WATER ACCESS AND COMMUNITY ENGAGEMENT: CREATING THE RIGHT ENVIRONMENT FOR MAXIMIZING THE BENEFITS OF COMMUNITY ENGAGEMENT PROCESSES AND INCREASING WATER PARTICIPATION IN NIGERIA

ROSEMARY UGBAH[1], ANITA MELDRUM[1] & KESTER EHIWARIO[2]
[1]Department of Construction and Surveying, School of Engineering and The Built Environment, Glasgow Caledonian University, Scotland
[2]Glasgow School for Business and Society, Glasgow Caledonian University, Scotland

ABSTRACT

The perennial problem of access to water in developing countries needs new approaches in order to ensure safe and reliable water supplies are provided, particularly for rural and peri-urban communities. Sub-Sahara Africa has the greatest lack of access to improved water supplies of any region in the world. Nigeria will be facing absolute water scarcity by the year 2025. Recent empirical studies have appraised the relevance of community engagement, which involves the participation of all relevant stakeholders in determining the way water issues are dealt with in communities at the local level. Despite significant literature on the association between community participation, sustainability and improved water access, there is little literature about which particular type of community engagement process matters the most with regard to enhancing participation in Nigeria. In the Nigerian context, effective community engagement could be achieved through practical water management planning, awareness, consultation, collaboration and implementation. However, this is easier said than done. The practicality of engaging Nigerian communities in water management is highly challenging, with numerous barriers, including high rate of poverty, corruption and rapid population rise. This study is concerned with identifying the best strategies and activities that are practical, affordable and sustainable, that could reduce or eliminate participation barriers and so enhance informing, consultation, involvement, empowerment and partnership processes in Nigeria. The findings can be used to facilitate participation within Nigerian communities and help to underpin the provision of potable water for all.
Keywords: water access, safe and reliable water supply, stakeholders, engagement, participation, communities, water scarcity, bottom-up approach, partnership, consultation, empowerment, citizen control.

1 INTRODUCTION

1.1 Water scarcity in Nigeria

For Nigerian development, (Hurlimann and McKay [1]) water is a crucial resource with great implications. Addressing the fundamental causes of water scarcity requires an intersectoral and multidisciplinary approach, particularly water resource management and infrastructure development. In the last decade, there has been an attempt to address the challenge of lack of access to clean water by addressing the sustainability of water infrastructure. This has led to water planners shifting from the well-known centralized, supply-driven paradigm towards strategies that are centred on demand (Briscoe and Ferranti, 1988). This paradigm shift was propelled by the International Drinking Water Supply and Sanitation Decade (1981–1990) assessment which blamed the supply-driven approach for the untimely failure of water infrastructure built during the decade in

Sub-Saharan Africa and the percentage of failed hand pumps projects remains disappointingly high. The supply driven approach resulted in projects that do not sometimes reflect the needs and preferences of the community, leading to the provision of assets that are either unwanted, cannot be operated, or sustained [2]. However, the demand-oriented strategy which is sometimes interchanged in this research with the bottom-up approach has the potential to practically target community needs and preferences, i.e. identify communities that are desperately in need of water supply improvement projects. It has proven to have positive impact on community participation throughout the planning and implementation stages and also bestows on them the responsibility of making key decisions with regard to the sustainability of their project.

2 STAKEHOLDERS ENGAGEMENT PROCESS FOR INCREASED PARTICIPATION IN NIGERIA

In Nigeria, there is a high failure rate for water projects [3]. Levels of community engagement demonstrate the degree to which the beneficiaries of any development project should be involved. This can also be adapted and applied to water projects (Speer and Hughey [4]). To achieve sustainability in water projects, there must be full participation by all individuals or representatives in all stages of project management. Results from recent research suggest that the depth of participation is likely to yield narrow community participation rather than breadth of participation (Kasiaka [5]). Thus, the depth of engagement is more important for the sustainability of water projects in a community. The degree of community participation during planning and decision making has a direct positive impact on community project satisfaction [5]. Interestingly, project engagement is very limited in Nigeria. However, the major concerns of project organisers have been identified to be their own success profit factors (Chukwuma [6]) rather than stakeholder interests.

Effective community engagement; particularly in projects as sensitive as water, is associated with numerous benefits. However, achieving success could be a difficult challenge, particularly in developing countries like Nigeria due to a range of factors (Kivits [7]). Stakeholder management is not the same thing as stakeholder engagement. Stakeholder management, which is widespread in water projects in Nigeria, is to design a project for the benefit of the community without any input from them. In contrast, engagement shows organisations relating with the stakeholder to improve both benefits and developments.

Effective engagement of stakeholders brings benefits to projects by reducing conflicts and increasing cooperation between the organisers and the community. On the other hand, ineffective engagement creates more prominent problems, which could put the community backwards. This is the case in some community projects in Nigeria. Stakeholder interaction with projects can be confronted from two perspectives; cultural and political. These issues combined together create significant barriers to stakeholder participation. This paper will adopt five engagement process from Arnstein ladder [8], which includes, informing, consultation, involvement (delegated power), empowerment (citizen control) and partnership process for increasing stakeholder's participation.

3 STAKEHOLDER INFORMING PROCESS

The stakeholder informing process is the first step to participation, which initially involves stakeholders receiving information from the relevant organisations or institution. It is usually one-way traffic in the beginning [8]. It is also used to create high levels of awareness on the subject matter within the community as well. However, as this proceeds, there is room for negotiation and feedback, which improves the input of stakeholder

decisions and could accelerate stakeholder engagement and participation (Arnstein [8]) in most situations, information can be given out rather too late or is withheld, reducing the negotiating power of the stakeholder. In Nigeria, this stage of the participation process is currently improving because of the internet revolution and better telecommunications. Stakeholders are now becoming more aware of the importance of knowledge and are equipping themselves with adequate knowledge to help improve the quality of decision making. However, the stakeholders Informing stage does not necessarily lead to full participation. This means that there are other barriers that limit engagement and participation of an informed person.

4 STAKEHOLDER CONSULTATION PROCESS

The consultation process is a step higher in the participation ranking. It is designed with the intent to reflect the concerns of the stakeholder at the end of the engagement process. It is a case where the community is consulted before a project takes place. The community consultation level is usually used to facilitate the decision-making process. This can be applied in both top-down or bottom-top approaches. It has been successful as one of the key drivers in the delivery of urban water quality improvement programmes. This approach to public participation has been adopted in most disciplines due to its ability to provide a good framework for informing and educating members of the community, organisations and other relevant stakeholder in matters arising. Consultation encourages participation and individual or group input into the decision-making process (Arnstein [8], Bruvold [9], Hall and Rubin [10]).

Consultation in most African countries, including Nigeria, is still more a concept than a practice [11]. Because views do not necessarily represent the most affected people, there is a lack of full realisation of the rights of citizens and hence formal institutions arise which function poorly.
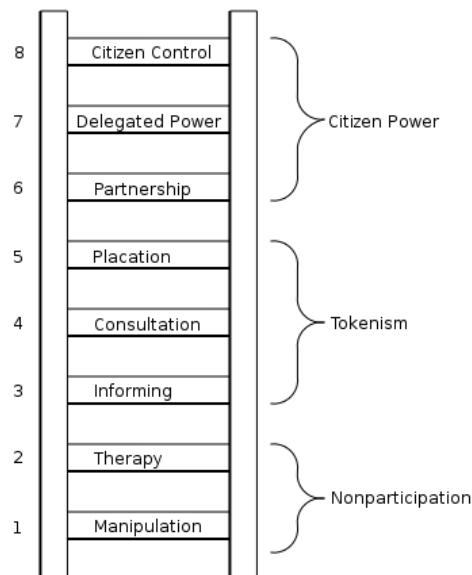

Figure 1: Eight rungs on the ladder of citizen participation [8].

Although there is insufficient data to establish the actual level of consultation that takes place in Nigeria's water projects, the high rate of disruption, abandonment, destruction of water projects and disruption of construction by either the community or organised community groups could directly be linked to lack of consultation prior to project commencement. In a recent survey, it can be seen that government, organisations, political parties and legislatures are among the least trusted institutions in developing (Pahl-Wostl et al. [11]) countries; far below other institutions like the church and community groups. This is rather unfortunate because it has caused a negative impact on the value of representation and engagement in construction projects. In a similar development, the organisations are wary of the community and do not trust them enough to consult them or accept them. Some other issues that needs to be address is the time, method and place for consultation, inconsistent consultation, late consultation, inadequate consultation, one-way flow consultation. This is a completely top-down strategy with the consequences of failed projects and developments.

5 STAKEHOLDER INVOLVEMENT PROCESS

This is another level of engagement, which is important and could lead to full participation. It is a level of participation that gives the stakeholder the ability to voice their interests. This is the stage when the community becomes active. Involvement is an important aspect to include when maximizing community participation. This is the point where members of the community, government and outside organizations share planning, decisions and responsibility about development projects in the community. This will involve the use of structures like joint policy boards, planning committees and other informal media for resolving problems and conflicts, allocating responsibility for operation and maintenance, investing in locally made materials and the local work force.

However, in Nigeria, involvement is mostly used in emergency cases where there is an urgent need for a reaction to a particular situation. Project organisers depriving stakeholder of some expertise training and concentrate on developing their interest and priority first is a norm. This is commonly seen in rural areas where there is a high level of illiteracy. The level of dishonesty at this stage is high in Nigeria, where the majority of the money is embezzled by a particular group of people who fail to involve the community for reasons best known to themselves. This has contributed to lack of participation in water projects in Nigeria. Evidence from [8], suggests that it is important to get this stage right with the least dishonesty as possible because it helps to create trust between community members and the organisers and could lead to full participation. However, it could lead to non-participation if dishonesty and distrust are perceived by the affected community members.

6 STAKEHOLDER EMPOWERMENT PROCESS

Empowerment, known as a citizen control driven community participation approach, is crucial to practical community participation methods. When integrated with other critical parts of participation typologies it brings strong citizen influence and control. It is a major key to community participation and is a higher participation level, after informing, consultation. It includes awareness, education, training, or is in the form of giving community members the majority of seats to give them enough votes and/or specific powers to participate and make formal decisions about a project in their community.

Participation is a key component of empowerment and empowerment is key to participation as well. Thus, the lack of adequate participation in Nigeria has contributed to lack of empowerment. While water organisers are not willing to empower the community because they are not participating in the project, communities believe they cannot

participate because they are not empowered. This discrepancy and lack of agreement as to which should come first has created a gap in the empowerment process and is considered to be a major barrier to enhancing participation.

7 STAKEHOLDER PARTNERSHIP PROCESS

Partnership is an important aspect to include when maximising community participation. From the practical perspective, it provides the stakeholder with the power to analyse, make decisions and take part in both the planning and implementation stages; because people are more likely to be committed to projects which they have helped to plan. Partnership in the Nigerian water sector in most cases is marginal partnership where there is little influence on the development process from the community (Ohmer [12]). Although some communities in Nigeria are currently practising substantive or structural partnership with positive full participation results, this cannot be said for a large number of projects carried out within the country. Partnership in Nigeria is still at the stage where it is solely for enriching the privileged rather, than helping the less privileged.

8 MAXIMISING THE BENEFITS OF THE ENGAGEMENT PROCESS FOR STAKEHOLDER PARTICIPATION

Engaging the community for the purpose of participation is a process, which could be very challenging, particularly in Nigeria. It is an umbrella term that extends beyond physical involvement to include the generation of ideas and sharing of responsibilities for the benefit of the people. It is important to point out that both the community and the water organisers have equal roles to play in water sustainability. It is a well-known fact that corruption and the economic situation has a huge impact on water provision in the country, however, community members have greater roles to play in terms of attracting water projects as well as sustaining them. This can mainly be achieved through participation and engagement, which is not commonly seen in communities within the country.

The problem of lack of participation can be addressed with the following processes as mentioned above, informing, consultation, involvement, empowerment and partnership known as the engagement process. However, its success depends upon the readiness of the community to engage.
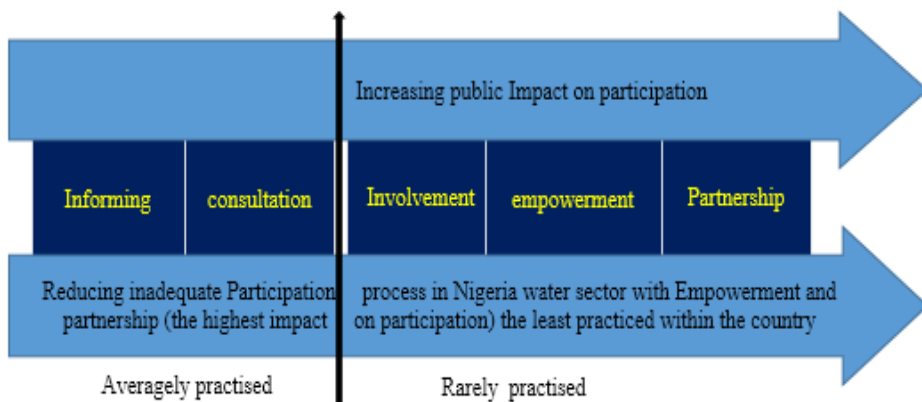

Figure 2: Continuum showing where Nigeria sits in water participation ladder.

8.1 Improving trust and credibility

The inability of the government to provide basic infrastructure for its citizen over the years has resulted in lack of trust, credibility and effectiveness. This is a major problem in Nigeria mainly caused by the absence of good political intentions, influences from political parties and sponsors (political factor) high corruption rate and poverty rate (economic factor). Many communities, particularly in the Nigeria, have experienced poor or failed water projects and have little or no trust for most water provision programs and organizers. This lack of trust has resulted in communities not being willing to participate in most water projects as it is perceived a complete waste of their time and resources. The level of trust an individual has that a project will be successful is directly related to their confidence and participation commitment.

8.2 Improving the consultation processes

In order to maximize the benefits of the engagement process, trust and credibility should be reinstated into the community. The government, organizing body and the community trusted personnel (clergy, community leaders, parents and teachers) should realize the link between success, trust and credibility. The greater the community trust for the organizing the bodies the more likely they are to embrace any aspect of the engagement process and vice versa. Unfortunately, this is a major challenge because most communities have little or no trust for the government and its allies.

Since most citizens have a considerable amount of trust for religious leaders, community leaders, parents and teachers, these leaders have been known to play major roles in the lives and decisions of their followers. Hence, their importance cannot be over emphasized. These leaders should be employed to work with water organizers, NGOs or the government to help rebuild the trust in and the credibility of a project in a community. In other words, they should be the first point of contact because of the influence they command.

The timing of the consultation is as important as the consultation itself. Since community confidence and trust are built over time. It is paramount to design an early and continuous consultation process specific to the community as early as possible, preferably when the project is still being considered. A major setback in project consultation is lack of sustainability. Most project planners carry out a one-off communication (Okonta and Douglas [13]) process mostly at the beginning of the project. However, consultation must be a continuous and ongoing process and communication must be in place throughout the whole project and even after the project is completed. The issue of inconsistent interest between the community and the organiser, or within the community, i.e. in most cases the government, the water institutions or NGOs should be reduced or eliminated if communities are consulted.

Similarly, the tools used for consultation is also important. These tools have some advantages and disadvantages depending upon the features of the community. For instance, the tools used in a community with more educated people are likely not to work in a community with a high illiteracy rate. It is important that when choosing consultation method for a particular community, its capacity and cultural diversity are considered to make the consultation process more effective.

8.3 Increase women's involvement in all spheres of decision-making

In Nigeria, like most African countries, women's participation is scarce. The fact that they make up a significant number of the Nigeria population (Mckeown et al. [14]) implies that

a large part of the community is likely not to be participating in project development. Women are known to play vital roles as mothers, producers, managers, community developers/organizers etc. Their social and economic development contribution was estimated to double the contribution from men because of their dual roles in the productive and reproductive spheres. Yet their platform for participation in decision making in formal and informal structures and processes is insignificant (Aina [15]).

The lack of female representation in water development in Nigeria means that the community is under-represented and decisions are likely not to protect their interests. It also means that they will not be participating as they have no idea of what is going on due to their absence from the process. This will impact participation, because women constitute a larger part of the community (including the girl child) and they also play a major role in influencing their family stakeholders, particularly the teenage children who are also vital to participation. Women are also good planners, property and financial managers, due to experience acquired from managing family resources and the family as well over the years. Female participation should be increased in the Nigerian water sector. This would not only improve the number of people participating, it would also allow them the opportunity to contribute their numerous abilities and skills in a subject that affects them the most. For instance, they could play a major role in reducing illegal water connections, vandalism, pollution and protection because they are always within the community when the men are away. In addition, their decisions and ideas will be inspired by their first-hand experience as water providers for their homes.

8.4 Improving capacity gaps through education

Overcoming lack of infrastructure needs effective, progressive infrastructural development with a shift in paradigm which delegates more responsibility for implementation and management to the hands of community members. This shift in paradigm brings a sense of ownership, thereby promoting participation and sustainability of water projects.

Thus, community capacity and development are key elements for effective participation. Education is said to be a tool that can be used to break the shackles of poverty, leading to transformation, development and progress (Kim and Moody [16]). Community stakeholders and the government should work together to enhance the education system in the community. This includes education for adults who lack education. Literacy and educational exposure, when integrated with other critical parts of participation typologies have strong citizen influence and control. The ability to manage information, knowledge, local context and education has proven to play an important role in creating, changing and the very nature of participation. Education is a key element to empowerment, whether based on information or technical empowerment.

Despite the significant input of investment into Nigerian water issues, the reality is that most communities have a little or no basic education to sustain community empowerment or involvement for the purpose of project operations and maintenance. In some cases, community stakeholders consider themselves to have no influencing power, while the organizing institution consider themselves powerful and untouchable. This is a typical scenario between Nigerian community stakeholders and water organizations. This is because, despite having some level of power, they are made to believe that they could not engage due to lack of power and necessary engaging tools.

The lack of information on WASH issues and capacity building has limited the successful implementation of the empowerment process in Nigerian communities; particularly in the rural areas of the country. Communities with high levels of illiteracy will

experience low levels of decision making power. For instance, the issue of technology, which involves education/training, cannot be put into the hands of the community no matter how much they demand it. Again, this might sabotage participation levels, particularly where there is a history of dishonesty and distrust and decision makers protecting their own interests and embezzle funds.

Therefore, adopting basic education for all within a community is a step in the right direction. It is a step that will promote a sense of ownership (Ikoni [17]) and promote sustainability of development projects. The community will therefore be a part of all the development project steps, which include financial contributions, planning, execution, operation and maintenance and which ensure the sustainability of development projects, like water supply projects (Gebrehiwot [18], Davis and Lyer [19]). Education can empower those who are marginalized or excluded from participating in discussions and decision-making.

The blend of attributes, such as citizen control, can be improved through information management, provision of technical knowhow and financial provision and is required to provide a robust framework for addressing community water project empowerment challenges in Nigeria. However, the issue of migration from the rural areas to the urban areas in search of white-collar jobs has left most communities with few educated people who are able to make informed decisions and participate. This can be overcome if the majority of the community is exposed to basic education to help improve their confidence and knowledge, which is important for empowerment and involvement.

8.5 Well-structured, organized and inclusive feedback mechanisms

It is also crucial that feedback mechanisms are created throughout the project development stages and the mechanisms are readily accessible to all the community stakeholders. A feedback process is used to monitor the concerns and opinions of the community as the project progresses. The issue of fairness has appeared in most research as being the reason for poor participation levels. It is important that fairness is applied to both the decision-making process and the outcome. However, agreement about fairness and sound decision-making varies from one individual to another, or within a group and this can be a difficult issue. Although decisions should be technical and scientifically sound, care must be taken not to be perceived as unfair to any party, because this could affect their level of involvement if they feel left out from the (Bruvold [20]) decision making process.

In addition, a clear and well-respected community representative is key to ensuring an effective feedback mechanism. It is not sustainable to receive feedback from all the community stakeholders, hence the importance of setting up a community representative who is given the authority to speak on behalf of the community. The issue of under-representation should be addressed by constant monitoring and evaluating the representatives. In order to achieve fairness in the feedback mechanism, all stakeholders of the community should be involved in the selection and evaluation process.

Another important impact of an effective feedback mechanism is its ability to improve community partnership and collaboration in water development, as evidence suggests that people are most committed to implementing projects that they have helped to plan (Schouten and Moriarty [21]) Listening and addressing people's concerns and interests have proven to enhance motivation for involvement.

8.6 Increase in community induced awareness and notification

In the past, the use of technical solutions (engineering perspective) to control environmental issues (Rifkin et al. [22]) was very common. However, it was recently discovered that the non-technical elements of water resource management are equally important: if not more so. New approaches to water resource management; which include integrated water resources management, changing social attitudes, perceptions and behaviours, which cannot be solved by technology alone (Rifkin et al. [22]) One of these non-technical elements of water resource management is awareness raising, which is very important to achieving quality outcomes in water resource management. For instance, the quality of debate and the pressure to get involved in water management and achieve the desired change will greatly be influenced by the level of awareness and understanding of water issues by the general population (Gaventa and Valderrama [23]). Unless people become aware and understand the socio-economic importance of the connections between water resource management, public health and socio-economic development and act accordingly, water access issues in Nigeria cannot be addressed effectively. This is key to overcoming lack of participation and increasing interest in good water practices.

8.7 Increased stakeholder partnership and community fund mobilization

Higher levels of participation are achieved through community partnership working and campaign or pressure groups. It is at the higher levels of engagement that empowerment occurs and social and structural changes happen to redress the power relations that perpetuate access to sustainable water inequalities. Participation in water projects also involves the administration of managerial tasks related to operation and maintenance of development projects. However, these development steps could be financially and technically demanding, which might be impossible or difficult to sustain by the water organisers. Hence, the need for the community to investigate other ways of raising maintenance funds to ensure sustainability. There are various tools that can be used for this purpose, including but not limited to: taxing companies within the community, advertisement tax, housing tax and water payments. It is important to point out that the socio-economic background of one community may differ from that of another community, hence a specific tool to suit the community features is required for funds raising. In addition, the fund-raising process should be clear and transparent.

9 CONCLUSION

There is no doubt that stakeholder participation in water issues is currently being practiced in some Nigerian communities but these cannot be said to be the majority of communities in the country. The findings from this paper suggest that most Nigerian communities are not adequately equipped to maximise the benefits of the engagement process hence the reason why it has not been successful in enhancing participation in many cases. The issues identified in this paper are: lack of trust and credibility among community members as well as water organisers, lack of adequate community education, lack of women's involvement, lack of adequate community fund raising techniques and fund management, lack of effective feedback mechanisms, inadequate willingness and readiness to get involved and partner with the water organisers and lack of community induced awareness, notification as well as lack of community knowledge about the best consultation method specific to a given community. Unfortunately, the engagement process can only produce positive results in a community with a conducive environment and certain encouraging conditions.

The findings have also suggested ways to tackle them. Lack of community trust and credibility can be addressed by employing the help of some of the trusted personnel within the community, which include religious and community leaders, parents and teachers. The importance of reinstating trust, credibility, awareness, consistency and mutual interest cannot be overemphasised as these are key elements to achieving effective engagement. In addition, a community with a higher number of educated members is likely to have more successful engagement process compared to a community with less educated people. Thus, community members need to be given basic education, as far as possible. This will encourage the water organisers to do the right thing for the fear of being challenged. Another important factor in achieving effective engagement is the involvement of women; particularly those who are mostly affected by the water crisis. Their experience from dealing with water issues over the years is likely to put them in a better position to make the right decision on behalf of the community compared to their male counterparts who are less familiar with the real household issues. Other ways to create room for effective engagement include setting up a community feedback mechanism, which is well structured, widely represented and effective that allows all members of the community to make their own decisions and choose their representative. Community induced fund raising and management, which can also be seen as community-induced empowerment is particularly important so the community can collaborate with the organisers in terms of doing certain repairs and maintenance for themselves, rather than relying on the water organisers all the time, which is not always very practical in Nigeria.

REFERENCES

[1]   Hurlimann, A. & McKay, J., Attitudes to reclaimed water for domestic use: Part 2 trust, water. *Journal of the Australian Water Association*, **31**(5), pp. 40–45, 2004.
[2]   Slaymaker, T., Christiansen, K. & Hemming, I., Community-based approaches and service delivery: Issues and options in difficult environments and partnerships. Overseas Development Institute, 2005.
[3]   Federal Republic of Nigeria, UN – Water, Water supply and sanitation interim strategies note, Coping with water scarcity: challenges of the twenty-first century, 2000.
[4]   Speer, P.W. & Hughey, J., Community organizing: an ecological route to empowerment and power. *American Journal of Community Psychology*, **23**(5), pp. 729–748, 1995.
[5]   Kasiaka, K., *Participatory Planning and Sustainability of Water TASAF Water Project*, UDSM Press: Tanzania, 2004.
[6]   Chukwuma, O.M., Community participation in the rural water supply sector of Enugu State, Nigeria. *American Journal of Water Resources*, **4**(3), pp. 58–67, 2016.
[7]   Kivits, R., Multi-dimensional stakeholder analysis: A methodology applied to Australian capital city airports PhD thesis. Southern Cross University, Australia, 2013.
[8]   Arnstein, S.R., A ladder of citizen participation. *J. Amer. Inst. of Planners*, **35** pp. 216–224, 1969.
[9]   Bruvold, W.H., Public opinion on water reuse options. *J. Water Poll Control Fed*, **60**(1), pp. 45–49, 1988.
[10]   Hall, W.L. & Rubin, A.R., Reclaimed water: A public perception. In: *WEFTEC 2002: 75th Annual Conference and Exposition*, Chicago, Illinois, USA, 2002.
[11]   Pahl-Wostl, C., Gupta J. & Petry D., Governance and the global water system: Towards a theoretical exploration. *Global Governance*, **14**(4), 2008.

[12] Ohmer, M.L., PhD Citizen participation in neighbourhood organizations and its relationship to volunteers' self and collective efficacy and sense of community. *Soc Work Res*, **31**(2), pp. 109–120, 2007.

[13] Okonta, I. & Douglas, O., Where Vultures Feast: Shell, Human Rights, and Oil, Verso: London, New York, 2004.

[14] Mckeown, T., Record, R.G. & Turner R.D., An interpretation of the decline of mortality in England and Wales during the twentieth century. *Population studies. A Journal of Demography*, **29**(3), pp. 391–422, 1975.

[15] Aina, I.O., Women, culture and society. *Nigerian Women in Society and Development*, ed. A. Sesay and A. Odebiyi, Dokun Publishing House: Ibadan, 1998.

[16] Kim, K. & Moody, P.M., More resources better health. A cross-national perspective. *Soc Sci Med*, **34**(8), pp. 837–142, 1992.

[17] Ikoni, U.D., *The Challenges of Poverty in a Globalised World: Perspective on the Nigerian Situation*, Longman publishers, 2009.

[18] Gebrehiwot, M., An assessment of challenges of sustainable rural water supply: The case of Ofla Woreda in Tigray Region, Msc Thesis, Regional and Local Development Study (RLDS), Ethiopia, 2006.

[19] Davis, J. & Lyer, P., Taking sustainable rural water supply services to scale: A discussion paper, Bank Netherlands Water Partnership Energy and Water Department, Washington D.C., 2002.

[20] Bruvold, W.H., Obtaining public support for reuse water. *AWWA Journal*, **77**(7), pp. 72–77 1985.

[21] Schouten, T. & Moriarty, P., *Community Water*, Community Management: London, UK, 2003.

[22] Rifkin, S.B., Muller, F. & Bichmann, M., Primary health care: on measuring participation. *Social Science and Medicine*, **26**, pp. 931–940, 1988.

[23] Gaventa, J. & Valderrama C., Participation, Citizenship and Local Governance, Online. www.ids.ac.uk/particip. Accessed on: 5 Mar. 2002.