Physics and Chemistry of the Earth 47–48 (2012) 33–45

Contents lists available at ScienceDirect

Physics and Chemistry of the Earth

journal homepage: www.elsevier.com/locate/pce

Reconciling IWRM and water delivery in Ghana – The potential and the challenges

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ARTICLE INFO

Article history:
Available online 8 July 2011

Keywords:
Gender
Water as an economic good
IWRM
Water delivery
Densu basin

ABSTRACT

The key elements of integrated water resources management include a holistic integrated approach and the main principles of public participation, the role of gender and the notion of recognising the economic value of water. This paper investigates how these notions play out in the context of providing water to the rural communities in the Densu basin in Ghana. This investigation is based on a content analysis of the relevant policy documents and interviews with state agencies and local stakeholders. The paper concludes that there is a conflict between the IWRM goal of integrating all water uses and sectors in the management of water resources and focusing on the prioritisation of water delivery services. However, three of the IWRM principles can be used in implementing water delivery. While Ghana has adopted IWRM, it clearly prioritises water delivery. At basin level, the IWRM planning process does not take water delivery into account and water delivery is conducted independent of the IWRM process. Although the participatory and gender approaches are being implemented relatively successfully, if slowly, the 'water as an economic good' principle is given less priority than the notion of the human right to water as local communities pay only 5% of the capital costs of water delivery services. The impact of the rural water delivery services has been positive in the Densu basin in seven different ways; and if this helps the rural community out of the poverty trap, it may lead to economically viable water facilities in the long-term.

1. Introduction

Globally 1.1 billion people do not have access to safe drinking water (GWP, 2000; Prokopy, 2005; WHO/UNICEF/WSSCC, 2000; World Economic Forum Water Initiative, 2009; World Water Council, 2009). The poor in developing countries living especially in rural and peri-urban areas are the most affected. Thirty-eight per cent (38%) of Africa's population does not have access to safe drinking water (Nedjoh et al., 2003; WHO/UNICEF/WSSCC, 2000).

A key humanitarian priority is trying to provide access to water for drinking and for agricultural purposes in rural areas in the world (UN-Water, 2008; World Economic Forum Water Initiative, 2009). At the same time, theoretical developments suggest taking a comprehensive perspective on water through the adoption of an integrated water resource management (IWRM) approach to the management of water resources and services (Adeel, 2004; Chancellor et al., 2003; Funke et al., 2007; GWP, 2000; Jønch-Clausen, 2004). However, a key question is: Can integrated water resource management be reconciled with the priority that needs to be given to the provision of water services? How can and do developing countries like Ghana reconcile these conflicting approaches?

Against this background, this paper examines the role of specific principles of (IWRM) in water delivery, and the integration of the water delivery sub-sector in the planning of water resources management. The research question can be divided into five sub-questions: How important is water delivery? What are the main issues in IWRM? What is the relevance of IWRM and its principles to water delivery? How are the principles of IWRM with respect to rural water supply treated at the policy level in Ghana and at the local level? To what extent has the rural water delivery system in the Densu basin improved the social and economic welfare of the people?

It addresses these research questions by drawing on data gathered through a literature review on IWRM and underlying principles as well as content analysis of policy documents including legal documents, plans, manuals and guidelines of relevant government agencies in Ghana. The paper also draws on data based on empirical evidence from (a) 149 interviews with officials of state agencies, NGOs, and local stakeholders including local water agencies and households in the Densu basin in Ghana (Anokye, 2010); and (b) attending basin board meetings and a workshop on 'Strategies for implementing the Densu basin IWRM Plan'. The Densu basin is selected because it is the first of the three pilot basins where attempts are being made to implement IWRM in Ghana by the Water Resources Commission (WRC) as well as where the provision of water services is of critical importance. The research is based on the single but layered case study approach which looks

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doi:10.1016/j.pce.2011.06.010

at the different layers of governance in a longitudinal manner (Yin, 2009). Most comparative studies do not examine all the levels of governance (De Stefano, 2010; Tippett et al., 2005); our study attempts at that. This paper first presents a theoretical framework for analysing the issues relevant to the research question, and then presents data from the case study, before analysing the information generated and drawing conclusions.

2. The relation between IWRM principles, public participation and water delivery

2.1. Introduction

This section focuses on the theoretical relationship between IWRM principles and water delivery. The questions addressed are: How important is water delivery? What are the main issues in IWRM? What is the relevance of IWRM and its principles to water delivery?

2.2. The importance of water delivery

Improving water services and uses in developing countries is essential for increasing hygiene and sanitation services that affect the productive lives of people, and easing the burden and drudgery of those who have to collect water from far and unsafe sources. Such improvements enhance the ability of women, as the main actors in household water supply, to live in dignity. It reduces morbidity and mortality. Lack of safe drinking water exposes people to water borne and water related diseases. Diarrhoea caused by unclean water is one of the world's greatest killers, claiming 1.8 million lives every year (World Water Council, 2009) and the lives of five times as many children as HIV/AIDS (World Economic Forum Water Initiative, 2009). The recommended minimum amount of water for basic needs varies between 20 and 50 litres per person per day (lpd) (Abrams, 2001; UN, 2009). This varies from country to country. In rural Ghana it is 20 lpd (CWSA, 2007); for rural South Africa it is 25 lpd (Funke et al., 2007); and 55 lpd in India (CapNet, 2003). Access to water is not just about litres per day, but also about distance to the water source. Optimal access implies multiple taps in the residence of the individual, intermediate access implies a tap on the plot of the individual, basic access implies a distance of 100–1000 m (which implies a collection time of 5–30 min) and no access refers to situations where the water source is more than one kilometre away from the individual (Kennedy, 2006).

Ghana is predominantly rural; about 56.6% of its population live in the rural areas.[2] These rural people are the most deprived in terms of access to safe drinking water and other socio-economic infrastructure (Nedjoh et al., 2003). The national coverage for drinking water supply in both rural communities and small towns in Ghana was estimated at 52.86% at the end of 2006 and the population served was 7,604,478 out of the 14,386,840 residents (CWSA, 2007).

The essential components of water coverage within the National Community Water and Sanitation Programme of 1994–2008 are outlined as follows:

- There should be a water facility which provides all year round potable water to community members;
- Each person should have access to a minimum of 20 l of water per day;
- Each spout of a borehole/standpipe should serve 300 persons and a hand-dug well should serve 150 persons;
- The maximum walking distance to a water facility should be equal to or less than 500 m; and
- The water system should be owned and managed by the community through established structures (CWSA, 2007; MWRWH/CWSA, 2008).

Prioritising access to safe drinking water is vital since all the health benefits of an improved water supply can be lost if more than a quarter of the people do not have access to it (Chancellor et al., 2003). The global community acknowledged this problem, and one of the targets of the United Nations (UN) Millennium Development Goals (MDGs) is to reduce by half the proportion of people without access to safe drinking water by 2015; with 1990 as the base year (World Economic Forum Water Initiative, 2009).

Such prioritising can be traced to the basic needs approach to development which was formulated in the 1970s. Essential services such as safe drinking water, sanitation, health and educational facilities were to be provided by governments possibly with the help of donors. Communities were expected to take part in the provision of these essential services (Burkey, 2002; Nelson and Wright, 1995). The basic needs approach contributed to the argument for community participation in rural water delivery in the 1980s. At the same time donors argue in favour of allowing private sector management of the water supply; this is leading to the promotion of public–private partnerships and individual government spending on rural water supply had dropped (Kleemeier, 2000).

The first UN conference on water in 1977 in Mar del Plata considered access to clean water as essential for healthy survival. The conference focused on how water supply could meet socio-economic needs. It therefore made the provision of safe drinking water a key priority by recommending the period 1980–1990 as the International Water Supply and Sanitation Decade (Kleemeier, 2000; Snellen and Schrevel, 2004). The Action Plan of the Mar del Plata Conference was the first internationally coordinated approach to managing water (Rahaman and Varis, 2005). However, the Water Supply and Sanitation Decade came to an end without making a major contribution to addressing the problem (Abrams, 2001). In 1992, both the United Nations Conference on Environment and Development and the Dublin Conference on Water and Environment made clear that one of the most appropriate ways to manage water was to adopt integrated water resources management (IWRM).

2.3. IWRM and its key principles

There are varying definitions of IWRM (Cardwell et al., 2006; Jeffery and Geary, 2004; Newson, 2000; UNDP, 1990) but the most widely cited definition is that of the Global Water Partnership (GWP) (2000). It states that "IWRM is a process which promotes the coordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystem" (GWP, 2000, p. 22). The GWP definition sees IWRM as a unified process directed toward the achievement of a common goal. This goal is maximisation of economic and social welfare while ensuring equity and sustainability of vital ecosystems. 'Safe, adequate and sustainable water supplies for all' is one of the main social goals. There is a general theme of coordination, sustainability and maximum utility implied in the different definitions.

Two concepts come into play with the adoption of IWRM: "integration" and "sustainability"; integration of both natural and human systems within and between themselves (Bandaragoda, 2005; Jønch-Clausen, 2004). Biswas (2004) observes that different

[2] Calculated based on figures from Ghana Statistical Service (2002, p. 3).