

Community Participation and Rural Water Supply System: Policy and Practice in Developing Countries

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Abstract

Community Participation is broadly recognized as a basic element of rural drinking water supply systems in developing countries. This paper appraised how community participation approach adopted in rural water sectors in Africa and South Asia, particularly in the selected five developing nations; Kenya, Tanzania, Ethiopia, India and Sri Lanka. The policy on community participation is basically linked with development initiatives in the rural segments for a long decade. The selected five countries have adopted community participation strategy - demand driven approach - since the late 1980s and the early 1990s in their rural water sectors. Hence, this paper attempts to understand the effective adaptation of public participation in the rural water schemes as a useful strategy for ensuring the availability of safe, quality and sustainable water supply to the rural communities. This study is mainly qualitative using secondary data derived from various published sources. It revealed that the policy on community participation practice has altered from traditional top-down to demand driven method which has been adopted in the process of water supply especially among rural communities in developing nations. This study found that, according to the demand driven approach, main actors (local people) are not participating in the selection and planning of the rural water project, but they are taking part mostly when operating the water schemes and maintaining the water project in the rural areas. Thus, this study suggests to motivate and mobilize the local beneficiaries to take part in all segments which associated with rural water projects by educating, training, and empowering men, women and youth in developing countries.

Keywords: water stress, participatory approach, policy adaptation, rural water, sustainability

1. Introduction

Water is a key element and larger part on earth. Water is a basic requirement of all lives in the planet. However, United Nations (UN-Water) estimated that more than 40% of world population do not have access for clean, sufficient and affordable drinking water. Many regions will be facing serious water crisis, and nearly 1.8 billion people may be living in those vulnerable regions in 2025 (Government of Canada, 2017). Many developing nations are mostly affected by extreme water scarcity, flooding, and poor or inadequate drinking water. It shows around 80% of diseases in developing nations are associated with inadequate water and sanitation facilities. Environmental pollution and rising sea level are also contaminating the natural water resources in numerous developing countries (Government of Canada, 2017).

According to United Nations International Children's Emergency Fund (UNICEF) and World Health

Organization (WHO), around 2.2 billion people are living with lack access for getting quality and affordable drinking water facilities. Similarly, the UN (2019) estimated that 2 billion people live in countries which are stressing with higher level water crisis. The United Nation has also been addressing the worldwide water stress prompted by inadequate water service to fulfil the elementary requirement of people as well as the global demand on water for human, agricultural and commercial necessities (United Nations, 2020).

The WHO estimated that 785 million people are living with lack access for of safe drinking water facilities, including 144 million people who are dependent on surface water. At least, 2 billion people use contaminated drinking water source which transmit many health problems such as cholera, diarrhea, typhoid, polio and dysentery. It is estimated that 485,000 diarrheal deaths occur each year due to use of unclean drinking water. About 50% of the global population may be living in some vulnerable regions where severe water issues would be experiencing in 2025, and particularly in the 3rd world developing regions where 22% of health care facilities have no proper water service, 21% of lack hygiene and sanitation facilities, and 22% of services have no proper waste management facilities (WHO, 2019).

Thus, many efforts taken by the international organizations to address the issues related with water and provide supports to ensure the better water service to the needy people globally. The UN Water Conference (1977), the International Drinking Water Supply and Sanitation Decade (1981-1990), the International Conference on Water and the Environment (1972), the Earth Summit (1992), these all focused on the issues related to water resource. Also, the ‘Water for Life’ International Decade for Action 2005-2015, assisted around 1.3 billion people to gain access to safe and quality drinkable water and improve sanitation facilities in developing countries, it was the chapter of Millennium Development Goals (MDGs). Similarly, some latest initiation like 2030 Agenda for Sustainable Development, the 2015-2030 Sendai Framework for Disaster Risk Reduction, the 2015 Addis Ababa Action Agenda on Financing for Development, and the 2015 Paris Agreement within the UN Convention Framework on Climate Change also focused on the matter of ensuring access for safe drinking water, especially among developing countries (United Nations [UN-Water], 2020).

In order to overcome this water crisis in the rural sectors in developing countries, a new policy on Community Participation (CP) was initiated and reformed by the various organizations and donor agencies. Policy on CP executed at the time of early 1990s, the International Decade for Drinking Water Supplies (Chukwuma, 2016). The policy introduced for the purpose of benefitting local communities in order to participate actively in the rural development initiative, particularly local people should involve in the rural drinking water programs. CP encourage local people, empower them to motivate and mobilize their capabilities and skills for train them to manage local resources, decision making and control over the community-managed water supply sector (Bailur, 2007).

Therefore, this study intended to describe how Participatory Approach has been recognized and linked with rural drinking water supply systems amongst the selected developing countries. This paper has set with three objectives. The first objective is to define what types of Participatory Approach or Model adopted by the developing countries namely; Kenya, Tanzania, Ethiopia, India and Sri Lanka, and, second objective is to examine how the Governments of these countries have adopted the policy on Participation Approach in the exercise of the provision of rural water supply systems, and third objective is to identify the challenges faced by the organization and donor agencies to adopt and exercise CP in the rural water supply schemes amongst the selected developing countries.

2. Literature Review

Many studies were previously carried out on CP in terms of participatory approach and rural development as well as water supply projects. Somesh Kumar (2002) stated that participation occupies a central place in the development practices (Kumar, 2002). Kenny, Hyett, Sawtell, Dickson-Swift, Farmer & Meara (2013) suggests that policy formation is essential matter to promote community participation in higher level (Kenny *et.al.* 2013). Similarly, Tripathi and Lal (2001) argues that the engagement of real beneficiaries should be considered, not only in the specific stages like maneuver and maintenance of rural drinking water process, but also, they should involve in the selection, designing, and implementation of the projects. (Tripathi & Lal, 2001). Mahana and Thrnquist. (n.d.) witnessed five jointly assisted projects in five Indian states namely Maharashtra, Gujarat, Rajasthan, Karnataka and Kerala. More opportunities were provided for the rural communities to participate in the project designing, implementation and, provided opportunity to take decision over the water supply project (Mahana & Thrnquist, n.d.).

Likewise, Liyanage (2013) observed the nature of sustainability of water supply systems within six water projects in rural Sri Lanka, these all systems were highly invited local beneficiaries to ensure their greater participation in the project implementation (Liyanage, 2013). Sanders and Fitts (2011) assessed the success and failure of rural drinking water supply initiatives and its nature of sustainability in Pawaga, Tanzania. In most studies, researchers indicate that Participatory Approach is a valuable tool to determine the stability of the functions of the rural water programs (Chakrabarti *et.al.* 2013; Nyakwaka & Benard 2019; Olajuyigbe 2016; Mahana & Thrnquist n.d.; Haq *et.al.* 2014; Liyanage 2013; Sanders & Fitts 2011 and Mark *et.al.* 2014). Many studies taken review have focused on understanding rural water supply system in association with participatory approach on the basis of selected rural region in a country or selected States within the country, not comparing five or more countries on the study concept or policy adoptions. This gap can be filled through this knowledge contribution to the field of Social Sciences, particularly Sociology.

The participatory mechanism in many development projects has shifted from traditional top-down approach to bottom-up approach in the early 1980s. This paradigm shifts motivated higher degree of community participation as a needful process when implementing development initiatives after 1980s (Harvey & Reed, 2007). Many studies have presented that time and resources were utilized on projects which do not consider the needs, priorities, values, customs, beliefs, political, social and economic structure of the beneficiaries' account. To enhance the community participation, international organizations are using various participatory models and strategies that target on learning and empowering the poorer (beneficiaries) or marginalized people, then enhancing the possibilities of the sustainability of any development projects (Gomez & Nakat, 2002).

Therefore, this paper aimed to highlight the policy and practice of CP in the rural water supply sectors, by exploring the practices of selected developing countries, and to analyze the nature and challenges of community participation in these countries. The analysis of the policy and practice of five developing countries would be the model for comparison and knowledge contribution to the existing fields, and to provide insight for the improvement or policy adoption in the rural water sector by adopting participatory mechanism. This paper would be an initial attempt to fill the gap and provide prime ideas to explore similar issue extensively by comparing the experience of various countries from different continent for producing new knowledge to the existing field.

3. Objective

This study aims to understand how the policy of CP is being adopted by the developing countries in their rural water systems in selected developing countries namely; Kenya, Tanzania, Ethiopia, India and Sri Lanka, and to discuss the success and weakness of the participatory approach or techniques adopted in these developing countries.

4. Methodology

The context of aforesaid five countries were selected from Asia and African regions where water crisis has been identified as a crucial issue and the government and donor agencies taken much effort to mitigate this crisis especially from rural sectors. The study designs basically a conceptual structure within which this work carried out and employed the selected reviews for collecting and analyzing the discussion of findings (Kothari, 2004). As a qualitative design, this study used interpretative method to present the ways in which CP adopted and practiced by the selected countries. The CP method, typology, and the level or nature of participatory approaches performed by the selected developing countries have been interpreted using the information and strategies derived from secondary sources, particularly from research articles, web sources and recently published report and documents. The different method and exercise of CP and challenges confronting the selected countries in all functions or operation of the rural water supply system were described in this study in a textual manner to achieve the intended objectives.

5. Result and Discussion

Policy Adoption in the Selected developing Counties

This paper mainly focused on the policy adaptation of public participation in the rural water sectors in developing countries. The following part discusses the policy and exercise of civic participation activities or initiatives in the selected developing countries such as Kenya, Tanzania, Ethiopia, India and Sri Lanka. This section briefly interprets the nature of participatory approach in the water supply activities in rural sectors, to comprehend the objective of this study.

(1) Kenya:

The United Nations Millennium declaration in 2000, formulated the goal to ensure the sustainable drinking water supply by 2015. This declaration enhanced the way to fulfil water requirement by 2025 according to the Global Water Partnership Framework for Action and the African Water Vision (ADB, 2007) and the Kenya Vision 2030 which also expected to provide access to water availability for all by 2030. The difficulties of the governments in providing water supply to the rural sectors due to the limitation of water resource, has led for wide range of policy adaptation for community-based water supply systems from 1980s (Harvey & Reed 2007; WHO, 1996; World Bank, 2003). The top-bottom approach has been transformed and shifted to bottom-top model, which is called as paradigm shift and recognized the fullest participation of local communities (beneficiaries) for taking part in decision making process in the rural water supply (IRC, 2003).

Participatory approach is a necessary model to assist local communities globally in line with many international declarations like; Dublin Statement (1992), the Hague Declaration (2000), and the 2003 Water Forum in Kyoto also motivating wider input of public in decision making in the water related administrative

system (World Bank 2003 and Waithaka *et.al.* 2016). Community participation has been identified as an approach to achieve benefits for local people and it enable them to manage social, economic, environmental and other required services to promote development activities to be sustained (World Bank, 2003). Chambers (2007) also stresses that People's participation (participation of poorer) is a best and useful model for ensuring development activities in rural sectors, as it has the possible guideline to give local people to control over local water resource (Organization for Economic Development, 1985). Similarly, the United Nations (2003) recognized that community participation is useful mechanism for effective management in which all people, men and women, will have a right, power and voice, they can represent their interest throughout the process of adopting policies and decision making. Njogu (2009) also recommends that numerous organizations mandated with the policy formulation and adaptation of community participation in a way of 'bottom-up decision making process' to engage higher degree of public participation in designing and planning any development projects in Kenya (Waithaka *et.al.* 2016).

(2) Tanzania:

Tanzania planned to improve rural water supply as an important part of development process, to provide better quality of life in the rural sectors. The country was planned the year 1991 as a benchmark period when every citizen in the rural area should have already extended access to nearby water source. Tanzania has taken many approaches with huge amount of investment for upholding the strength of drinking water service in rural region. The government simultaneously provide training for the engineers and technicians to establish rural water system, meantime, the government was recognized the approach for the participation of rural people in designing, operating and maintaining of the rural drinking water supply scheme (Mujwahuzi, 2012). Tanzania government believed that this participatory mechanism would be a successful model to solve the water crisis in the rural areas. It is noted that beneficiaries will be requested to take part fully in local water supply scheme and to plan strategies to conduct meeting on the cost of the scheme operation, to expedite the implementation of the small-scale water projects within rural regions. At the same time the 'Long Term Water Supply Plan' (1991-2000) which obviously accounts that this larger project has required the broad-based popular contribution of local public in operation of numerous rural drinking water projects in Tanzania (Mujwahuzi, 2012).

Tanzania promotes community participation to gain more benefit by the local people. Those benefit covers; (1) Enhance the local people to capitalize their finance and human resources efficiently in the water project. (2) Community participation may help few savings on government money, otherwise it can be utilized for improving water supply scheme. (3) Promote sense of responsibility and ownership among village people toward their water project, it would ensure their responsibility to operate and maintain the project properly. (4) Incorporating the social concern in design, construction, maneuver and conservation of the local water project. (5) Create the strong self-reliance among local people to improve submissive government assisted and real beneficiaries. (6) Promoting local knowledge, and prepare them or expertise them for mitigating rural water crisis, and identify the problems that affect their rural water systems and other development initiatives (Mujwahuzi, 2012).

(3) Ethiopia:

Generally, the Ethiopian Government and other non-governments bodies have invested billions of money for establishing rural water supply schemes especially in many villages over the last three decades. Even though community managed water facilities are improved and water coverages are increased, it is found that poor community participation, lower maintained and often breakdown and interrupted water supply in the rural sectors after the establishment of the project (Meniga *et.al.* 2019).

In Ethiopia, the greatest number of children are dying every day due to poor quality drinkable water and lack of proper sanitation. In the recent past, water sector of rural Ethiopia has lack activity for inclusive policy on water resource management. Due to this situation, the drinking water supply and other water management activities performed at very low level comparing to other countries and other sectors. The lack of coordination and integration were found as key factors of this low-level performance. As a result, the government prepared and recognized the Ethiopian Water Resource Management Policy to ensure the integrated water supply and sanitation policy and irrigation guidelines in order to promote better life and productivity among Ethiopian people (Meniga *et.al.* 2019).

(4) India:

India has accorded the higher priority to rural drinking water service. The National Water Policy – 1987 has clearly been stated that ‘drinking water needs of human beings and animals should be the first charge on any available water’. The Indian government fixed the target for providing safe and quality drinkable water to all by the year 2004 (Tripathi & Lal, 2001). The state governments are having responsibility for providing affordable and quality drinking water to the rural habitants in India. The Indian Government will assist the state by providing financial support, technical assistance and policy guidance. The huge financial and technical efforts have been set by the Indian Central Government and the State Government to the rural water supply projects in India over the decades. Indian government created the National Drinking Water Mission in 1986, then it has been renamed as Rajiv Gandhi National Drinking Water Mission in 1991, for the purpose of providing financial and technical assistance to improve rural water supply sectors (Cited in: Tripathi & Lal, 2001).

The government has realized that financial investment is not the way to achieve the success and sustainability of the projects, nevertheless it is necessary to ensure local beneficiaries’ participation not in the stage of operation and maintenance, but in the selection, designing and implementation of the entire projects. The Government considered the community as a main and central body to allow local people to contribute to the sustainable function of rural water services.

The Government of India brought policy changes by introducing reforms in the rural water supply sector. The paradigm shift has been progressed, the demand responsive approach, empowerment of local people and ensure their participation in the implementation, operation and maintenance of rural water supply schemes. After the Seventy-Third Amendment to the Constitution of India, the subject of rural water supply was placed under the Panchayati Raj Institutions (PRIs – rural local bodies). The Panchayats have been made responsible for providing safe drinking water in their respective areas. The Indian Government introduced reform in the rural drinking water sector in 1999. According to this new approach, the efforts were focused on creating awareness among rural people to ensure their active participation in the water supply programs (Tripathi & Lal, 2001).

(5) Sri Lanka:

After the independence (1948), the government of Sri Lanka (GOSL) had taken numerous actions to provide safe drinking water to the rural people, therefore, the GOSL initiated Rural Water Supply programs through divisional level i.e., Local Authorities (Rural Water & Sanitation Section [RWSS], NWSDB, 2016). In Sri Lanka, the excessive engagement for Rural Drinking Water Supply Project was initiated during the period of declaration of ‘Global Water Decade’ in 1980. Later, National Water Supply and Drainage Board (NWSDB), other state institutions and non-governmental organizations have taken many efforts to expand rural drinking water system. As a result, it is observed that about 4,717 community based piped water supply

in rural areas have been operating throughout the country under various projects (Statistical Guide Book, RWS, 2017).

These all RWS schemes are being managed by the (CBO) beneficiary communities in rural sectors. However, in Sri Lanka, CBO managed rural water schemes have been experiencing with some challenges or difficulties in their functions and sustainability on technical, social, economic, environmental etc. Thus, according to various studies, there were numerous steps taken by the government to form RWS section / division under the purview of NWSDB to make sure the sustainable function of current Rural (CBO managed) Water Supply system in 23 districts at present (RWS Section, NWSDB, 2016). The government of Sri Lanka aimed to build capacity among rural community (Community Based Organization - CBO) to increase the access to drinking water facilities by using (participatory model) demand driven approach (Ariyabandu & Aheeyar, 2004) in the country.

Most of the Community Based Organizations have received financial assistance from donor agencies or the government / NWSDB where possible. Further, the Department of National Community Water Supply (DNCWS) was formed in 2014 as responsible unit for assisting CBOs, but it is functioning in the basic level, and utilizing poor resources (The World Bank Report, 2017). The provision of Water Supply and Sanitation Improvement Project was sanctioned in 2015 as a mega project, which projected to diminish the challenges faced by the rural CBOs by supporting capacity development of the DNCWS. (Cited in: Riswan and Beegom, 2020). In Sri Lanka, more than 6 million rural citizens have lack of access to quality water and sanitation, it shows that nearly 40% of the rural communities. On the other hand, 27% of the people are suffering from poor quality drinking water and around 30% of people do not have sufficient sanitation and hygienic condition in Sri Lanka (Dissanayake, 2011).

The participatory mechanism was recognized by the selected five developing countries in their rural water supply sectors to ensure the easy access for sustainable water supply to the rural people, with their own contribution or involvement to decision making, maneuver and monitoring rural water facilities. This approach highlights the following efforts taken by the developing countries which are selected to this study.

Table 1: Policy on CP approach in the selected countries

Countries	Policy Nature	Participatory Approach
Kenya	The government of Kenya initiated policy on CP since the early 1980s. The major policy is Kenya Vision 2030.	‘Bottom-Up Decision Making Process’. The participation has shifted from traditional top-bottom to bottom-top approach.
Tanzania	The government of Tanzania has set the year 1991 for adopting CP.	Participatory Strategy used for successful model to solve the water crisis in the rural areas.
Ethiopia	Ethiopian Water Resource Management Policy integrated water supply and sanitation policy and irrigation guidelines.	Community Participation is the useful model exercised by the government as productive measure among Ethiopian people.

India	National Drinking Water Mission 1986; National Water Policy 1987; Rajiv Gandhi National Drinking Water Mission in 1991; and Indian Government introduced reform for its village level drinking water provision in 1999.	The paradigm shift has been progressed from Supply Driven to Demand Responsive Approach. Empowered local people to engage in the rural water sector, especially to operate and maintain local supply schemes.
Sri Lanka	After 1948, the GOSL initiated Rural Water Supply programs through divisional level i.e. Rural Water Supply was initiated after the declaration of ‘Global Water Decade’ in 1980. The government established ‘Department of National Community Water Supply’ in 2014.	Using Participatory Model - Demand Driven Approach to ensure the water availability to all people in rural sectors. The GOSL formed CBOs throughout the villages and handover the water scheme to the local community to operate and maintain.

Sources: WHO 1996; World Bank 2003; Harvey & Reed 2007; Garande & Dagg 2005; IRC 2003; Waitthaka et.al. 2016; Mujwabuži, 2012; Meniga et.al. 2019; Tripathi & Lal 2001; RWSS-NWSSDB 2016; Statistical Guide BookRWSS 2017 and Ariyabandu & Abeeyar 2004.

Many developing countries have attempted to adopt and exercise beneficiaries’ participation in the rural water supply sectors. The success of using participatory approach has observably different from nation to nation, and or differ from state to state or province to province in a same country. Almost all developing nations including selected five developing countries have formulated policy to adopt People’s Participation as useful mechanism to make sure the accessibility of safe and quality drinking water to the rural communities. The policy was adopted by the governments to handover the system to local people and ensure the continuous service to them.

However, there are some challenges also observed in these countries with related to community involvement in rural water distribution services. The local people are not involving in the preparation and designing stage of the project in the rural water projects implemented in developing nations. The major preparation and selection of the project mostly done by the outside stakeholders rather than local people, especially poor (Chambers, 1985). In the implementation stage, local people are invited by the outside expert, engineers or technicians and or donor agencies to operate and maintain the project schemes without proper awareness and suitable training. As a result, it has been observed that poor quality, poor monitoring, technical problems, water interruption and lack of ownership and social capital are identified as more challengeable issues in the rural water sectors. To overcome these challenges, the demand driven approach should help the outside stakeholders and donor agencies to allow local people involve in the all phases (from selection to monitoring) in rural drinking water projects in developing nations.

6. Conclusion

Faster population growth, environmental destruction, the upsurge of poverty and economic deprivation, and inequality of resource allocation and distribution, lack of accountability and transparency mechanism, misuse of resource and money are some of factors that influenced to block the success, sustainability and better outcome of the water supply projects (Briscoe, 1993: cited in Gomez & Nakat,

2002). The rural drinking water supply is discursing universally, and the sustainable rural water supply system also plays an important role for supplying portable drinking water to needy people or rural poorer in developing countries. In the present context, the DDA (demand driven approach) adopted in various development plans in developing countries in order to ensure community participation that may contribute to the function and administration of the rural water sector. This paper revealed that each developing countries were adopted the participatory model in terms of demand driven model or bottom-top strategy in rural drinking water services. However, local people are not taking part in the main stages of the water supply projects like identifying, designing, planning of the water schemes which leads to poor quality, lack of sense of ownership and poor monitoring mechanism. The primary participants (local people) should participate in all the stages of the specific project to make sure the project to be successful and sustainable. The active participation of women and youth also essential in the rural water supply schemes. This is actually not a simple matter, but providing training, empower local communities, educating children, youth and women to make their significant participation in the water sectors which established in the marginalized or isolated rural areas in developing world. However, the demand driven approach should motivate and mobilize the local community to involve in the development activities and establish stronger committee in every rural drinking water supply project, particularly in developing countries.

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