture (Mosse 2003; Cleaver 2000; Mehta 2003). Water has symbolic as well as material dimensions, and is subjected to contests rooted in relations of power both at the discursive and material realms (Bruns and Meinzen-Dick 1999; Nyerges 1997, Mosse 1997, Cleaver 2000; and Mehta 2005). Thus water does not lend itself easily to frameworks developed for classic commodities such as food.

Water has the characteristics of an impure public or common good, but even here as I've argued elsewhere (see Mehta 2003), the idealised notion of the impure public good may be difficult for water. Public goods are defined as those that provide benefits not confined to a single individual and, once provided, many can enjoy them for free. In other words, public goods in their pure form are non-rivalrous and non-excludable in consumption. A good example is national defence. By contrast, the oceans provide benefits to aquatic and human life, usually for free. But the overuse and abuse of the ocean by one group, through say the release of effluents in place X, will lead to the depletion of fish stocks and pollution in place Y, undermining people's capacity to benefit from it. Thus, the ocean in this case, is rival in consumption. Similarly, rivers and waterways are also rivalrous in consumption in that over-use or pollution will undermine their potential benefits. Following the conventional notion of public goods, water is usually seen as an impure public good, or a common pool resource that is non-excludable yet rival in consumption.

Indeed, a vast body of work has documented how people collectively act and employ various institutional arrangements in managing their water supplies, often under conditions of water scarcity (see Coward 1985; Uphoff 1992; Wade 1988). This work

---

<sup>3</sup> Specifically see Mehta and Punja (Forthcoming) and Lansing (1987) for a discussion of the symbolic and cultural value of water.

has also analysed the factors enhancing collective action in irrigation systems and the conditions under which local institutions are employed to manage local water resources (see Berkes 1989, Bromley and Cernea 1989, Ostrom 1990). All these studies explicitly or implicitly draw on the notion of water as a common property resource. But what is it that constitutes the commons?

A growing body of work that could be termed post-institutionalism is pointing to the limitations of some of these collective action approaches in water (e.g. Mosse 1997, Mehta 2005, Cleaver 2000, Potanski and Adams 1998). Anthropological and sociological studies have highlighted need to understanding the complexity of local institutions managing water and the need to locate water management within wider processes concerning history, culture and society. Criticism is also levied toward the use of ahistorical and apolitical understandings of local collective action arrangements and communities. They have demonstrated that conventional understandings of water use tend to obscure questions concerning social differentiation in water resources management and the power relations that shape water use, even at the 'community' level. Thus natural resources management in local contexts can be conflict-ridden, exclusive and characterised by competing knowledge claims (Mehta, Leach and Scoones 2001). Empirical research has shown that members of a society have very different forms of access to and control over land and water resources. For example, in the village 'Merka', where I conducted detailed research on water scarcity, common property resources are a highly contested terrain. Their use is determined by factors such as feudal legacies, gender, class, caste, and power relations (Mehta 2001). In such a situation it is impossible to speak of water as common good, because there is no common or 'collective' community. People see water as an issue over which they compete and get divided. Thus, there is an urgent need to unpack the notion of water 'users' – usually disparate groups with diverse institutional and social positions.

Thus the standard definitions of water (either as a common/ public good or as an economic good) are both too abstract and formal to capture real-life ambiguities in the diverse water-worlds that people draw on to survive and sustain their livelihoods. For one, they do not highlight the competing notions of different actors and the multiple meanings embodied simultaneously in the resource. Two, the factors that mediate or hinder access to water are not made explicit. For example, access to groundwater is usually inalienably linked to land rights. Thus the landless may well benefit significantly less from groundwater schemes than the landed, both in terms of drinking water access and for irrigation purposes. Finally, one must not neglect the role of preferences, power relations and knowledge asymmetries. But they are often key factors in determining how goods are delivered and accessed. Thus it is important to distinguish between water as a resource (natural, social, economic) and issues concerning how water will be accessed and delivered. Moreover, due to the fluid nature of water, water rights are usually competing and overlapping and entail a mixture of formal and informal arrangements (Meinzen-Dick and Bruns 1999). Thus claims around entitlements will always be very contested.

As I have also argued elsewhere, sadly global debates concerning water scarcity and the access of the poor to water have tended to draw on rather vague political,

economic or theoretical assumptions about water as both a ‘commodity’ and a ‘common good’ rather than on empirically grounded facts and realities (Mehta 2000). Many of the claims in global discourses concerning water tend to, at best, be normative, rhetorical and speculative and, at worst, be apolitical and divorced from socio-political realities. They often ignore and negate these unique and multiple aspects of water. These become apparent when we look at issues concerning water scarcity and wellbeing.

### **A human development approach to water scarcity**

Water scarcity has emerged as one of the most pressing problems in the 21<sup>st</sup> century. Against a growing alarmism of ‘water wars’, several global agencies, national governments and NGOs have been concerned with emerging water ‘crises’ and the causality and solutions around water scarcity (e.g. DFID 2000; UN 2003; FAO 2003). International meetings around water are regular occurrences. Still, there is no clear consensus regarding the optimal water management strategies regarding how to mitigate scarcity or how to enhance access of the world’s poor to water.

Largely, the terms water ‘crisis’, water shortage, scarcity and stress are used very loosely in global water debates. While there is an attempt to pay cognisance to regional variations, most of them lack a clear statement on how they understand scarcity and the global water crisis, on the basis of all the knowledge gathered. Examples include the UN’s World Water Development Report (2003) and the Millennium Project’s task force report on water (2005), both very comprehensive global assessments to date on water.

Most of the literature looks at either the finite nature of global water supplies (e.g. Shiklomanov 1998) or classifies countries according to a ‘water stress index’ on the basis of their annual water resources and population (see Falkenmark and Widstrand 1992) or creates water scarcity scenarios for groupings of countries or regions based on projections of future water demands and needs (e.g. Seckler et al 1998; WRI 2003; Rosegrant et al 2002). While there is some acknowledgement of the differences between water shortages - which refer to physical amounts - and water scarcity - (which could be a social construct or the result of affluence, lifestyle choices and expectations – (see for example Winpenny in FAO, n.d.), largely most of the literature focuses on volumetric and physical measures.

More nuances are provided by a political science and international relations literature that teases out differences in the ‘orders’ of scarcity ranging from physical (first order scarcity) to second order or socio-economic scarcity (referring to the lack of ability to adapt to the problem of physical scarcity) to third order scarcity that refers to the socio-political, technological and cultural changes that a society must undertake to deal with scarcity (see for example, Wolfe and Brooks 2003; Ohlsson and Turton 2000; Allan 1998). But even these debates fail to distinguish adequately between the socially constructed and biophysical aspects of scarcity. They also lack a focus on how the ‘problem’ of scarcity is constructed and how a problematic framing might exacerbate scarcity conditions, on the need to disaggregate users and their entitlements and to look at the politics of distribution within a frame of political economy. Neither do they focus upfront on the social relations underlying resource use.

**Table 1 Diverse ways to view scarcity**

	<b>(1) Physical / first order scarcity</b>	<b>(2) Economic/ second order scarcity</b>	<b>(3) Third order scarcity/ adaptive capacity</b>	<b>(4) Scarcity arising through socio-political processes</b>
<b>Characteristics</b>	Volumetric quantities; Population growth ; Projection of future demand; industrial growth	Inadequate development of water infrastructure; Poor management and institutional arrangements;	Social, political and economic context of water management;	Scarcity as a product of discursive and socio-political processes; Entitlements failures
<b>Water management solution</b>	Enhancing supply through storage (e.g. small v/s large dams debate); Desalination; Extra basin transfer of water	Water reallocation through water markets; water reform; Technological fixes; pricing; Increasing efficiency	Social adaptive capacity through education, cultural change and lifestyle change	Deliberation; Decision making processes; Equity and reallocation
<b>Access solution</b>	MDGs Lifelines	Water as an economic good; pricing; privatisation ; Community management/ PPPs	Social adaptive capacity through education, cultural change and lifestyle change; decision making	Redistribution / enhancing equity; Instituting entitlements to water (e.g. human right to water)

There are several problems with these conventional global definitions that take physical (and finite) supplies as a starting point and competing demands/ claims on water due to agriculture/ industry/ domestic use: One, determining an available supply of water based purely on physical characteristics is fraught with difficulty. Water supplies are relative to exogenous factors such as rainfall, seasonal differences and agro-ecological considerations which mean that water is highly variable across time and space and defined by its locality, making notions of 'global' crises etc. rather misplaced. Two, demand projections are based on current use patterns and do not insist on major adjustments in reducing norms or enhancing equity. Three, global definitions also fail to distinguish adequately between the scarcity or limitedness of

water in the hydrological cycle and the scarcity of access of the poor for their drinking and survival needs (due to the lack of water, its poor quality or their exclusion due to the prevailing social and power relations). Even the notion of economic scarcity takes an aggregate view of the population lacking access to water, instead of breaking down groups by gender, caste, race etc. This confusion is usually found in popular portrayals of scarcity in the media where words like 'crisis' prevails. Finally, most of the mainstream portrayals see scarcity as a natural phenomenon, and not something that is either exacerbated or even caused as a result of socio-political processes.

Table 1 provides a summary of a typology to analyse and understand different portrayals of water scarcity (building on Wolfe and Brooks 2003). It distinguishes between four kinds of scarcity (physical, economic, third order and socially constructed scarcity). Under each, the table provides the main characteristics, the disciplinary underpinnings and the accompanying solutions. Largely, global agencies draw on physical and economic characteristics of scarcity which focuses on the relationship between supply and demand (1 and 2).

If the cause of scarcity is constructed as a lack of supply or an excess of demand in order to equalise the imbalance either an increase in water availability (a supply-side response) or more efficient use of the available resource (a demand-side response) is required. Supply-side responses seek to increase the availability of water (e.g. inter-basin transfer through pumping and pipe systems, the building of dams, desalination or even 'low-tech' solutions such as rainwater harvesting). By contrast, demand-side responses critique supply-oriented ones for their 'inefficiency', loss and wastage and focus instead on regulation, pricing, reallocation and privatisation or public private partnerships. The spread of these approaches in the developing world is certainly due to the influence of the international finance institutions such as the World Bank who since the 1990s have introduced water and land reform as part of structural adjustment and conditionalities packages which is also reflected in the 1992 Dublin declaration of water as an economic good. Hence, water legislation has increasingly included the institution of formal tradable rights to water, in order to facilitate the emergence of water markets that, according to theory, will enable water to flow to its most valuable use. The fact that water markets are not widespread reflects the high transaction costs involved in terms of infrastructure and information associated with tradable water rights (Carruthers and Morrison 1996). The simple logic of tradable licenses is that, given the appropriate institutional setting, licenses would be traded in favour of the most-valued use, thereby enhancing the economic efficiency of water resource use (Rosegrant and Binswanger 1994; Thobani 1995; Easter, Rosegrant et al. 1999; Mariño and Kemper 1999). However, as Hanley and Atkinson (2003) and numerous other authors note, it is notoriously difficult to put a less-than-arbitrary value on complex natural resources such as water.

Similarly, due to efficiency concerns, state water enterprises have been privatised. Barring a few positive examples, a large literature suggests that the involvement of the private sector (especially large utility companies) can compromise the welfare of the poor (see Mehta 2004). The changes introduced by the private sector are more likely to be in the interest of profit rather than social development, since there is can be an inherent conflict between many actors in capital markets (who are looking for quick returns) and the need for long-term investment to improve water services in developing countries. As Donnelly says 'markets are social institutions designed to



produce efficiency' (1999: 628). At times, though, markets can lead to compromising social and economic rights since markets 'can systematically deprive some individuals in order to achieve the collective benefits of efficiency' (Donnelly 1999: 628). Similarly, regulation that merely focuses on efficiency and growth, may not necessarily be committed to ensuring access to basic services or protecting access to services that prior to privatization had reached out to the poorest (Cook 2003; Minogue 2003). Take Buenos Aires. While marked improvements in the access to water services took place in the period 1993-1999, where the number of households connected to the water distribution network improved by 30 percent, the price of water increased by 11 percent from 1993 to 1999. While it is difficult to determine to what extent this increase in the price of water is a reflection of the real costs involved in service provision, Ugaz (2001) argues, on the basis of calculations of consumer surplus changes, that welfare losses have been incurred by the privatization of water services in Buenos Aires, and that these are affecting both rich and poor households.<sup>4</sup> Thus many of approaches continue to be highly controversial in the water realm.

Engineering and infrastructure play important roles in water resources management since increased access is in part linked with additional water infrastructure. Similarly, water markets may work favourably under certain conditions (for example, permits awarded to those without access to land and water in areas not characterised by huge power imbalances can enhance the equitable distribution of water). However, problems arise when solutions become merely concerned with the technical and economic aspects of scarcity. Because this assumes that scarcity is a 'biophysical' and universal condition which should be countered by 'wise management' practices. Instead, scarcity is a highly localised concept, subject to different interpretations by different actors, and also very much a political issue. Scarcity is as much about access as it is about seasonal changes and physical presence. But problematic notions of scarcity have been naturalised and universalised. For example, my research in water scarce Kutch in western India highlighted how water scarcity has been constructed differently by different social and political actors, often to meet political ends (Mehta 2005). I found that state discourses portray scarcity as natural (rather than human-induced) and universal (rather than something that is cyclical). These external 'essentialised' notions of scarcity generated by state discourse and state programmes are often quite different from local people's knowledge systems and livelihood strategies that allow them to adapt to the unpredictability and temporary scarcity of water. Thus the water 'crisis' in the region was certainly a crisis concerning access to and control over the resource and very much linked to prevailing power and social relations.

A human development approach to scarcity thus is interested in breaking down macro and aggregate understandings of scarcity. It would argue that scarcity regarding access to water is unacceptable in the 21<sup>st</sup> century. This is particularly so because scarcity is not 'natural' but generated through socio-political processes, through exclusion, biases, discrimination. For example, in India so-called lower caste women are still denied access to certain wells. In apartheid South Africa the inequalities based

---

<sup>4</sup> Please see Ugaz, C. (2001). A Public Goods Approach to Regulation of Utilities. Discussion Paper No. 2001/9, United Nations University, World Institute for Development Economics Research, Helsinki.

on discriminatory policies were huge. Consequently around 80% of the poor in rural areas had no access to water or sanitation in 1994 with the birth of the new South Africa (see Movik 2006 for details). Water privatisation has also created new inequalities and scarcities in South Africa (see below and Movik 2006).

A human development to scarcity would also draw on Amartya Sen's work. His entitlements analysis when applied to water would indicate that some people's lack of water does not necessarily imply that water is scarce. Instead, it means that certain parts of the population are unable to gain access to water for one reason or another, be it that water is too highly priced, due to the lack of infrastructure, or due to social exclusion (Sen 1981). Just like how Sen argued that the fixation with the per capita food availability decline (FAD) is a misleading way to look at hunger and famine, since hunger is more about people not having enough to eat as opposed to there not being enough food to eat (Sen 1984). The entitlements framework also allows us to hone in on the inequality in access to water supply. Sen sees entitlements as the 'the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces' (Sen 1983: 754). Here, including access to water as a right – and as an opportunity – in the entitlements increases the conversion value of those entitlements into capabilities. Perhaps the term 'commodity bundle' is an unhappy one in this respect, and one should rather use the term 'resource bundle' to avoid confounding water as a resource and as a commodity. Nevertheless, it urges moving away from viewing water as an indicator of wellbeing to regarding it as a component of a resource bundle that facilitates the creation of a range of capabilities which in turn determine people's ability to function. Thus famines/ or for that matter water shortages are entitlement failures. Endowments, by contrast, refer to things that people have acquired such as land, labour, knowledge, rights. Endowments, combined with institutional arrangements, determine people's entitlements which in turn address the functionings that people can achieve.

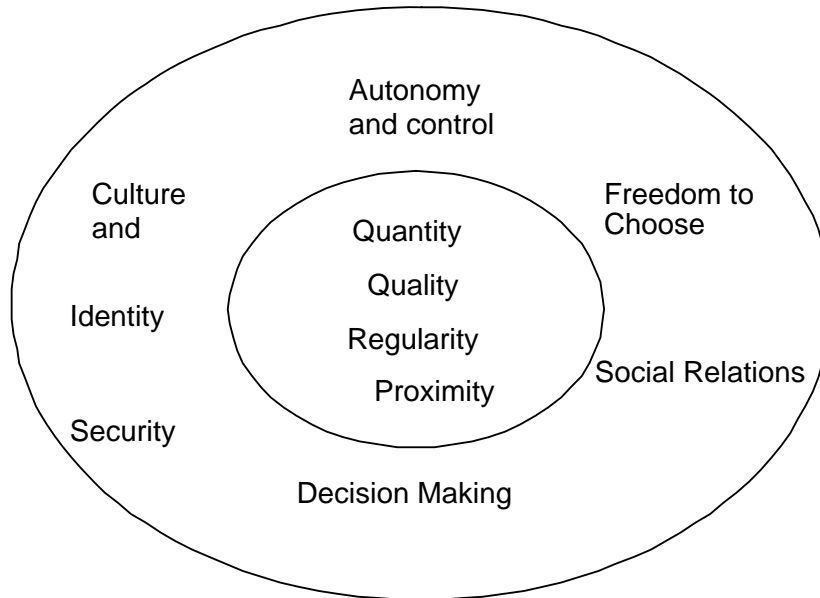
P B Anand has applied Sen's entitlements framework to look at water scarcity in Chennai. He is interested in whether some people suffer from more water deprivation than others and what society can do about this. Further, the poor may be more vulnerable to health impacts of water supply problems than others (Anand : 2001, 2). Anand sees entitlements are useful to water supply because it moves away the conventional viewings concerning per capita water availability and the more physical notions of scarcity that were discussed earlier in this paper. A human development approach to water also raises challenges for how we conceptualise the water/wellbeing nexus to which I now turn.

### **Water and wellbeing**

Water is key for wellbeing as holistically defined by Sen (1999, 1993). For example, Sen argues that even though it is common to "use incomes and commodities as the material basis of our well-being...what use we can respectively make of a given level of income, depends crucially on a number of contingent circumstances, both personal and social." (1999, 70). Hence, well-being is firmly anchored in a particular social and personal context. This is why Sen advocates- for evaluative purposes in particular- the "capability approach" as a means to measure well-being. This approach focuses on "substantive freedoms- the capabilities- to choose a life one has reason to value" (1999, 74, 1993, 1985). Thus at the heart of this approach one must look at the

freedoms that an individual can enjoy. Thus development, according to Sen is a process of expanding the real freedoms that people enjoy (1999, 3)

**Figure 1:- The Multidimensional Aspects of Water/ Well-being**



In this broader sense, well-being should increasingly be understood as a multidimensional phenomenon ranging from income to the public provision of goods and services, access to common property resources and other intangible dimensions such as clean air, water, dignity, self-respect and autonomy (Razavi 1999). Figure 1 highlights the multidimensional aspects of water and its relationship to well-being. The inner centre represents the more conventional ways of evaluating water and well-being due to the focus on aspects such as regular provision and adequate quality. The outer circle represents the more multidimensional aspects of water and well-being such as autonomy, links with identity and the freedom to choose. I focus on both representations of the water/well-being nexus in this paper to argue that it is necessary to focus on the broader capabilities approach if well-being is to be measured in a fair manner.

However, most water projects and schemes are measured according to the attributes in the inner circle. It is assumed that once water supply is provided by taps or tanker and is regular and close, the project is successful. Officials are often surprised when local people prefer water from untreated streams. I found in Gujarat India that women preferred the water from a distant river to the tap provided close by because the taste of the river water was better and women wanted the freedom to collect water when it suited them, not when the officials turned on the tap (Mehta and Punja Forthcoming). Similarly, local people may avoid government schemes when they have to pay for the water. Much has been made in the literature of households willingness to pay (WTP) for water (*cf.* Altaf *et al.*, 1992; Whittington *et al.*, 1992). It is estimated that the WTP is about one to ten per cent of the total household expenditure, usually about five per cent of the total consumption. Recent studies are challenging these assumptions. They

speak of linking willingness to pay to ability to pay (Reddy and Vandemoortele 1996, Ghosh and Nigam 1995). For example, in water-limited arid Rajasthan, Reddy (1999) has shown that WTP is much less than 5 per cent. Usually, WTP proponents tend to treat households as black boxes, ignoring the power dynamics within them, the naturalization of women's water-related tasks and the low opportunity costs attached to women's time. The recent problems in South Africa concerning disconnections from water sources due to household's ability to pay are a good case in point (see below and Movik 2006).

Wellbeing is also conceived in aggregate terms, usually represented through cost-benefit analyses. But recent work focusing in particular on the gendered dimensions of dams has argued that traditional cost-benefit analyses, which emerged to identify and measure the costs or profits emerging out of infrastructure projects such as dams, fail to capture intangible issues such as changes in socio-cultural identity, the loss of common property resources and geographical space, crucial for a community's well-being (Mehta and Srinivasan 1999). These issues cannot be captured in the conventional one-dimensional materialistic evaluative approaches that are commonly used. In my research amongst displaced people in India I found that as traditional riverbed communities move from river basins to settlements in plains, they experience dramatic changes in water quality and quantity. These have both tangible and intangible implications for their livelihood options, health, socio-cultural identity, daily routine and social relations. But bureaucrats and policy-makers focused on conventional understandings of water and well-being (represented by the inner core in figure 1), thus neglecting or even wilfully ignoring displaced people's subjective sense of ill-being (see the outer core in figure 1).

### **Water, entitlements and capabilities**

The preceding sections have highlighted that water is a unique resource and impure public good, with access that is highly problematic and contested. There is the need to move away from aggregate perspectives of scarcity and wellbeing around water. A human development approach to water/wellbeing and water scarcity would thus seek to make the worse off better and also enhance equity considerations. Extreme inequality in life chances and bearing shapes peoples opportunities of what they can be, and what they can do, in sum their capabilities (Human Development Report 2005) Since entitlements translates into capabilities, a more equal distribution of entitlements would potentially lead to greater capabilities, i. e. granting people better opportunities of realising their potential and increasing their personal freedoms. Does the entitlements framework help advance a human development approach to water? I begin by examining theoretical debates, in particular those of Sen, before moving to see how this would look in practice.

Many thinkers have been concerned with enhancing the wellbeing of the poorest. When translated to water, this would mean examining how equity to water resources for both basic human functioning and for productive purposes could be enhanced. For purposes of clarity, I separate the discussion on water for basic human need (or water as a human right) and water for productive purposes (for livelihoods and productivity) beginning with water as a human right. For example, Rawls focuses on 'primary goods' which refers to the resources that people need no matter what. This refers to both income, but also 'general purpose means' that help anyone to promote his or her

ends, and include “rights, liberties and opportunities, income and wealth, and the social bases of self-respect” (quoted in Sen 1999: 72). For Rawls, there are different individual “conceptions of the good” and primary goods refer to the individual advantage in terms of opportunities to pursue their own objectives.

Rawls focuses on the poorest groups, and how the poorest groups can be made better off. In fact, Rawls two main principles, the ‘veil of ignorance’ and the difference principle, may be said to fit well with a principle of a basic entitlement to water, in that all persons irrespective of their standing, under a veil of ignorance, would likely agree to some minimum set of basic amount of basic necessities. With respect to the second principle – the difference principle, or the ‘maximin principle’ - it focuses on equality, stating that any gap between the poor and the non-poor in terms of wealth and income can only be justified if and only if that gap serves the greatest benefit of the least advantaged, *and* is associated with positions open to all, i. e. conditions of fair equality of opportunity (Rawls 1991 and 1999). In terms of water, this could e.g. take the form that the greater consumption of water by some people – for example for irrigation is justified if that consumption generates proportionate employment and therefore income for the least advantaged, *but* under the condition that the least advantaged would have had the same opportunity of accessing that water. The principle would only hold, therefore, if given the choice between water-generated employment and taking up water use for own productive means, the least advantaged people would prefer the former.

Amartya Sen’s work is concerned with how to ensure the access of all to an initial basic amount of resources to ensure their survival and well-being and for a necessary level of functioning. To avoid a scramble for perceived scarce resources that involves the trampling of the poor and not-so-well-off, a framework is needed whereby all individuals that make up a population are guaranteed a modicum of well-being by ensuring their access to a basic level of resources. Such a framework is provided by Sen’s entitlements approach. As discussed, ‘entitlement’ refers not to rights in a normative sense (what people *should* have), but rather to the range of possibilities that people *can* have. Here the links to Aristotle’s notions of the human good or necessities to ascertain the function of man and explores ‘life in the sense of activity’ (Sen.1999: 73) as outlined earlier in the paper are obvious.

Rather than focussing on the means of achieving the ‘good’, Sen prefers to look at the “*actual living* that people manage to achieve” (Sen 1999: 73) or the “*freedom* to achieve actual livings that one can have reason to value”, which is what the human development movement is all about, by its focus on the actual lives lived by a range of people, especially the poor and marginalized. It would not be unfair to characterise the water sector as largely moulded by utilitarian thinking that focus on aggregate benefits. A range of authors (e.g. Iyer 2003; Roy 1999) have demonstrated how notions of the ‘greater common good’ and ‘national purpose’ have justified most water projects, neglecting thus the uneven spread of pains and benefits. This adherence to aggregate models, however, is inimical to the human development approach or Amartya Sen’s philosophy. This is because growth or in this case, the extent of water development is an inadequate indicator of the quality of life because it does not tell us how deprived people are doing (Nussbaum 2003). Concrete examples of such thinking include the justification of forced displacement due to large dams where millions are expected to make sacrifices in the interest of ‘national purpose’ or

market ‘efficiency’ arguments that justify privatisation schemes that often can compromise social and economic rights (e.g. Social Watch 2003).

Amartya Sen’s capability approach is a critique of the largely utilitarian strand of thinking in welfare economics and welfarist approaches more generally (for example, Bentham’s focus on the ‘greatest happiness for the greatest number’ which provides the philosophical basis for many large water infrastructure projects). Capabilities also allows for accommodating the diversity of human experiences and situations (for example, across both developing and industrialised country and rural/urban contexts as well as at the interpersonal level). Finally, they allow for multidimensional understandings of poverty, inequality, wellbeing, development and freedom. Capabilities thus refer to substantive freedoms, or the ability to choose the life one has reasons to value. Here the focus goes beyond primary goods that an individual holds a la Rawls to focus on the characteristics that govern the conversion of commodities “into the person’s ability to promote her ends” (Sen 1999: 75).<sup>5</sup>

Sen also talks about basic capabilities.<sup>6</sup> They are a subset of all capabilities and encompass the freedom to do ‘basic’ things. As Sen says, basic capabilities help in ‘deciding on a cut-off point for the purpose of assessing poverty and deprivation’ (Sen 1987: 109).<sup>7</sup> It provides a kind of threshold or the minimum standard required for basic functioning and is useful for poverty / wellbeing analysis. When translated to water, this would mean that a basic amount of water is required for basic human functioning (drinking, washing and to be free of disease). Of course, as I explain later, even what constitutes a ‘basic water requirement’ is by no means resolved or uncontroversial in the water sector.

Robeyns (2000) builds on the idea of basic capabilities to present the idea of fundamental capabilities which refer to the ‘deeper, foundational, more abstract, aggregated (not over persons but over different capabilities in one person). Thus the fundamental capability of health is made up by both basic health capabilities (having access to food and water) and non-basic capabilities (e.g. having access to a gym and being able to have a massage). In the water realm, basic capabilities would include having the right to access a minimum amount of water required to survive (whether this would extend beyond the domestic realm to capture water for livelihood purposes is contested). By contrast, non basic capabilities would mean having enough to water one’s lawn or to grow commercial crops.

The capabilities approach has been critiqued for being too individualist (as opposed to seeing individuals as part of their social environment and as socially embedded actors..) which would chime well with anthropological scholars who highlight how access to water is dependent on wider social networks and kinship ties and how water

---

<sup>5</sup> For Sen, functioning is an achievement; capability is the ability to achieve... Functionings refer more directly to living conditions. By contrast capabilities refer to the opportunities one has regarding the life one may lead (Sen 1987).

<sup>6</sup> Martha Nussbaum’s use of basic capabilities however is quite different.. for her ‘basic’ refers to natural or innate characteristics of all human beings (e.g. the capability for speech, love, practical reason and so on (see Robeyns, 2000: 9).

<sup>7</sup> Sen also includes basic rights to political freedoms in basic capabilities (e.g. political and civil rights play a major role in whether or not an individual has enough food to eat).

management practices need to be viewed as embedded in wider social relations (e.g. Cleaver 2000; Mosse 2000 and Mehta 2005). For example, Cleaver (2000) argues that 'water management' is often wrongly regarded as a separate realm. Instead, it is a part of people's everyday doings and practices, which in turn are shaped by their roles and functioning within their community. Hence, targeting individuals' capabilities could miss the larger picture of a community's capability which is more than the sum of its parts. However, Robeyns (2000) argues that it does account for social relations and the how institutions and social relations both enable and constrain individuals. I now turn to how translating the capability approach would mean in concrete terms.

Sen neither provides specification regarding priority, quantity or implements regarding capabilities. In his capabilities approach the focus is not on the quantity of the bundles of entitlements but instead on the principle of equality and capability to do and to be. When translated to water, the absolute quantity involved would differ according to age, gender, religion, occupation and so on. But the principle of sufficient water for the achievement of a minimum capability would remain the same. It is unclear whether this minimum requirement of water should or should not be extended to water for 'production' (see South African debates below..) and should not be used by governments as an excuse to stay away from improving water services. But seeing water within the capability framework would call for strong state intervention and responsibility in the access to water as a human right and would constitute a key element of citizenship.

Sen's reluctance to make comments about substance (for example, which capabilities a society ought to pursue and to what level) has been criticised by Nussbaum (2003). She thus has come up the Central Human Capabilities List which is to be considered a cross-cultural evaluation tool free from any cultural biases (ibid). Water is not explicitly mentioned by her but would probably feature at the top end of the list, namely under (1) Life or (2) Bodily Health (Nussbaum 2003: 12). For Nussbaum, even though the body may be culturally influenced, some human physiological attributes are completely universal. These include hunger, thirst etc. For Nussbaum the basic bodily requirements cannot vary between different races and cultures (1987: 27). I would however question whether it is easy to have a universal cross-cultural evaluation tool around water requirements. As I discuss shortly, evidence from the water sector in setting up standards around what constitutes a 'basic water requirement' vary greater by country and by institution. The threshold level of what counts as 'hygienic' or 'safe' is also highly culturally determined. Thus, Nussbaum's list can be critiqued for not recognising collective or culturally specific issues (for example, around sanitation, hygiene etc. or specific understandings of what constitutes the 'good'). Moreover, the claimed "political nature" of the list would not require its universal enforceability, but rather a mere, formal recognition of its abstract validity. This could mean that there is a lot of scope for individuals' and groups' free choice not to respect it in practice. Finally, capability list can also be critiqued for being top-down and insensitive to culturally specific contexts. It also remains open, who would implement this in practice. Several other practical issues also remain unanswered which I now turn to in concrete by examining the base of the human right to water.

## **The case of the human right to water**

Rights provide teeth to needs-based approaches. They also provide elements of justiciability. There is an entitlement to them that the former lack. As Goldewijk and Gaay Forman describe, ‘a rights-based approach to social and economic security implies that people’s access to basic needs is protected by law and legal mechanisms’ This is why it is often argued that water and sanitation are not just basic needs but fundamental human rights based on the criteria established in international declarations that protect the right to livelihood and well-being.<sup>8</sup> Curiously enough, the right to water was only implicitly endorsed in the 1948 Universal Declaration of Human Rights (UNDHR), although it is explicitly mentioned in the Convention of the Rights of the Child (1989). It was only on 27 November 2002 that the United Nations Committee on Economic, Social and Cultural Rights adopted the General Comment on the right to water. General Comment No. 15 applies an authoritative interpretation of the ‘International Covenant on Economic, Social and Cultural Rights, 1966 (ICESCR), ratified by 148 states. The Comment, a non-legally binding document, stated explicitly that the right to water is a human right and that responsibility for the provision of sufficient, safe, affordable water to everyone, without discrimination, rests with the state. Thus states are clearly responsible for progressively realising the right to water.

Still, current orthodoxies in the water domain tend to focus on the need to view water as an economic good, and there is a marked lack of official endorsement of the human right to water. The underlying assumption in most discourses – especially those originating in donor countries – is that there is a congruity between viewing water as a right and as an economic good. Usually economic efficiency arguments and rights-based arguments are mentioned in the same breath (see for example, Nigam and Rasheed 1998: 3–7). It is argued that even if something is a right, there is no denying the need to pay for it, as with food.

Moreover, there is a problematic distinction between civil and political rights on the one hand, and economic and social rights on the other, tends to persist. In part, this has to do with historical reasons stemming from the Cold War period, when, for ideological reasons, Western nations focused largely on civil and political rights. Consequently, social and economic rights continue to be viewed as ‘second generation’ rights. It is also telling that the International Covenant on Economic, Social and Cultural Rights (ICESCR) uses much weaker language than the International Covenant on Civil and Political Rights (ICCPR). It calls on states to take measures towards the progressive achievement of social and economic rights. This could suggest that there is an ascendance in the realization of rights; that is, some are realized more gradually than others, thus weakening the imperative to see some as rights. It also has fewer signatories than the ICCPR, and the USA has not endorsed

---

<sup>8</sup> The Centre on Housing Rights and Evictions (COHRE) in Geneva, which has done extensive research on the right to water, clearly lays down the legal basis for the right to water (COHRE 2004). At the 1977 United National Water Conference, the Mar del Plata Declaration recognised that all peoples ‘have the right to have access to drinking water in quantities and of a quality equal to their basic needs.’ It has subsequently been recognised explicitly in several legally binding treaties, e.g. the Convention on the Elimination of all Forms of Discrimination Against Women, 1979 (CEDAW); the Convention on the Rights of the Child, 1989 and more recently in the General Comment 15.



this covenant. Neo-liberal traditions have traditionally viewed negative civil or political rights as core to understanding, what for example constitutes citizenship and have been reluctant to award the same widespread attention to social and economic rights (Plant 1998, p. 57). This is because social and economic rights have strong links to social justice and imply moving away from the neo-liberal notion that a person's socio-economic status is determined by the market (ibid, p. 58). But in the Twentieth Century citizenship has increasingly been seen to encompass social and economic rights. In fact as Plant (1998) argues, the distinction between negative and positive rights is highly problematic since both involve state intervention and commitments for their safeguard. Apart from the fact that both require strong commitments, their deprivation is also experienced in an interconnected way. For example, forced evictions due to the construction of large dams affect displaced people's right to livelihoods, water and food (which are positive rights or freedoms) but also their right to protest and be free from state-sponsored violence. A displaced person experiences all these rights violations in an interconnected way.

Shades of this distinction are also in Rawls's work. For example, Rawls emphasises the "priority of liberty". The focus is largely on various personal liberties, including basic political and civil rights. Sen however asks: 'Why should the status of intense economic needs, which can be matters of life and death, be lower than that of personal liberties?' (Sen, 1999, 64). Moreover, deprivation of the destitute and poor can occur even when people's libertarian rights are not being violated. This is because their entitlements do not give them enough of food, water and so on (Sen 1999: 66). Also deprivation can take place despite the existence of property and other liberal rights.

It must be noted that Sen focuses more on freedom rather than on realising rights. Freedom, overall, refers to everything that a person can or cannot achieve. The negative notion of freedom is akin to the liberal notion of negative rights ('interference' is seen as a violation of some libertarian rights). According to Sen (1991) negative freedoms refer to the part that others play in making a person unable to do something. Positive freedoms, by contrast, refer to the barriers within the person that prevent her from doing something (Sen 1991, 11). Sen acknowledges that in the traditional 'libertarian' literature, negative freedom has tended to receive most of the attention. But he thinks it is limiting to merely focus on the restraints to freedom as opposed to an individual's ability to choose the life she would like to lead. Thus overall freedom, according to Sen, concerns the whole set of alternative achievements from which a person is able to choose (1991, 16). Sen, however, fails to mention more recent discussions flagging the indivisibility of rights, his discussion centres more squarely on the distinction between negative and positive freedoms. In fact, authors such as Giri (2000) criticise Sen for positing a dualism between negative and positive freedom (2000: 1010).

Sen, like Nussbaum, argues that there are some advantages in talking about freedoms as opposed to rights. This is because freedom is a broader concept (1991, 14) and not restricted by the baggage that rights have. These include the suspicion that a 'post-legal, contingent concept is being used with pre-legal, universalist pretensions (ibid)'. While social and political arrangements give value and teeth to rights, 'they themselves require a foundational justification – one that can hardly be provided by the rights that emerge from those arrangements' (Sen, 1991, 14).

Nussbaum echoes this by highlighting the superiority of the capabilities framework over that of the human rights paradigm (Nussbaum 2003:4). In part, this is because capabilities can overcome the shortcomings of the rights discourse. These include: the feminist critique of being too western, male-centred and not addressing more bodily rights concerning reproduction; problems between rights talk and rights practice; the relationship between rights and duties/ responsibilities; tensions between individual and group rights and problems concerning the legal and institutional contexts within which rights are embedded (ibid). She argues that the capabilities approach overcomes these problems because rights can be secured within the context of capabilities. Thus, securing the rights of citizens in a particular area 'is to put them in a position of capability to function in that area. To the extent that rights are used in defining social justice, we should not grant that the society is just unless the capabilities have been effectively achieved' (Nussbaum, 2003: 7). The capability approach also moves away from the neo-liberal tradition of focussing largely on negative rights (for example, the US constitution as opposed to the Indian and South African constitution that also endorse positive rights). Finally, by focussing on what are and able to be and do, the capabilities approach can also enter into the 'private' realm that is often left out through the focus on formal rights (for example, violence and inequalities in the household). In sum, she argues that the capabilities approach can complement the rights language through reinforcing the fundamental entitlement of citizens to rights, especially in conjunction with a list of capabilities that are universal and seen to be the fundamental entitlements of all citizens based on justice (Nussbaum 2003: 9).

In the water domain, implementing an entitlements approach to water as a basic right has been fraught with difficulty. Basic water requirements have been suggested by various donor agencies and they range from 20 to 50 litres a day, regardless of culture, climate or technology. Vision 21 identifies an absolute minimum of 20 litres per capita per day, but recognises that considerations of levels of service, culture and distance between a water source and the user should qualify any estimate of minimum requirement. They point to the additional health benefits felt with house connections, which usually use a minimum of 40 litres per head per day. In addition Vision 21 identifies a basic requirement that each country promote a limited number of key hygiene practices (2000, p. 35). It also links the right to water with a broader vision of human development, poverty reduction and empowerment of the poor, in particular women (2000, pp 5-6, 13). The WHO prescribes between 20 – 100 litres a day (WHO 2003).

But there is still a lot of official reluctance to acknowledge the human right to water. At the World Water Forum meetings held every three years, there has been a lot of resistance to officially recognise this right. Western donors and bilateral and multilateral agencies are also resistant, possibly due to the resource transfer implications to meet this obligation on behalf of poor countries.<sup>9</sup>

---

<sup>9</sup> But this reluctance is short-sighted. A mere 1 percent off military budgets would easily match the additional US\$9–15 billion estimated by the Water Supply and Sanitation Collaborative Council for achieving the MDGs on water and sanitation through low cost technology and locally appropriate solutions. It is a lot of money but one cruise missile deployed in Iraq costs US\$2.5 million and this is what the US government spends on defense every 10 – 15 days (see Mehta 2004).

South Africa is a notable exception. Equity issues are upfront in South African water debates, in terms of access to water and sanitation as part of basic human rights; equity in access to water resources (regarding the productive uses of water) and equity in access to benefits from water resources. These are reflected in the National Water Act of 1998 which is a powerful piece of legislation that seeks to both redress past inequities around water use on the basis of race and gender and ‘efficiently’ manage water. Water is a national subject in South Africa, not surprisingly, given that prior to 1994 65% of the water was controlled by private individuals. South Africa is also one of the few countries that explicitly recognises the right to water, and its Free Basic Water policy provides 25 litres per capita per day based on a household size of eight people free to all citizens (for details, please see the Background Paper on South Africa). This completely goes against the grain of dominant global discourses that shy away from explicitly recognising the human right to water. Moreover, the concept of the Reserve in the White Paper on National Water Policy stipulates that a portion of water in the rivers will always be reserved to meet basic human needs and basic environmental needs.

Despite these promising policies on paper, implementing the right to water in South Africa has been fraught with difficulties. One, it is generally felt that the 25 litres per day per household is the bare minimum that a person needs. Trade union leaders and other advocates in South Africa argue that the South African State should grant everybody at least 50 litres of water per day per capita. This, they argue, is the only way in which poor farmers can successfully maintain their livelihoods and thus escape the trap of poverty and dependence on pension grants (Lance Veotee, interview, 15 April 2002).

Two, there have been several institutional constraints in its implementation. This is particularly true in poor areas and in the former homeland areas the country. These areas often lack infrastructure for water supply and there are huge backlogs with respect to water coverage. Here municipalities struggle to provide people with ‘basic’ water, let alone free water (Mehta 2006). Three, the financial mechanisms for funding the free basic water are often inadequate. Officially, the main source of funding for this initiative is the ‘Municipal Infrastructure Grant’ which is a conditional capital grant for the provision of infrastructure and the ‘Equitable Share Grant’, an unconditional grant from the central government to local authorities intended for operational expenditure. But in reality, much of the funding is supposed to come from cost recovery mechanisms.

Often people are unable to pay for water and have encountered disconnections. The remarkable commitment to providing free water, emanating mainly from the Reconstruction and Development Programme (RDP) - a policy aimed at redressing past inequities through socio-economic and institutional reform, (Narsiah 2002; Villa-Vicencio and Ngesi 2003), has to a certain extent been counteracted by the later policy of Growth, Employment and Redistribution (GEAR), a macroeconomic strategy owing much to the influence of the World Bank. GEAR emphasises liberalism and market forces, with a lesser role envisaged for the government (Villa-Vicencio and Ngesi 2003). This marked turn in government policy generated considerable controversy. In terms of water, the controversies relate to disconnections of water supply to poor households that contravene their basic rights as well as privatisation contracts with international firms that have led to water becoming very

expensive for many poor people. Thus, in dancing to the two tunes of markets and rights, equity considerations are being compromised.

According to an article from the Mail & Guardian, dated 21 February 2002, more than a 100 000 disconnections have occurred in Cape Town alone since 1999, and on the Cape Flats there have been riots over water supply disconnections. The Province of KwaZulu-Natal experienced an outbreak of cholera after the provincial government began charging 51 Rand per connection and subsequent provision charges for water that had previously been provided at no cost, with the consequence that rural residents began using river water as they couldn't afford to pay the water fees. In the Kanyamazane township, near Nelspruit, Mpumalanga, the British company Biwater and the local municipality struck a deal to provide water, the first deal of its kind in South Africa. Water rates rose from a flat rate of R7 per month to R300 per month after Biwater installed water metres in 2001, resulting in many poor households being cut off due to non-payment.

[http://www.actionaid.org/wps/content/documents/58\\_1\\_down\\_plughole\\_222006\\_145834.pdf](http://www.actionaid.org/wps/content/documents/58_1_down_plughole_222006_145834.pdf)

The South African case highlights how struggles over access to water are characterised by conflicts between market and rights-based frameworks. These imply distinct strategies of accountability. Accountability is usually seen as the means through which the less powerful can hold more powerful to account (Goetz and Jenkins 2004). There also need to be mechanisms that allow for enforceability and answerability. Traditionally, it is governments that are the most responsible for protecting and governing people's rights and lives, but there is an increasing need to hold private sector and global actors to account whose policies and programmes have a far-reaching impact on the rights and wellbeing of poor and vulnerable people. Diffuse and unclear rules of accountability to global players and non-state players are problematic when most human rights declarations largely focus on states as the primary duty-bearers to both deliver and protect rights.

This is particularly true due to the new challenges emerging due to economic globalisation. States are not merely enforcers of rights, but increasingly act as 'regulators' and facilitators of rights (INTRAC 2003). Unfortunately, the General Comment and other such instruments do not explicitly identify private actors as accountable and responsible. Ironically too, rights are denied at the 'behest of powers beyond the state itself' (INTRAC 2003:3). For example, IMF and World Bank policies oblige states to curtail basic services, impose charges, introduce water/ land reform/ market mechanisms that exclude large numbers of vulnerable people. In this sense, global pressures have led to the state assuming a schizophrenic role as both the enforcer and violator of rights. Only the state can properly regulate the behaviour of markets and ensure that economic actors operate in a fair and transparent manner and provide adequate social protection to those who suffer insecurity and a loss of rights (ICHRP 2004:60). But governments also become violators of rights by enforcing policies and programmes such as privatisation and structural adjustment that can erode people's rights. Protective provisions do exist. For example, under South Africa's *Water Service Act* no disconnections can take place due to inability to pay. But the onus of proving ability lies with the water user and will depend on the user's ability to access legal advice and representation, which is minimal in many communities (COHRE 2004:54). Thus, links between ordinary citizens and their

representatives in South Africa have become obscured through policy shifts towards GEAR and orthodox forms of neoliberal economic globalisation. This makes tracking processes of accountability difficult across these multiple scales. And similar examples abound all around the developing world.

This should not detract from the fact that the human right to water does and should matter. The right to water is internationally recognized by both developing and industrialized countries as defined in General Comment 15. It includes clearly defined and realizable obligations, and thus forms the basis of concrete negotiations between the state, the communities concerned, and civil society advocates. Moreover, the right to water in principle provides justiciable components to local claims and struggles around water and can also be used as a countervailing force against the commodification of water which can impinge on poor people's rights.

How does the EA help understand struggles around the right to water around the world? The EA provides that individuals should not be deprived. Both the capabilities and entitlements framework would contend that states must provide a minimum level of water. The actual amount of water in Amartya Sen's framework would be negotiable. The entitlements lens would also contend that cost recovery measures that compromise on basic human freedoms are not tenable. Still, ensuring a basic amount of water through a constitutionally enshrined right to water may not serve as a means to redistribute water in a society. Instead, it serves as a means to ensure that all citizens have the same standard. It also does nothing to check the abuse of water resources on the part of powerful actors. It does not specify contestations around water and its multiple meanings or uses. It does not specify the minimum level which is very controversial, in a country like South Africa reeling from apartheid legacies. Still, it remains a powerful tool to advance the HD approach to water; even though it does not lay down the criteria regarding implementation etc. These issues get trickier when we examine water for productive uses.

### **Entitlements and water for productive uses**

Thus using an entitlements approach to argue for the need to secure water for human survival does make intuitive sense. However, is this also the case for water resources used for sustaining livelihoods that may not be crucial for human survival? Can the entitlements framework be extended to livelihood rights and water for productive uses? Before I turn to answer this question, it is worth asking what water for productive uses would encompass. Apart from irrigation, water use for productive purposes may include a range of small-scale entrepreneurial activities; such as e.g. brick-making and beer-brewing, as well as using water to produce food for subsistence. In many cases, small-scale water uses for productive purposes are vital for poor people. For example, the Water for Food movement, an NGO working in the Limpopo Province in South Africa, helps change the mindset of villagers with regard to water. From thinking that they had no water, and relying on handouts from government to mitigate their deprivation, they have been encouraged to build small water tanks for rainwater harvesting in order to use water for their homegardens. The tanks were a dividing line for being poor and being self-reliant. From not having enough food to feed their children every day, many women are now self-sufficient in food, and are also able to make a small income by selling their produce to the local market.

In terms of HIV and AIDS, many caregivers do not have the means to sustain themselves as they are spending their time on providing care to relatives and dependants, and thus homegardens provide a lifeline on which they depend for day-to-day subsistence needs. (van Koppen et al, 2006). Thus water for productive uses goes beyond the mere focus on a basic threshold of survival that basic right to water would encompass. Water for productive uses also has the potential to address questions of inequality.

From the human development literature we know that the real barriers to progress are social and economic, stemming from power imbalances and unequal access to resources (from HDR 2005). Recognising that inequality is a barrier to development and also intrinsically unjust, how could an entitlement framework help to address this? We have seen how entitlements to water for basic consumption and domestic uses may be justified through a human rights perspective. But granting all people the basic necessities for survival does not mean that inequality will be reduced. If a farmer is guaranteed access to say, 25 litres of water per day, but does not have any means with which to access water for productive uses, her lot will not be improved by much. Her capabilities will be increased in terms of having better health, but that would not address the other dimensions of income generation, livelihood security and the reduction of unequal distribution and access to water resources.

Rawls (1971) argued that if a liberty of opportunity exists, opportunity must prevail for all in every institution. When translated to water issues, this means that the equality of liberty of opportunity must exist with respect to access to water, without which liberties in the overall society are diminished (see Tisdell 2003: 403). Ideally, most water systems for productive uses try to combine efficiency with social (i.e. equity) goals. But as discussed, usually the latter is sacrificed in the interest of the former. This is because the principle of Pareto optimality is followed (which espouses that it is impossible to make anybody better off without somebody getting worse off). For instance, there is often the condition attached to water licences/permits that water needs to be used efficiently, in order to promote overall economic growth. This may work against a more equitable distribution, as not all users are able to use water 'efficiently' if 'efficiency' in this respect is understood in terms of maximising the economic returns on each unit of water. So, distribution may be skewed in favour of those who have the ability and means to use water to produce the greatest economic returns, thus trading off equity against efficiency goals.

Often governments talk about equitable allocation and balancing out the interests amongst different users – but what constitutes 'equity' is highly unclear. In property rights around productive uses/ irrigation – lot on emphasis on the doctrine of equity. But as Syme et al (1999) argue, equity is a word that is used 'to cloak self-interest' (p. 52) and is also very subjective with multiple meanings. There is also a big mismatch between official and local perceptions of equity, even in property rights systems. A study on defining components on fairness in water allocation systems in Australia revealed that local users want fair decision making processes and do not necessarily believe that water markets are the best way to allocate or re-allocate water. Furthermore, economic arguments around efficiency are key for local users. In sum, while self-interest does prevail, it is tempered by pro-social motives (see Syme et al 1999: 67). However, policy makers and project implementers continue to use market mechanisms in the name of 'efficiency' and follow the principle of transferring water

to its most valuable uses. None of these follow the principle of equity or locally grounded principles of fairness.

In Zimbabwe, a study by Derman and Hellum (2005) revealed that local water use emphasised the entitlements element of water. (that chimed well with the growing perception globally that water is a human right as opposed to a commodity). This manifested itself at the village in upholding the norm that nobody should be denied clean drinking water, especially during drought periods. Moreover, empirical studies reveal that the right to water also extended beyond the right to safe, affordable and adequate water to encompass livelihood security. This included water provision for gardens which are key for health and livelihood security. While the right to water for gardens has been conflictual, the local level norms of entitlements, rights and fairness are overlooked and disregarded amongst development policies, projects and practices (Derman and Hellum, 2006).

However, the question arises, could there be an universal entitlement to water for productive uses, as would be possible for water for basic consumption and hygienic needs? This is a difficult question, because it needs to be contextualised. It is evident that people in urban settings would not need access to water for productive uses as a means of survival or to increase their welfare. However, in rural areas, access to water for productive uses, in conjunction with land is a very important element of people's livelihoods and generates welfare. From that perspective, it may be argued that an entitlement to water for productive uses can be justified in terms of the human right to livelihood and welfare. In Sen's view it would make sense to have entitlements to water as productive inputs, as part of a person's entitlements that would in turn influence his or her capabilities.

This would pre-suppose the intervention of an active state in order to make sure that entitlements are evenly distributed. This brings us on to the next question, what kind of water doctrine would be supportive of an entitlements approach to water?

In terms of ensuring distributive justice in the Rawlsian sense, Tisdell (2003) holds that the non-priority permit doctrine is most compatible. He describes how property rights to water follow different water doctrines which range from the riparian doctrine, the doctrine of prior appropriation and the nonpriority permit doctrine. The riparian doctrine ties water rights closely to land ownership. The doctrine of prior appropriation defines water rights according to the 'first in time, first in right' philosophy (quoted in Tisdell, 2003: 405) and water rights are independent of land ownership but subject to constant use and regulation. Finally, nonpriority permits or entitlements to water are provided by the discretion of the government in the form of permits rather than rights of ownership. Tisdell who applied Rawl's, Bentham's and Nozick's principles of fairness to these three doctrines argues that the nonpriority permit has the scope to promote the welfare of the worst-off if it wished. This is lacking in the riparian and prior appropriation doctrines which promote minimum rights over that of the majority (see Tisdell 2003, 414).

However, some problems emerge with this line of reasoning: One, this approach is highly state-centric. But as discussed in this paper, water is often managed through local institutional and community-based initiatives. Often states and agencies ignore these local dynamics or local understandings of equity as enshrined in customary law. For example, studies by van Koppen (n.d) and Carney 1998 have highlighted how

women often have rights in customary or informal law but their rights are often overridden in state-sponsored irrigation schemes.

Two, while it is important to accord the state the power to redistribute entitlements in the interest of social justice, as is happening in South Africa. But there are huge challenges of logistics and costs. For example, South Africa's Water Allocation Reform (WAR) programme – a programme that seeks to operationalise the principles as laid out in the 1998 Water Act - which is currently being rolled out in three pilot basins, highlight that reallocation processes will have to deal with the challenge in meeting the need to balance the 'welfare' allocations of water with allocations geared towards promoting economic growth and the maintenance of ecosystem functions. Powerful players may continue to appropriate land and water resources and dominate decision-making processes in the catchment management agencies, which are taking much longer time to establish than originally envisaged, in part due to the Department of Water Affairs and Forestry's emphasis on the participation and representation of all affected parties. There are competing scientific claims about how 'pristine' the reserve should be. Another challenge is to synchronise the water allocation reform with the ongoing land reform, which is progressing very slowly.

Three, as highlighted earlier, water rights overlapping and contested and subjected to competing claims and interests since access is mediated due to kinship and family networks, social relations and the different ways to negotiate around them (see Berry 1989; 1993) and Ribot and Peluso (2003). As Ribot and Peluso (2003) argue that the term access is preferable to property because it highlights *all* the possible means by which a person can benefit from things. Often access is "enabled indirectly through means that are not intended to impart property rights or that are not socially sanctioned in any domain of law, custom, or convention. Without allocating rights per se, ideological and discursive manipulations, as well as relations of production and exchange, profoundly shape patterns of benefit distribution. Likewise, socially and legally forbidden acts can also shape who benefits from things" (ibid).

Thus entitlements, like rights, are imbued in meaning and are contested. Here is where the neat EA framework may not work with a fluid resource such as water. Here Nussbaum's critique of Sen is valuable. She critiques Sen for his use of 'freedom' – This is because some people's freedoms can limit others and Sen says nothing to 'limit the account of freedom or to rule out conflicts arising due to conflicting freedoms (Nussbaum 2003: 16). For example, the freedoms of poor people concerning basic water may be restricted due to large land owners insisting of on large scale irrigation facilities that monopolise limited water resources in arid areas). As Nussbaum argues, such a broad definition of property capabilities can impinge on enhancing social justice for marginalised groups that lack access to property rights (ibid).

## **Discussion and conclusion**

This paper has argued for a human development approach to water. It has demonstrated that such a lens allows us to move away from aggregate views of water scarcity and water crises to strive towards issues concerning equity, justice as well as to enhance the basic capabilities required for human functioning and flourishing in the water realm. The paper also asked whether it is possible to construct an entitlements



framework to water, as has been done for food? I end this paper with some thoughts on this overarching question.

Put simply, the answer is not clear-cut. There are three reasons: One, as demonstrated in this paper unlike water, food is a commodity that may either be produced for one's own consumption, or bought, or acquired through some other exchange or transfer mechanism. The transformation of endowments into entitlements via these three different mechanisms is crucial. Thus if one is not a farmer of sufficient means (endowments) and cannot produce food of sufficient quantity to satisfy one's own and one's family subsistence needs, the entitlements framework would imply that the set of endowments available to that particular family should be so that it would be able to acquire food via other means such as through transfer or exchange in order to realise the entitlement to food. This analysis is in part applicable to water. For example, water can be transferred via tankers to drought prone areas; a bucket can be bought from an informal vendor or exchanges can take place. But rarely, can it be 'produced' for one's own consumption like food, even though it can be collected, stored etc. via tanks, wells.

Two, the paper has demonstrated that water is not – despite popular discourses- only a commodity. As already discussed, it is a multifaceted resource with very different attributes when compared with food. Three, as Fine argues the EA is neutral with respect both to underlying social relations and historical specificity (except in understanding endowments and how they are translated into outcomes). Moreover, the specificity of resources (both with respect to Sen's treatment of food, but it is much more difficult for a multifaceted resource like water) is not made explicit, both in cultural and material terms (Fine, 2005).

Other commentators have also questioned whether the macro, the social and the cultural have been or can be appropriately addressed on the basis of Sen's approach (for example, Gasper and Cameron (2000), Giri (2000). Gasper (2000), also asks whether Sen is too choice-centred (2000: 999) but meaning-thin. For example, choice can become oppressive and there are multiple meanings attached to the different options that people are presented with. Cameron asks why Sen does not engage adequately with questions of opulence or overconsumption and neglects building a case for realising resources for capability development on a global scale (Cameron 2000). In terms of entitlements to water, this latter criticism implies that attention should not merely be on people's minimum or basic requirements, but also focus on the overconsumption and wastage of large-scale users, an issue largely neglected in the entitlements approach, but which is addressed through Rawl's Difference Principle. As argued earlier, some liberties may translate into constraints on other people's liberties, in the sense of one person's liberty to consume water impacting on another person's liberty to do the same, as water is rivalrous in consumption. According to Fine (2005) the problem lies with the EA's individualistic and formalistic methodology. But the social and contextual are imperative, thus, issues such as health, housing, or even water provision, would need to be viewed as "interactive with, and constitutive of, corresponding cultures, ideologies and political practices, each with their own construction of scarcity" (Fine, 2005).

Still entitlement analysis provides a powerful lens for making a case for the human right to water and (to a lesser extent) for water as a productive resource. Its strength

lies in its unequivocal focus on the principal idea that individuals should not be deprived of basic necessities, i.e., everyone should have a right to – or be entitled to – basic quantities of food and water, as well as shelter, etc. in order to sustain themselves and their dependents (even though determining this basic amount will always be contested). In this way, the EA complements the notion of water as a human right. It compels us to tackle inequalities in the water sector seriously and work towards distributive justice around water as a productive resource. It allows us to question the water sector's dominant evocation of 'efficiency' and the 'common good' which can compromise on both equity principles and poor people's basic rights. Finally, where water commodification worldwide is increasingly creating artificial water scarcity and exclusions, the EA and a human development approach to water encourage us to focus on the 'good' and on protecting poor people's rights and entitlements to water. To achieve this, official policies and institutional arrangements must be accompanied by strong state commitments towards redistribution as well as accountability mechanisms when poor people's basic rights are violated.

## References

- Allan, T. 1998. Watersheds and Problemsheds: Explaining the Absence of Armed Conflict Over Water in the Middle East. *Middle East Review of International Affairs* 2(1): 49-51.
- Altaf, M. et al (1992) 'Willingness to Pay for Water in Rural Punjab, Pakistan' *Water and Sanitation Report 4*. United Nations Development Programme–World Bank Water and Sanitation Programme
- Anand, P. B. (2001). "Water "Scarcity" in Chennai, India: Institutions, Entitlements and Aspects of Inequality in Access." *Discussion Paper no. 2001/140*. WIDER.
- Anand, S. and A. Sen. 2000. 'Human Development and Economic Sustainability.' *World Development*. 28: 12. pp: 2029 – 2049. Berkes, F. (1989) Common Property Resource. Ecology and Community-Based Sustainable Development. London: Belhaven Press.
- Berry, S. (1993) 'No condition is permanent: the social dynamics of agrarian change in Sub-Saharan Africa'. Madison: University of Wisconsin Press.
- Berry, S. (1989) 'Social institutions and access to resources'. *Africa*, vol. 59 (1), pp 41 55.
- Bromley, D. and Cernea, M. (1989) 'The Management of Common Property Natural Resources: Some Conceptual and Operational Fallacies'. World Bank Discussion Paper 57. Washington: The World Bank.
- Cameron, J. and D. Gasper (eds.) (2000) "Amartya Sen on Inequality, Human Well-Being, and Development as Freedom", *Journal of International Development*, 12(7).
- Carney, J. 1988. "Struggle over Land and Crops in an Irrigated Rice Scheme in the Gambia," in *Agriculture, Women and Land: The African Experience*, Boulder, Colorado: Westview, 59-78.
- Carruthers, I. D. and J. A. Morrison (1996). Institutions in Water Resource Management: Insights from New Institutional Economics. *Water Policy: Allocation and management in practice*. P. Howsam and R. C. Carter, E & FN Spon.
- Cleaver, F. (2000). "Moral Ecological Rationality, Institutions and the Management of Common Property Resources." *Development and Change* 31(2): 361-383.
- Centre on Housing Rights and Evictions (COHRE), 2004, 'Legal Resources for the Right to Water: International and National Standards', Geneva, Switzerland
- Cook, P. a. M. M. (2003). "Regulating for Development." *Insights* 49.
- Coward, E.W. (1985) ' Technical and Social Change in Currently Irrigated Regions: Rules, Roles and Rehabilitation' in Cernea, M. *Putting People First: Sociological Variables in Rural Development*. Oxford: Oxford University Press.

Derman, B. and A. Hellum (2005). "Observations on the Intersections of Human Rights and Custom: A Livelihood Perspective on Water." Paper presented at the International Workshop on 'African Water Laws: Plural Legislative Frameworks for Rural Water Management in Africa' 26-28 January 2005, Johannesburg, South Africa.

Donnelly, J. (1999). "Human rights, democracy and development." *Human Rights Quarterly* **21**: 608-32.

Easter, K. W., M. W. Rosegrant, et al., Eds. (1999). *Markets for Water: Potential and Performance*. Boston, Kluwer Academic Publishers.

Falkenmark, M. (1998). "Dilemma when entering 21st century - rapid change, but lack of sense of urgency." *Water Policy* **1**: 421-436.

Falkenmark, M., and Widstrand, C., 1992, *Population and Water Resources: A delicate Balance*, Population Bulletin, Population Reference Bureau

Fine, B. (Forthcoming) 'Economics and Scarcity: Amartya Sen as Point of Departure'. Mehta, L. (ed). *The Limits to Scarcity*. Earthscan: London.

Ghosh, G. and Nigam, A. (1995) 'Comments on 'Financing Water Supply and Sanitation under Agenda 21' by John Briscoe and Mike Garn. *Natural Resources Forum*, 19 (1), 161-5.

Giri, A.K. (2000) 'Rethinking Human Well-Being: A dialogue with Amartya Sen'. *Journal of International Development*, 12, 1003-18.

Goetz, A. and R. Jenkins, 2004, '*Reinventing Accountability: Making Democracy Work for Human Development*', Basingstoke: Palgrave Macmillan

Goldewijk, B.K. and Forman, G. B. de (1999) *Where needs meet rights: economic, social and cultural rights in new perspectives*. Geneva: WCC publications.

Hanley, N. and G. Atkinson (2003). *Economics and sustainable development: What have we learnt, and what do we still need to learn?* Negotiating Environmental Change. F. Berkhout, M. Leach and I. Scoones. Cheltenham, UK and Northampton, MA, USA: Edward Elgar.

IMF and International Development Association (2002). Uganda. Updated Debt Sustainability Analysis and Assessment of Public External Debt Management Capacity. Washington, D.C., International Monetary Fund.

International Council on Human Rights Policy, 2004, 'Enhancing Access to Human Rights', Versoix, Switzerland

International NGO Training Research Centre, 2003, 'Viewpoint: Rights or Values?', Newsletter of the International NGO Training and Research Centre, Oxford, UK

Iyer, R. 2003. *Water. Perspectives, Issues and Concerns*. Sage: New Delhi.

- Jubilee Research (2002). Uganda and the Shortcomings of the HIPC initiative, New Economics Foundation. **2004**.
- Lansing, S. (1987) 'Balinese Water Temples and the Management of Irrigation'. *American Anthropologist*, 89 (2), 326-41.
- Mariño, M. and K. E. Kemper (1999). " Institutional frameworks in successful water markets: Brazil, Spain, and Colorado, USA." World Bank Technical Paper 427.
- Mehta, L. (2005). *The Politics and Poetics of Water: Naturalising Scarcity in Western India*. New Delhi: Orient Longman.
- Mehta, L. (2004) 'Financing water for all. Beyond border policy convergence in water management'. *IDS working paper 223*. Brighton
- Mehta, L. (2003) 'Struggles around "Publicness" and the Right to Access: Perspectives from the Water Domain'. In Kaul, I. et al (eds.) *Global Public Goods: Making Globalisation Work for All*. New York: Oxford University Press.
- Mehta, L. and Punja, P. forthcoming. 'Changing Water Worlds. Official and Resettlers' Perceptions of the Water/Well-being Nexus.' . In Baviskar, A. (ed). *The Cultural Politics of Water*. Permanent Black. Delhi
- Mehta, L. and Srinivasan, B. (1999) 'Gender and Dams'. Report for the World Commission on Dams.
- Meinzen-Dick, R. S. and B. Bruns, Eds. (1999). Negotiating Water Rights. London: Intermediate Technology.
- Minogue, P. C. a. M. (2003). Regulating for Development. Insights.
- Mosse, David. The Rule of Water: Statecraft, Ecology, and Collective Action in South India. New Delhi: Oxford University Press, 2003.
- Movik, S. 2006"‘Some, for All, for Ever, Together’’: South Africa’s Water Challenge. Case study for HDR 2006.
- Narsiah, S. (2002). "Neoliberalism and privatisation in South Africa." GeoJournal 57: 3-13.
- Nigam, A. and Rasheed, S. (1998) 'Financing of Fresh Water for All: A Rights Based Approach'. UNICEF Staff Working Papers. New York: UNICEF.
- Nussbaum, 2003 Capabilities as Fundamental Entitlements: Sen and Social Justice. *Feminist Economics*, 2003.
- Nussbaum, M. 1987 Nature, Function, and Capability: Aristotle on Political Distribution *World Institute for Development Economics Research*

- Nyerges, A. E. (1997) *The Ecology of Practice. Studies of Food Crop Production in Sub-Saharan West Africa*. Amsterdam: Gordon and Breach Publishers.
- Ohlsson, L. and Turton, A. (2000) 'The Turning of a Screw: Social Resource Scarcity as a bottle-neck adaptation to water scarcity'. *Stockholm Water Front - Forum for Global Water Issues*, No. 1. Stockholm: Stockholm International Water Institute (SIWI).
- Ostrom, E. (1990) *Governing the Commons: The Evolution of Institutions for Collective Action*. New York: Cambridge University Press.
- Plant, R. (1998) 'Citizenship, Rights, Welfare' in Franklin, J. *Social Policy and Social Justice*. Cambridge: Polity Press.
- Potanski, R. and Adams, W.M. (1998) 'Water Scarcity, Property Regimes and Irrigation Management in Sonjo, Tanzania'. *Journal of Development Studies*, vol. 34 (4), 86-116.
- Rawls, J. (1971), *A Theory of Justice*. Cambridge: Harvard University Press.
- Rawls (1999) *The Law of Peoples*. Cambridge: Harvard University Press.
- Razavi, S. (1999) 'Gendered Poverty and Well-Being'. *Development and Change*, vol. 30 (3), 409-33.
- Reddy, R.V. (1999) 'Quenching the Thirst: The Cost of Water in Fragile Environments'. *Development and Change*, vol. 30 (1), 79-113.
- Reddy, R.V. and Vandemoortele, J. (1996) 'User Financing of Basic Social Services: A Review of Theoretical Arguments and Empirical Evidence'. UNICEF Staff Working Papers, Evaluation, Policy, and Planning Series. United Nations Children's Fund. New York: UNICEF.
- Ribot, J., and N. L. Peluso. 2003. A theory of access. *Rural Sociology* 68(2):153–181
- Robeyns, (2000) An unworkable idea or a promising alternative? Sen's capability approach re-examined
- Rosegrant, M.W. et al (2002) *World Water and Food to 2025: Dealing With Scarcity*. Washington: International Food Policy Research Institute and the International Water Management Institute.
- Rosegrant, M. W. and H. P. Binswanger (1994). "Markets in Tradable Water Rights: Potential for Efficiency Gains in Developing Country Water Resource Allocation." World Development 22(11): 1613-1625.
- Roy, A. (1999) ' The Greater common good: The Human Costs of Big Dams'. *Frontline*, 16 (11), June 4.

Seckler, D., Amarsinghe, U., Molden, D., De Silva, R., and Barker, R., 1998, *World Water Demand and Supply, 1990 to 2025: Scenarios and Issues*, Colombo: International Water Management Institute

Sen, A. (1999) *Development as Freedom*. Delhi: Oxford University Press

Sen, A. (1993) 'Capability and Well-being' in Nussbaum, M. and Sen, A. (eds) *The Quality of Life*. Oxford: Clarendon Press.

Sen, Amartya, 1991. "Welfare, preference and freedom," *Journal of Econometrics*, vol. 50(1-2), pp 15-29.

Sen, Amartya K. (1987), *On Ethics and Economics*, Oxford, Basil Blackwell.

Sen, A. (1985) *Commodities and Capabilities*. Amsterdam: North-Holland Press.

Sen, A. (1983) 'Development: Which Way Now?' *The Economic Journal* vol 93 no 372, December, 745-62.

Shiklomanov, I. A. 1998. *World Water Resources. A new appraisal and assessment for the 21st century*. Paris: UNESCO.

<http://unesdoc.unesco.org/images/0011/001126/112671eo.pdf>

Shiklomanov, I. A. and J. C. Rodda, Eds. (2003). World water resources at the beginning of the twenty first century. International Hydrology Series. Cambridge, Cambridge University Press.

Syme, G. J. et al (1999) 'Defining the components of fairness in the allocation of water to environmental and human uses'. *Journal of Environmental Management*. vol 57, 51-70.

Thobani, M. (1995). "Tradable Property Rights to Water." Public Policy for the Private Sector FPD Note no. 34.

Tisdell, J.G. (2003) 'Equity and Social Justice in Water Doctrines', *Social Justice Research*, Vol. 16, No. 4, December

Toye, J. (Forthcoming). "The Idea of Scarcity in Historical Perspective." Mehta, L. (ed). *The Limits to Scarcity*. Earthscan: London.

Wijeratna, A., Trade Justice Campaign and ActionAid, Trade Justice Campaign, Down the Plughole: Why bringing water into WTO services negotiations would unleash a development disaster, October 2005  
([http://www.actionaid.org/wps/content/documents/58\\_1\\_down\\_plughole\\_222006\\_145834.pdf](http://www.actionaid.org/wps/content/documents/58_1_down_plughole_222006_145834.pdf))

Ugaz, C. (2001). A Public Goods Approach to Regulation of Utilities. Discussion Paper No. 2001/9, United Nations University, World Institute for Development Economics Research. Helsinki.

UNESCO (2003) *Water for People. Water for Life. The United Nations World Water Development Report*. Paris: UNESCO.

UN, Convention of the Rights of the Child, 1989

UNICEF (1994). *Implementing the 20/20 Initiative*. New York.

Universal Declaration of Human Rights (UNHDR), 1948

Uphoff, N. (1992) *Learning from Gal-Oya: possibilities for participatory development and post-Newtonian social science*. Ithaca, NY: Cornell University Press.

Van Koppen, B. n.d. *Gendered Water and Land Rights in Construction: Rice Valley Improvement in Burkina Faso*. Mimeo.

van Koppen, B., P. Moriarty, et al. (2006). "Multiple-Use Water Services to Advance the Millennium Development Goals." *IWMI Research Report 98*.

Villa-Vicencio, C. and S. f. Ngesi (2003). South Africa: Beyond the "Miracle". Through Fire with Water: The roots of Division and the Potential for Reconciliation in Africa. E. Doxtader and C. Villa-Vicencio, Africa World Press.

Wade, R. (1988) *Village Republics. Economic Conditions for Collective Action in South India*. Cambridge: Cambridge University Press.

WaterAid, Unison, et al. (2003). Hitting the targets. Recommendations to the G8 for delivery of the Millennium Development Goals on water and sanitation, WaterAid, Unison, Oxfam, One World Action, TearFund. **2003**.

Whittington, D. et al, (1992) 'Household Demand for Improved Sanitation Services: A case study of Kumasi, Ghana' UNDP - World Bank Water and Sanitation Program. Water and Sanitation Report No 3. Washington DC: World Bank.

WHO (2003). "The Right to Water." Health and human rights publication series; no. 3. Geneva: WHO.

Winpenny, J.T. n.d. Managing Water Scarcity for Water Security, prepared for FAO (Food and Agriculture Organisation) as part of an e-mail conference, available from: <http://www.fao.org/ag/agl/aglw/webpub/scarcity.htm>

Wolfe, S. and Brooks, D.B. 2003. 'Water Scarcity: An Alternative View and its Implications for Policy and for Capacity Building'. *Natural Resources Forum* 27(2): 99-107.

WRI (World Resources Institute). 2003. *Ideas into Action: WRI Annual Review 2002*. Washington: World Resources Institute.