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Framework for effective community participation in water quality management in Luvuvhu Catchment of South Africa

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ABSTRACT

A study has been done in Luvuvhu Catchment to develop a framework for effective community participation in water quality monitoring and management. Community participation and involvement in development has since the 1970s gathered momentum among the non-governmental organisations (NGOs) fraternity but has never gained clear status with Governments world over. In South Africa the policy and legal frameworks for community consultation, involvement and participation are clearly spelt out on paper starting with the country's constitution. The division of the country into Water Management Areas (WMA) and the formation of Catchment Management Agencies (CMA), Water User Associations (WUAs) for example, was meant to increase participation of stakeholders including communities in the management of water resources. These efforts have not translated into effective participation by local communities in the management of water resources because there is no link between the national water quality management frameworks and community based development structures.

An extensive review of development frameworks including community based structures has been undertaken. The most critical frameworks identified were the national water quality management framework (Directorate of Water Quality Monitoring and Catchment Management Agencies), community based structures and local government structures and systems (municipalities, provincial and national structures). There was no flow of information between the national water quality framework and community based development structures and therefore linkages were created between the lower tiers of the catchment management system (sub catchment fora and WUAs) to allow for information from the Directorate of Quality Monitoring to reach communities and vice versa. The lower tiers of the catchment management system should serve as specialised committees under the community development structures. The municipalities who control and fund development activities at community level should be linked to the catchment management system so that information can flow between the lower tiers of the catchment management system and communities on one hand and the municipalities on the other. The water quality monitoring information generated at community level should flow through community development structures, sub catchment fora, the Catchment Forum (where municipalities are members), the CMA and into the Directorate of Water Quality Monitoring.

1. Introduction

South Africa's water resources are in global terms, scarce and limited in extent and the country is categorized as water stressed with an annual fresh water availability of less than 1700 m^3 per capita (Moriarty, 2001). The greater part of South Africa is semi-arid and subject to variable rainfall, droughts, floods, and high evaporation (Eales et al., 2005). Hirji et al. (2002) predicted that the demand for water in South Africa will outstrip its supply by 2025. Therefore the management of South Africa's water quality and availability is essential making it critical for other stakeholders especially communities to be involved in managing the scarce resources. The resources required to ensure that every community water supply is monitored are enormous and beyond the capacity of the government. Resource requirements for monitoring and management of water quality i.e. technical staff, funding, physical infrastructure and/or equipment are generally inadequate throughout all the existing systems (DWAF, 2004). But for effective community participation in water quality monitoring and management to take place, there is need to develop a framework that allows communities to interact with the national water quality monitoring and management system.

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Participation is a broad term used in different disciplines and applied to many fields with many variations in meaning and interpretations (Heyd and Neef, 2004). In the context of development plans and programmes, participation can be defined as the process through which stakeholders influence and take part in decision making in the planning, implementation, monitoring and evaluation of programmes and projects (Koasa-ard et al., 1998). It is a process that empowers people and communities through acquiring skills, knowledge and experience, leading to greater self-reliance and self-management (Karl, 2000).

Public participation is often used interchangeably with or alongside a number of other terms such as information sharing, consultation, involvement and empowerment (Fig. 1) (Smithies and Webster, 1995).

- *Information sharing* – is equated with professionals giving information to lay people.
- *Consultation* – involves people being asked for their opinions which maybe considered when the final decision is made.
- *Involvement* – implies people being included as a necessary part of something.
- *Empowerment* – continuous process whereby individuals and/or communities gain the confidence, self esteem, understanding and power necessary to articulate their concerns, ensure that action is taken to address them and more broadly, gain control over their lives. It is understood to be central to health promotion and is implicit within Agenda 21s commitment to strengthen public participation. Public participation is rooted in the concept of community development which is an approach in development programmes that aims to improve the living conditions of people in a particular area (Nikkhah and Redzuan, 2009). Community development is also concerned with the creation of improved social and economic conditions through emphasis on voluntary cooperation and self-help efforts of the communities (Nikkhah and Redzuan, 2009).

The term public participation describes a variety of relationships between the implementing agency and its stakeholders (DWAF, 2001). The motivation for public participation lies in its benefits (DWAF, 2000). These benefits include facilitated cooperation between different sectors, improved decision making, sustainable development, positive growth and attitudes among the stakeholders. Stakeholders are those people/groups/organisations who have an interest in river catchment integrated management processes because they are affected by them or can have some influence on them (FAO, 2000). In order to monitor and evaluate stakeholder participation in development projects and programmes, it is necessary to identify the stakeholders, i.e. those who are affected by the outcome, negatively or positively, or those who can affect the outcomes of a proposed intervention (Karl, 2000).

Communities are the primary stakeholders in the watersheds where they live because they have over the years of interaction with the environment, developed valuable knowledge and experience that makes them the best managers of the watersheds (Ong'or, 2005). Tsiho (2007) says communities all over the world have developed their own knowledge and practices for observing, measuring, and predicting environmental quality change, which are embedded in their indigenous languages and cultural beliefs. He argues that "*there is little doubt that people at the grassroots have knowledge of their environment that transcends conventional social, economic and biological indicators*." Therefore there is a need to create space for this indigenous knowledge to be incorporated into water quality management strategies currently being used. The WHO protocol on Water and Health of 2006 encourages the involvement of all stakeholders i.e. professionals, scientific experts, the public at large, non-governmental organisations (NGOs) and local action groups in dealing with issues concerning water and health.

Participation can take place in a political process, within a development project or research. One of the objectives of participation is empowerment which is meant to increase the independence, awareness and capacity of marginalised groups (Campbell and Salagrama, 2000). Participation of stakeholders in a watershed in water management may offer solutions for a more efficient and sustainable management of resources (Heyd and Neef, 2004). Several studies suggest that participatory watershed development projects are more successful than externally managed top down, 'one-size-fits-all' projects.

Community participation involves holding discussions and open forums between community members themselves and with government authorities or non-governmental organisations involved in advocacy so as to contribute ideas for inclusion in policy development and change in operation strategy (DWAF, 2005). If given chance, communities can participate effectively in matters relating to water resources management. In Kalomo (Zambia), the local community was mobilized to manage provision of water services, whereby villagers protected a catchment area by building a fence around a borehole and regularly cleaned the water point (Dungumaro and Madulu, 2002). Evidence from Gujarat (India) demonstrates the linkages between local community involvement in water project management and empowerment of stakeholders, especially imparting them with the capacity to negotiate with other stakeholders at higher levels concerning issues that affect their livelihood and lifestyle (Dungumaro and Madulu, 2002). Kauzeni and Madulu (2000) found that, though community participation is emphasised in developing land use plans, in many cases local communities and their local knowledge are ignored by planners in developing and managing land and water resources.

There are many reasons that compel South Africa to adopt participatory approaches in water quality monitoring and management. One of the reasons why South Africa needs to adopt participatory approaches relates to water scarcity and the deteriorating water supply situation in the country. Water resources in most parts of South Africa are already fully utilised or overdrawn (Kanyoka et al., 2008). The situation is worsened by water pollution

Fig. 1. Continuum of participation; Adapted from Rifkin and Pridmore (2001).