ELSEVIER
www.elsevier.com/locate/worlddev

World Development Vol. 59, pp. 59–69, 2014

0305-750X/$ - see front matter

http://dx.doi.org/10.1016/j.worlddev.2013.12.018

Water and Human Development

LYLA MEHTA *
Institute of Development Studies, UK
Norwegian University of Life Sciences, Norway

Summary. — The article argues for a human development approach to the water "crisis." It explores the application of the entitlements approach (EA) and capabilities approach (CA) to water. EA goes beyond volumetric or per capita measurements of water scarcity and directs attention to the structural and institutional issues concerning water inequalities. CA focuses on links between water and wellbeing. Both strengthen the case for the human right to water and break down false distinctions between water for domestic and productive purposes. Despite challenges with operationalizing CA and EA, a human development approach to water helps question the sector's traditional focus on utilitarianism and efficiency. It also directs attention to equity and to the needs and interests of the marginalized and excluded.

Key words — water and human development, entitlements, capabilities, scarcity, water as a human right and productive resource, equity

1. INTRODUCTION

Human development is interested not just in economic growth, but in expanding human capabilities and choice (Anand & Sen, 2000). The concept of human development could perhaps go back to Aristotle who 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, 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 realization 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; Nussbaum, 1987). Water and sanitation are basic necessities, enabling people to function and human activity to flourish. [1] For poor people, access to water is a prerequisite to achieving a minimum standard of health and to undertake productive activities. Water also plays a key role enhancing agricultural and industrial productivity. Without adequate, safe and affordable water, billions of people around the globe are unable to lead healthy lives and lack the ability to build secure livelihoods.

Access to safe and convenient water supplies is also crucial to enhance women's and girls' well-being. Cultural norms dictate that women and girls are responsible for water collection and can spend between 3 min and 3 h per day collecting water. This time instead could be used to focus on livelihood and agricultural activities and also improve maternal health and that of infants. Girls, often overburdened by time-consuming water collection activities, could have time to attend school and enjoy a normal childhood (see Joint Monitoring Programme, 2012). Water is used to grow food both for subsistence and commercial purposes. However, access to water is deeply unequal around the globe. Poor and marginalized people often lack access to safe and adequate water, either because it is too expensive or because they are excluded due to caste, ethnicity, or gender. They also often do not share the gains of large infrastructure projects such as dams, while often negatively affected by them through displacement as well as loss of livelihoods and land (as discussed later in this article, see also WCD, 2000).

Aristotle's mentor, Plato, illuminated the paradox of the value of water and diamonds. Plato in *Euthydemus* (Section 304B) found that what is rare is valuable, while water, considered the best of all, is also the cheapest (see Toye, 2005). Diamonds were considered rare and useless and water was seen to be abundant and useful. Today 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 800 million people lack access to safe and affordable water and 2.5 billion people are denied access to sanitation. Furthermore, water is the new liquid gold of the twenty first century with increasing controversies concerning its commodification and privatization (see Bakker, 2010; Barlow & Clarke, 2002; Goldman, 2007; Hall, Lobina, & de la Motte, 2005; McDonald & Ruiters, 2005).

This article was originally written as a background paper for the 2006 Human Development Report (UNDP, 2006). I was asked to spell out a human development approach to water, explore the application of both the entitlement and capability analysis (EA and CA henceforth) to the different aspects of water and ask whether both could help question conventional portrayals of water scarcity and water "crises" (see Mehta, 2006). This turned out to be a challenging task because there is no one EA and CA, but instead many approaches (Gasper, 2006). [2]

* An earlier version of this paper was written as a background paper for the 2006 Human Development Report. I thank Synne Movik for the useful literature leads and for putting together notes which accompanied the background paper. I am grateful to Oliver Burch and Beth Mudford for their help with copyediting this paper. I also thank the UNDP for commissioning the original work. The paper has benefitted tremendously from the comments from three anonymous reviewers and I also thank Morten Sjaastad and Fabian Scholtes for their useful comments. 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 Noragric colleagues for offering incisive comments during a writing seminar. The usual disclaimers apply. Final revision accepted: December 21, 2013.

There are also different normative, political, and policy implications and challenges in application to policy and practical realities (see Gasper, 2006; Robeyns, 2003, 2005). Furthermore, water is often problematically divided into water for domestic use and water for productive purposes and the application of EA and CA is different across domestic and productive issues of water and across EA and CA. Several authors have focused extensively on what the EA mean with respect to specific natural resources (for example, Fine, 2010; Gore, 1993; Leach, Means, & Scoones, 1999). P.B. Anand applies both the EA and CA to water (Anand, 2007). The article builds on this work. It is not grounded in original empirical research but empirical examples are provided wherever they help strengthen the arguments. [3]

The article argues that a human development approach to water scarcity helps challenge dominant and simplistic portrayals of the water "crisis." It shows how the EA allows us to move away from aggregate views of water scarcity to focus on the structural and institutional arrangements (including market-based mechanisms) that exclude the poor and intensify water-related inequalities. However, merely having access to water is not enough. Instead, a person needs a certain kind of access to water in order to derive certain freedoms or functionings (i.e., capabilities) which in turn depend on a host of factors. CA thus highlights the importance of the multifaceted nature of water, its links with wellbeing and other freedoms. The article also explores the idea of basic capabilities required for human functioning through the case of the human right to water. It shows how both EA and CA help strengthen the case for the human right to water and CA, in particular, helps break down the false distinction between water for domestic and productive purposes. The article also addresses the challenges arising out of the operational and institutional aspects of implementation with respect to both the productive and basic right aspects of water. The article concludes by arguing that despite some limitations, applying the EA and CA helps enhance equity considerations in the water sector. This is important because even though water policy rhetoric may be about rights and equity, in practice a focus on volumetric issues of supply and demand as well as considerations of utility and efficiency persist which may not always have the interests of the marginalized upfront.

2. THE UNIQUE NATURE OF WATER

Water is a multifaceted resource. It has different faces and meanings in the everyday contexts within which people live their lives. People across the globe value water for both its non-economic and economic roles and it also has deep spiritual significance in many cultures. However, official water resources management discourses (such as those endorsed in the 1992 Dublin principles) largely tend to focus on the economic values of water. Merely viewing water through an economic lens (for example as an economic good) can undermine its embeddedness in the everyday symbolic, cultural, and social contexts within which people live their lives (see Mehta, 2005). These issues are expanded upon shortly by taking the case of displaced people in Gujarat.

Water, more than most resources, is highly variable across time and space. Its state and availability depend on temperature, rainfall, soil moisture, wells, and irrigation canals. Access to water also depends on technologies and institutions of acquisition, storage (for example, small or large dams), and a range of property regimes (for example, riparian, prior appropriation, licensing or permit systems, and customary law, see Movik, 2012). Water allocation regimes are also shaped by a mix of politics, power, and discourses and access to water in everyday contexts is usually mediated through institutions, gender, social and power relations, property rights, identity, and culture. Water has symbolic as well as material dimensions, and is subjected to contests rooted in relations of power at both the discursive and material realms (Cleaver, 2000; Derman & Hellum, 2005; Mehta, 2005; Mosse, 2003; Movik, 2012). 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 & Bruns, 1999). Customary law and practices, kinship networks, gender, caste, and patronage tend to dominate in practice despite the existence of formal institutional arrangements. However, the multifaceted aspects of water are overlooked in dominant and global portrayals of the resource that tend to largely focus on the volumetric and material aspects of water to which I now turn.

3. CONVENTIONAL APPROACHES TO VIEW WATER SCARCITY

Water scarcity has emerged as one of the most pressing problems in the twenty first century. Against a growing alarmism about "water wars," several global agencies, national governments, and NGOs have been concerned with emerging water "crises" and the causality and solutions around water scarcity. International meetings around water are regular occurrences. Consider the following quote: "A third of the world's population lives in water-stressed countries now. By 2025, this is expected to rise to two-thirds." [4] Largely, the terms water "crisis," water shortage, scarcity, and stress are used very loosely in conventional debates. While there is an attempt to pay cognizance to regional variations, most of them lack a clear statement on issues concerning unequal access and how they understand water scarcity and the water crisis (see for example the UN World Water Development Reports, UNESCO, various years). A welcome exception is the 2006 Human Development Report entitled "Beyond Scarcity: Power, Poverty and the Global Water Crisis" (see UNDP, 2006) which has explicitly focused on the role of power relations and unequal access in determining water scarcity.

Most of the literature looks at the finite nature of global water supplies (for example, Shiklomanov, 1998). Countries are classified according to a "water stress index" on the basis of their annual water resources and population (see Falkenmark & Widstrand, 1992). This is widely adopted and proposes a threshold of 1700 m^3 of renewable water resource per capita annually, below which countries are said to be water-stressed. Water scarcity scenarios for groupings of countries or regions based on projections of future water demands and needs are also created (for example, Rosegrant, Cai, & Cline, 2002; Seckler, Amarsinghe, Molden, De Silva, & Barker, 1998). This classification has been adopted all over the world in almost every water policy, highlighting how notions of water scarcity are largely shaped by a focus on volumetric and physical measures.

More nuance is provided by a political science and international relations literature that teases out differences in "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, Ohlsson & Turton, 2000; Wolfe & Brooks, 2003). But these debates do not focus upfront on the social relations underlying resource use and also