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Community Participation and the Sustainability of Rural Water Delivery Services in a Nigerian Coastal Settlement of Oron, Akwa Ibom State, Nigeria

by

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Abstract

The extent of community participation in the sustainability of rural water delivery services in Oron, a Nigerian coastal settlement, was investigated in this study. The specific objectives of the study were to determine the level of borehole water supply coverage and the status of their functionality, to find out the extent of participation of those charged with the responsibility of managing the water supply schemes and their community members in the management of the water delivery services of the study area. Data for the study was obtained through the use of structured questionnaires administered to 200 randomly selected households drawn from 10 wards that make-up the study area. The data was complemented by information obtained through focus group discussions (FGD), interviews, observations and official records of the state agencies responsible for public water supplies. The analysis of the data using descriptive statistical tools revealed that of the 16 borehole water supply schemes in the study area, only 5 are functional at full capacity while 11 are non-functional. The non-functionality of these schemes was due to the top-down approach to development which largely excludes members of the community from participating in the decision making process of the project. It was further revealed from the study that should programme planners involve community members from the planning to utilisation level; the community members would be empowered to take total control, ownership, maintenance and sustainability of the water facilities and barriers to real and effective participation in water delivery services in the coastal settlement would be eliminated, as genuine participation in critical stages of water projects such as decision making and technology selection is either limited or lacking in the area. The weak institutions of the structures charged with the responsibilities of managing the rural water supply schemes have been identified as major factor for ineffective participation of the community members in the sustainability of the water projects. Strategies that may enhance the sustainability of the schemes and increase involvement of the community members at both the planning and implementation of the water projects are suggested.

Keywords: community participation, institutional structures, water delivery schemes, sustainability, coastal settlements

1. Introduction

In September 2000, the Millennium Development Goals (MDGS) was adopted by 189 UN member states. The MDGS sets clear and time-bound targets for making real progress in the most pressing development issues the world was and is still facing. Goal 7 of the MDGs is to “ensure environmental sustainability. The targets of this goal is “to halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation”. Target 10 goal 7 of the MDGS also focuses on sustainable access to safe drinking water and basic sanitation. It is widely believed that achieving these targets will positively impact on the lives and prospects of billions of people the world over. In Nigeria, the National Millennium Development Goals Report 2004 reveals that there is potential to achieve some of the targets connected to achieving universal primary education, ensuring environmental stability and developing a global partnership for development. It is, however, said that it is unlikely that the country will meet the other goals by 2015, as a combination of inadequate access to safe drinking water and basic sanitation is typical of many urban and rural areas in Nigeria.

Accomplishing the Millennium Development Goals target however, constitutes a critical challenge as the results of water supply interventions in rural communities have been mixed so far. Some analysts have suggested that this, in part, is due to the engineering and technological determinism that has accompanied design considerations. In planning for water supply in poor communities in the developing world, technological design specifications have been dominated by the donor and implementing agencies, while communities have been typically left out of this critical design and planning phase. Emerging perspectives in the last decades have compellingly indicated that technology adoption and sustainable management of water supply innovations are determined by complex social forces and social relations that shape people’s choice of technology, and water use behaviours (Vincent, 2003). In this connection, Singh et al. (2005), in a recent case study of a community water supply program in India resounded the importance of overlapping socio-cultural factors as critical determinants of exclusion and access to water supply innovations. This suggests that for water supply management to be sustainable, local people must be encouraged to negotiate, communicate, learn and arrive at joint decisions that reflect community choices and preferences, which in the past had often be neglected.

The policy on community participation in the rural water supply sector falls within the reforms advocated by a variety of multi-and bilateral organizations and donors agencies during the International Decade for Drinking Water Supplies of the early 1990s (UN, 2006). This policy places an obligation on benefiting communities to actively participate in the development activities of the water supply services by empowering them to mobilize their own creative potentials, manage resources, take decisions and control activities in the water supply sector (UN, 2007). Community participation in the rural water supply involves government divesting itself of some direct service delivery responsibilities and allowing the beneficiaries to contribute to or be involved in the development and management of the water supply infrastructure (Akpomunje,2010) as this would develop a sense of ownership on the part of the community, and ensuring that services are based on local needs, priorities and affordability (Ostrom, 2011) as well as allowing external resources allocated to the sector to be effectively utilize to enhance

sustainability (World Bank, 2005). Community participation is widely considered as a very crucial strategy for efficient and sustainable operation of rural water supply systems (RWSS); and no rural water supply system can significantly be truly successful without the support of the host community (Imoro and Fielmua, 2011). The efficacy of community participation has been investigated in many parts of the developing world and the outcome of many of the studies attest to the effectiveness of the approach (Nakano and Otsuka, 2011).

Studies (Nakano and Otsuka 2011 and Imoro and Fielmua, 2011) have established the significant roles played by grass root participation in service delivery and the sustenance of rural water supply for both domestic needs and for irrigation projects as well as the sustenance and the overall execution of other self –help community projects. Recent study (Amedzro, 2005) indicates that in the 1960s and 70s, members of communities participated actively to provide basic social services such as wells, schools and path or roads leading to and from the community. This is contrary to the present days where majority of the community members rely solely on the government, with the notion that they know the social problems and social services needed by communities as well as the solution to these problems, thereby, arrogating to the government the sole responsibility of planning, implementing, monitoring and evaluating the social services meant for their development. This thus, makes the citizens passive recipients of development programmes, which are usually planned and executed for them by their government. This approach to development is associated with many challenges such as unsuitable programmes and projects, wrong citing of projects, corruption and limitations, traceable to the non-involvement of the recipients in the planning, implementation and even in the assessment of the impact of the programmes on the beneficiaries (Amedzro, 2005).

Community participation has been heralded as a source for sustainability to development initiative particularly for the underprivileged. Therefore, for projects to be sustained, the involvement of community members who are beneficiaries in their own development programmes should be paramount. When people participate in ongoing projects, it increases their sense of control over issues that affect their lives. Therefore to enhance sustainability, community members need to be empowered (Karl, 1995). According to Karl (1995) empowerment is to enable the community have the capacity to make realistic decisions and implement them with minimal support. Empowerment is obtained by building the capacity of people. Capacity building is achieved through participation of community members in which information about community projects is made known to the members, so as to be able to mobilize resources to build their capacities to achieve their goals. In this process, they create a “can do” spirit among community members. This eventually leads to sustainability of community projects.

Against this background, this study investigated the extent of community participation in rural water provision and sustainability in a Nigerian coastal settlement of Oron, with the following specific objectives:

- i) To determine the level of coverage of borehole water supply schemes and the status of their functionality Oron LGA, Akwa Ibom State.
- ii) To determine the extent of participation of the community water management committee and their community members in the management of the borehole water supply schemes.
- iii) Identify the structure of the community and individuals participation in the borehole water delivery services.

- iv) To examine the mode of sustaining the rural water delivery services through the community participation in the coastal communities.

2. Materials and Methods

2.1 The Study Area

The study was carried out in Oron Local Government Area, in Akwa Ibom State, Nigeria. The Local Government Area is basically a coastal settlement located at approximately between Latitudes $4^{\circ} 46' - 4^{\circ} 52'$ North and Longitudes $8^{\circ} 12' - 8^{\circ} 18'$ East with a total land mass of about 309.27km^2 . Oron LGA is located at the right bank estuary of the Cross River close to the Atlantic Ocean. It is a river port and ferry or packet station, linking Calabar and other rivers and coastal ports in the region and the Cameroon and Equatorial Guinea outside Nigeria. It also forms a terminus for roads linking important towns in the mainland – Uyo, Eket and Ikot Abasi. Oron LGA is bounded by Okobo LGA in the North West, by Urueoffong/Oruko, Mbo and Udung Uko LGA in the South and South-West respectively. To the East and the South-East, it is bounded by the Cross River, close to the Atlantic Ocean. The LGA is situated in the coastal areas of Akwa Ibom State with gentle rolling coastal plain sands typified by sedimentary basin formation of largely unconsolidated deposits. Rainfall is heavy and last about 10 months in the year. The LGA has two different seasons, namely: wet and dry seasons. The wet seasons last for about 10-11 months. The wet seasons start about February – March and last till mid-November and are characterized by the little dry spell, which occurs about two weeks in August. The rate of development in the study area is indeed very tremendous. Oron Local Government Area is made up of five clans with 17 villages. The economy of the study area is dominated basically by farming and fishing. Although the inhabitants are also engaged in petty trading and production, farming and fishing still remain the most important and primary occupation of the people as other activities are carried out on part time basis.

2.2 Methods of Data Collection

Data were collected by means of informal and qualitative methods, principally through focus group discussions, participatory rural appraisal, indepth interviews with key informants and direct observation approaches. These methods were adopted in preference to the formal and quantitative approach considering the cost, scope, structure, statistical analysis and other advantages associated with them. Besides, the PRA method has built-in techniques of achieving a high degree of accuracy, and above all, the active participation of the community and on-the-spot analysis (Theis and Grady, 1991). Focus group discussions (FGDs) were employed to bring together various households in the 10 wards that make up the study area. Each focus group consisted of 10 households drawn from each of the wards. Effort was made to ensure that the focus group discussions were as representative as possible and cut across the village heads, youth groups, women leaders, members of community water management committee, political leaders in each community, and notable elders in the community. Particular attention was paid to gender representation and age differential in the focus groups. The focus group discussions were designed to collect data on the extent of community participation on water delivery services, stages of involvement in the water project, contributions to the project, the level of sustainability of the project among others. Data on the level of coverage of water supply scheme in the study area was obtained from relevant agency while questions on

the institutional structure involved in managing the water supply schemes, the extent of community participation and the mode of sustaining the water project was obtained through the use of structured questionnaires.

Primary data were obtained from households through interviews guided by a structured questionnaire. The content of the questionnaire was informed by literature on community participation in water provision in the study area. Purposive sampling technique was adopted in the selection of the sampled respondents. 20 respondents was purposively selected in each of the 10 political wards which the study area is made up of thereby bringing the total number of households selected for the study to 200. Based on this, 200 households were interviewed in all the 10 political wards of the study area.. The study subscribes to interviewing only heads of households. But where relevant information could not be provided by the head of households (assumed to be the decision-maker), their spouse or other household members were asked to provide such information.

2.3 Results and Discussions

Data on the Rural Water Supply Schemes, their spatial unit and present status in the study area are presented on Table 1. Findings revealed that a total of 16 water supply affordable prices to the rural communities are found in the study area. Of the 16 water supply points, only 5 are functional while others are non-functional. Although the 16 water supply points are exclusively owned and provided by both the State and Local Government Council through the governments inter-ministerial project, evidence of community participation arrangements in them abound. The rural water supply schemes fall into two major categories, namely: i) Mini-water supply schemes with only one borehole as its source of water supply and serving a relatively small population of less than 2500 households and the. ii) Medium-sized water schemes having several water supply sources (two or more boreholes) and serving a relatively larger population of over 5000 households spread in many villages over a large geographical area. The location of the water supply points, technology type and the present status in terms of functionality in each of the political wards is as shown in Table 1.

Table 1: Level of Coverage of Water Supply Schemes and their Functionality Status

Wards	Location	Technology Type	Present Status	Total
1.	IduaAssangMethodize Avenue	Borehole	Functional	1
2.	St African Primary School IduaAssang	Borehole	Non Functional	1
3.	AME Zion Church IduaAssang	Borehole	Non Functional	1
4.	AfahaEduok	Borehole	Non Functional	2
5.	Esuk Oro	Borehole	Non Functional	1
6.	UdungUlo	Borehole	Functional	1
7.	EsinUfot	Borehole	Non Functional	1
8.	Army Children Primary School	Borehole	Non Functional	1
9.	Mary Hanney School	Borehole	Functional	1
10.	UdungUlo	Borehole	Non Functional	1
11.	Eyobiosio	Borehole	Functional	1

12.	Eyotong	Borehole	Non Functional	2
13.	Uya Oro Junction	Borehole	Functional & Non Functional	2

Source: Akwa Ibom Water Company (AKWC), Oron LGA

All the rural water schemes have village water committees (VWCs) charged with the responsibility of mobilizing local resources, labour, security etc and channel same to the schemes to aid their sustainability. Five of the water schemes (wards 1, 8, 6, 10 and 2) are functioning almost effectively (85percent of installed capacities). The high performance of the five water schemes was attributed to the efforts of the political office holders in some of the communities and the high cooperation of the community heads and members of the community water management committees together with the supports of the well co-ordinated youth groups which ensures regular mobilization of local resources (for operation and maintenance) by households in the community. In an interactive session with the community heads in Ward 8, it was said that they do everything at their disposal to ensure that their scheme runs uninterruptedly. They applaud the efforts of the community water management committee for their patriotism and unceasing concern for the continual functioning of the schemes. Added to this is the regular remuneration of the committee members from locally mobilized and concerted source resources for the constant purchase of up-to-date spare parts as well as replace same as the needs arises. The optimal performance of the Ward 2 scheme was attributed to the use of modern technology and the fact that the community has a formidable youth groups who are well organised and very articulated, while that of Ward 10 was attributed to frequent financial and technical support from the member of the State House of Assembly who hails from the community. The remaining 11 schemes have completely stopped functioning. The reasons for the non-functioning of the 11 schemes as identified by the respondents includes: non consultation of the rural people and poor state of infrastructure characterised by the sitting of the water schemes based on political patronage and party affiliations as well as poor site selection for the siting of most of the borehole water supply schemes. As noted by the community head of Ward 5: the community were not involved in decision making in respect of the sitting of most of the water schemes; if they had been integrated at the planning stage, they would have advice the service providers of the best sites for the sitting of the schemes as this observed challenges have strongly impeded the sustainability of majority of the water schemes. This fact buttressed the importance of involving the communities in all aspects of the service delivery of the rural water schemes. It also demonstrated the limitations of the top- down and supply driven approaches to delivering of services which should be replaced by the new bottom-up and demand driven approach. This corroborated earlier studies (UN, 2006; 2007; Thwala, 2010 and Ostrom, 2011) that the bottom-up approach places an obligation on benefiting communities to actively participate in the development activities of their rural water supply services by empowering them to mobilize their own creative potentials, manage resources, take decisions and control activities in the water supply sector in order to enhance sustainability.

Table 2: Extent of Participation of those Charged with the Responsibility Managing the Water Schemes and the Extent of Community Participation in the Water Management

Indicators	Responses	Percentage
Body Responsible for Managing Community Water Scheme		
Community Heads	52	26.0
Youth Groups	59	29.5
Community Water Committee	33	16.5
Political Leaders	38	19.0
Zonal Engineers	18	9.0
Total	200	100
Extent of Participation in Water Provision		
Fully Participated	10	5.0
Moderately Participated	143	71.5
Low or None Participation	47	23.5
Total	200	100
Level of Community Participation		
Active Participation in all Aspect	28	14.0
Active Participation before Construction	41	20.5
Active Participation during Construction	118	59.0
Active Participation after Construction	2	1.0
None of the Above	11	5.5
Total	200	100

Source: Fieldwork (2016)

Based on the policy of community participation, the community should be charged with the sole responsibility of managing their water supply schemes at the community level, since they are the direct beneficiaries (the users) of the schemes. The key players involved in the management of the rural water supply schemes and the extent of their participation in the rural water service delivery in the study area is investigated and the results presented in Table 2. It is revealed that the actors involved in the management of the rural water supply schemes in the community are: (1) community heads i.e village heads/clan heads (2) the youth groups (3) political office holders/appointees and (4) the community water committees. In the study area, the community (village/clan) heads are regarded as the number one citizens in their respective communities and, the spokespersons of the community who understand their community needs and challenges and the intricacies of the local politics. They exercise much influence and control over their executives and they together with their executive members discharge the onerous responsibilities of mobilizing political and grass-root support for their community water projects at the local/community level, channeling the contributions of the community (money, materials, service, labour, idea etc) to the water project providers and facilitating the cooperation and support of the community members for the operation, protection and maintenance of the project as well as monitoring the progress of the schemes and the performance of all the stakeholders and, reporting same to appropriate authorities. The political leaders consist of ward counselors, political appointees, elders (senior government officials) and the elite groups who by virtue of their pedigree and deep interest in the affair of their community have jurisdiction over matters which affect their communities' wellbeing. Since it is widely believed that these first class citizens have the wherewithal of attracting developmental projects to their community which they always claim, almost without fail, and are often believed, as a consequence

they arrogate to themselves the right to supervise, protect and direct how such projects are run. Field evidence revealed that these political leaders do strongly interfere with the composition of the membership of community water management committees and the extent of their involvements in the management of water supply schemes in the communities, due to their backing by the community members and in most cases by the community heads. The youth leaders constitute the most sensitive and active segment of the community who possess the desired energy, time and skills needed for the development and/or the management of water supply schemes. They supply needed labour during construction/maintenance and protect installed facilities, besides constituting considerable portion of community policing. In this connection, getting them to support or appreciate any development project such as a rural water supply project almost tantamount to getting their faithful do the same and vice versa. It was shown that majority of the those who participate in the management of the rural water supply schemes are the youths and community heads as this constitutes 29.5percent and 26percent of the sampled respondents. This is followed by the political leaders (19percent) and the community water management committee. These findings affirm the overwhelming role occupied by the youth groups in rural development planning.

Again, it is further gleaned from Table 2 that majority of the sampled respondents (71.5percent) moderately participated in the management of the community water supply schemes while 23.5percent do not participate at all, with only 5percent having full participation. With respect to the level of the communities participation in the management of the rural water supply schemes at all levels, majority (59percent) of the respondents participated actively during the construction phase with 20.5percent actively participated before construction. While 14percent of the sampled respondents actively participated in all aspect of the water supply schemes, only 1percent participated in the management of the scheme after construction. The non participation of majority of the sampled respondents in the management of the rural water supply schemes after construction could account for the non-functionality of the majority of the water supply schemes as observed in Table 1. What this suggests in the words of Raniga and Simpson (2002) is that the communities are not allowed direct and ultimate control in taking decision concerning their affairs as community participation occurs when a community organizes itself and takes full responsibility for managing its problems. This has obvious implication in the sustainability of the rural water supply projects.

Table 3: Structure of Community and Individual Participation in Rural Water Management

Variables	Response	Percentage
Structure of Community Participation		
Project implementation	34	17.0
Project monitoring	40	20.0
Site selection	14	7.0
Technical selection	3	1.5
Project design	8	4.0
Routine maintenance	76	38.0
Planning activities	6	3.0
Project evaluation	19	9.0
Project conception	0	0.0
Total	200	100
Structure of Individual Participation		
Financial/ Money Contribution	51	25.5
Provision of Labor	48	24.0
Idea Contribution	34	17.0
Materials Contribution	15	7.5
Payment for Water rate	36	18.0
Maintenance of Facilities	10	5.0
Members of Community Management	6	3.0
All of the Above	0	0.0
Total	200	100

Source: fieldwork (2016)

It is evident in Table 3 that the community members are often not involved in the conception of the water supply project meant for them neither are they involved in the planning, evaluation, design and technical selection of the water supply schemes as low responses are recorded in these very vital aspects. This is a clear indication of up-down approach to development planning which is antithetical to the policy of community participation. Communities that participate in projects find out that, not only do they derive more satisfaction from the joy that comes from open community involvement, but also achieve more results, more rapidly which benefit the community as a whole. Therefore, for projects to be sustained, the involvement of community members who are beneficiaries in their own development programmes should be paramount. When people participate in ongoing projects, it increases their sense of control over issues that affect their lives. Table 3 reveals further that majority (38percent) of the people are only involved in project monitoring while about 20percent are involved in routine maintenance. This probably accounts for the non-sustainability of most of the water supply shemes. Project sustainability can be ensured when community members are included in the project design, as this would make them to be more committed to the programme delivery, and try to put such commitment and zeal into practice. In order for such projects like water delivery to be sustainable, there is the need to include plans for the communities to manage both internal and external resources to provide greater sense of ownership, which is lacking in the study area. It has also been suggested that sustainability rests on flexible project designs which takes advantage of local knowledge and practices and promote community ownership. Such measures help programme

designers to adapt to changing circumstances and respond quickly to new opportunities that may emerge (Haziri and Heather, 2007).

With respect to individual participation, it is gleaned from Table 3 that majority (25.5percent)of the people only make financial contribution while 24percent provides the needed labour, about 17percent contributed ideas that would enhance the sustainability of the community water project. It should, however, be noted that most community members in the study area do not participate in projects because of lack of skills and knowledge on the project. Also, their responsibilities and roles are not made clear. Information flow and feedback between them and the service providers is a problem. As a result of the above reasons, community ownership and sustainability of projects cannot be guaranteed as soon as the service providers withdraw.

Table 4: Mode of Sustaining the Rural Water Supply Schemes

Variables			Response
Provision of adequate security		187	
Raise maintainace commitees			181
Guidance on proper use of facility	156		
Raise funds for maintainance	171		
Completing abandoned projects		173	
Take part in decision making	200		
Ensuring transparency in government			200
Attending commiteee meeting			168
Regular check-ups on the water scheme and report problems			184
Keeping in contact with service providers			200
Others			56
Total			

Source: Fieldwork (2016)

Table 4 shows the respondents response on the mode of sustaining their water supply scheme if the enabling environment for their participation is provided. Data from Table 4 reveals that all the respondents unanimously agreed that the rural water schemes can by sustained if they are fully involved in taking decisions on the viability of the project right from the conception stage, and by constantly keeping in contact with the service providers. The notion of participation in decision making has been hailed for its immense contribution to sustainability of development interventions since it promotes, among other factors, ownership of the development process by locals, hence the zeal for efficiency and effectiveness in the use of resources (Peltz, 2008). The inclusion of people in development anchors in the Participatory Development (PD) approach, whose scholars maintain that, no development programme can succeed unless the local people are willing to accept it and make an effort to participate. The involvement of the local people makes it possible to utilize their knowledge about local conditions to solve local problems more efficiently and effectively (Botes, 2013). The need for transparency by the community water management commitees has also been identified as a critical factor in sustainability of the project. This, as widely believed, would repose confidence in the water project and, of course, boost the moral of the youth groups in providing adequate security outfit for the safety of the projects. Sustainability in rural water supply also refers to maintenance of water supply facilities such that they remain in a condition that guarantees a reliability and adequacy of potable water supply. This the community believes could be achieved

through regular check-ups on the water supply with the aim of reporting identified problems with all amount of urgency to the appropriate quarters for control as well as the dire need of raising maintenance committees for such purpose (Table 4).

3. Concluding Remarks/ Recommendations

The study has shown that there is a positive relationship between participation and sustainability of rural water projects. It is thus concluded that the level of participation strongly influenced the sustainability of rural water projects as revealed in the study area. Water projects will remain more sustainable when the beneficiaries are involved in the planning for the project right from the project conception stage. When the people are actively involved in projects, they see it as their property and as such jealously guard the efficiency and sustainability of the project. It is therefore concluded that communities should be involved in the planning of the project right from the onset of the project conception to its implementation stage. Based on the findings, it is recommended that;

- I. The level of participation of community members in project should be increased so as to attain high level of sustainability of such projects.
- II. The communities should continue with their methods of organization, but should put more emphasis on regular conference and institution of sanction/reward to encourage citizens to participate in development projects.
- III. The citizens of the community should be involved in projects, whether water or not as this will enhance their perception on such projects positively.
- IV. There is a need to encourage the use of simple, inexpensive water supply projects which require limited funds both for construction, operation and maintenance in the water supply delivery by government and related agencies in the study area. The agency needs to avoid the development of complicated and expensive water scheme designs which tax the economic and technical resources of the communities beyond their normal abilities.
- V. Strong and sustained financial and technical support to the community water committees is necessary if the community participation policy is to bear fruit in the study area. This is very germane against the backdrop that most of the communities lack the financial and technical capacity to manage the schemes on a long term and sustainable basis.

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