

Consequences of non-adoption of participatory development communication approaches on sustainability of Lagos State water supply systems

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Article History	Abstract
Original Research Article	<p><i>This study explores the consequences of the non-adoption of genuine participatory development communication approaches on the sustainability of water supply systems in Adiyari, Akute, Iju, and Isashi communities in Ogun and Lagos States, from where raw water is pumped, treated, and distributed for consumption in Lagos State, Nigeria. It is anchored on Participatory Communication Theory, a multi-track theory developed by Paulo Freire. A mixed methods design was adopted for the study, and this involved the quantitative technique of questionnaire administration and the qualitative technique of in-depth interviews with 50 participants. The study found that the systems' developer did not generate feelings of local ownership among host community stakeholders to motivate them to become involved in the projects' sustainability. It recommends that the developer should set up a host communities' dialogue office to engage in horizontal dialogue with community stakeholders to assess their needs and ensure their involvement in the sustainability of the water supply systems.</i></p> <p>Keywords: horizontal dialogue, host community stakeholders, local ownership, sustainability of water supply systems, water supply systems developer.</p>
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Introduction

The potential of participatory development communication to enhance the sustainability of development projects by host community stakeholders has become a significant issue for mass media scholars. Participatory development communication is concerned with how the economic, political, and cultural structures of any society can be transformed away from poverty and inequality to egalitarianism based on communal participation in the development process. The concept owes its origins to the declaration by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1967 that mass media can make the development of resources in the developing world more sustainable. Qualities that recommend it include the fact that it offers opportunities for horizontal dialogue, and local ownership, among host communities. These principles provide adequate access for stakeholders to become involved in the development process. While horizontal communication offers “comparable opportunities for all persons to receive messages” local ownership provides evidence of a “shared responsibility for finding a solution to a collectively agreed-

upon issue” (Reeves, 2015). Horizontal dialogue is thus seen as a process that seeks adequate access for all participants, which is considered a precondition for horizontal communication since, “without comparable opportunities for all persons to receive messages, there can in the first place be no democratic social interaction.” Though dialogue may generally be interpersonal in nature, it is also concerned with a two-way communication process that should be regarded as a flow of shared meanings.

Local ownership, which is the second principle, occurs when responsibilities in arriving at a solution to an issue that had been agreed upon by the local communities are shared between host communities and the project developers or donors. The decision-making processes lie with local communities, who must not only lead the process but also play prominent roles in the project. Apart from this leadership role, host communities take control over their lives and the projects in their localities. The absence of local ownership in community development is reckoned as “uneven community involvement” and “fragmented and unclear information about the project’s goals and

implementation process, which invariably undermines members' interest" (Kincaid & Figueroa, 2009, p. 516).

Participatory development communication is a concept that is based on dialogue and permits the sharing of information, perceptions, and opinions among stakeholders. The postulation of Tufte & Mefalopoulos (2009, p. 17) is that it is "not just the exchange of information and experiences; it is also the exploration and generation of new knowledge aimed at addressing situations that need to be improved." It is also defined as the use of the mass media, traditional, and interpersonal modes of communication to empower communities in their bid to discover solutions to their development problems and goals (Ibuot, Majemu & Nwantah, 2021). Their view is that participatory development communication is a process in which community members are brought in to contribute and share ideas about how to bring about development to their communities. Participatory development communication is a key process in the bringing together of stakeholders to address the problem of the environment (Kheerajit & Flor (2013), while its outcome is often to bring about sustainable social change.

Participatory development communication is often viewed from the perspectives of pseudo participation and genuine participation. White, Sadanandan & Ascroft (1994, p. 17) describe pseudo-participation as "people's participation in development in which the control of the project and decision-making power rests with planners, administrators, and the community's elite." Pseudo participation is usually anchored on consultation, passive, and other conventional approaches. Genuine participation, on the other hand, is a process that "affects the very core of the inherent power relationships in a given society" (Servaes, 1999). This position suggests that interactivity is vital for the success of any participation effort.

Sustainable Water Supply in Lagos

Sustainable water availability is a fundamental requirement for human survival and a significant determinant of population distribution patterns. Settlements, both for people and animals, tend to do well in places with plenty of water, while places with less water, like deserts and dry areas, typically see people leaving. The United Nations General Assembly (UNGA) decided on December 23, 2003, at its 78th session, to make the years 2005–2015 the International Decade for Action, "Water for Life." This decision was based on this basic interdependence. The initiative asked for a coordinated and comprehensive effort from UN agencies, specialised institutions, regional bodies, and affiliated organisations to improve global access to and management of water (WHO/UNICEF, 2005). Following this directive, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) worked

harder to reach the Millennium Development Goals (MDGs) targets for universal access to safe and clean drinking water and better sanitation. The overall goal was to lower the number of diseases and improve public health outcomes.

The United Nations reiterated its commitment to making sure everyone has access to clean and affordable drinking water by 2030 during its International Zaragoza Conference in January 2015. The title of the conference was "Water and Sustainable Development: From Vision to Action." The UN-Water Zaragoza Conference report from 2015 stresses that water is a key factor in sustainable development because it affects social well-being, economic growth, and environmental sustainability. This means that it should be given priority in efforts to reduce poverty. Goal 6 of the Sustainable Development Goals (SDGs) makes this promise official. It aims to make sure that everyone has access to clean water and sanitation and that they are managed in a way that is good for the environment. Despite these global efforts and previous promises made under the Millennium Development Goals (MDGs) and by the Lagos State Government, there is still a big gap between the need for and the supply of clean drinking water in Lagos State. Oluwafemi et al. (2016) say that the state's water supply master plan calls for 540 million gallons of water per day, while the current infrastructure can only deliver 210 million gallons per day, creating a gap of 330 million gallons. As Owolabi (2014) pointed out, the lack of formal water supply systems has forced about 55% of people living in rural suburban areas, such as Epe, Ikorodu, Badagry, and Ibeju-Lekki Local Government Areas, to use other sources like wells and natural springs to get the water they need every day.

Theory of Participatory Communication

This research is based on Participatory Communication Theory, which is a multidimensional paradigm that stresses horizontal contact and inclusive engagement as key elements of sustainable development planning. The approach, based on the work of Paulo Freire (1970), emphasises dialogue as a reciprocal, two-way communicative process that can help development projects reach a common understanding and agreement. Freire posits discourse as an existential necessity, essential to human agency and the pursuit of meaning, contending that its transformational capacity is contingent upon its recognition as a universal right rather than an exclusive luxury. From this point of view, participatory communication is not a one-way process where one person talks to or about another. Instead, it is a collaborative effort where people interact with each other and are influenced by the shared realities that affect

them, leading to informed opinions and group insight (Freire, 1970, p. 93). Additionally, Freire asserts that these communicative interactions ought not to serve as acts of imposition or mere information transmission; rather, they should be structured and reflective processes that facilitate the co-construction of knowledge, allowing individuals or stakeholders to critically engage with and enhance their comprehension of pertinent issues.

The theory identifies two primary communication frameworks that support community development processes: the top-down and bottom-up models. The top-down strategy, which is commonly called the "banking" model of communication, is sending ideas, policies, or interventions to target people without fully understanding their points of view or the facts of the situation. This concept is fundamentally non-dialogic, as it restricts involvement and limits opportunities for substantive discussion. The bottom-up approach, also known as the "problem-posing" paradigm, sees discourse as an important aspect of creating knowledge and being aware of it. This lets people question and understand their own lives. The virtue of this participatory paradigm is that it encourages shared ownership of development processes. This means that both community members and outside actors engage together to make decisions and work toward transformative outcomes.

The theory seeks to replace modernisation theory, especially in the area of its emphasis on knowledge diffusion and technology transfer. Anaeto, Onabajo & Osifeso (2008, p. 181) remark that "instead of encouraging residents of developing societies to participate in development initiatives planned by outsiders, it encourages residents to make their own plans." Mishra (2017, p. 11) is also in support of this view as he explains that the theory emphasises two-way communication principles and practices. This is because it has "increasingly moved towards a horizontal 'two-way' model that favours people's active and direct interaction through consultation and dialogue with the help of traditional (one-way information dissemination) of mass media." Although participation in this theory is not treated as an absolute concept, its classification has been conceived and applied in several ways. The theory applies communication in three major ways in its bid to establish two-way flows to share knowledge and opinions among development stakeholders. These are behaviour change communication, communication for social change, and advocacy communication. The theory's emphasis is appropriate for participatory

communication because it "emphasises the importance of two-way communication and the need to facilitate stakeholders' participation and empowerment" (Mefalopoulos, 2008).

Methodology

This study utilises a mixed-methods research methodology, incorporating both quantitative and qualitative methodologies for data collecting and analysis. This method entails the methodical integration of quantitative data and qualitative interpretations within a singular study to attain a more thorough comprehension of the research issue. The reason for using this design is that the two methods work well together: quantitative techniques make it easier to use statistical and mathematical methods to find patterns and relationships, but they don't always do a good job of capturing the depth of participants' perspectives and lived experiences. The integration of qualitative methodologies enriches the analytical process by offering deeper, contextually relevant insights, facilitating a more comprehensive and nuanced understanding of the phenomenon being studied.

The study population consists of the host towns for the 52 water supply systems built by the Lagos State Water Corporation (LSWC). These systems include four large, 31 mini, and 16 micro waterworks, as well as the Akute Intake Works. From this larger group, host communities linked to three big and functioning facilities—Adiyan, Iju, and Isashi—were intentionally chosen, along with the Akute water intake and power plant because it is strategically important as the main source of raw water for Adiyan and Iju. The data gathering process utilised snowball sampling to choose 50 individuals for comprehensive interviews, while purposive sampling directed the dissemination of 520 structured questionnaires. Descriptive statistical techniques were used to look at the individual contributions of participatory development communication approaches to the planning, implementation, and sustainability of the water supply systems. Statistical analysis was performed utilising the Statistical Package for Social Sciences (SPSS), Version 20.

Result

Research question: To what extent have participatory development communication approaches enhanced community involvement in the sustainability of the water supply systems at Adiyan, Akute, Iju and Isashi communities in Ogun and Lagos states

Table 1: Participants' responses on the sustainability of water supply systems in host communities

S/N	Statement	Always Freq. (%)	Freq- uently Freq. (%)	Some times Freq. (%)	Once in a while Freq. (%)	Never Freq. (%)	Mean	Std. Dev.
1	Developer provides infrastructure to meet development challenges in the community	28 (6.9)	66 (16.2)	118 (28.9)	119 (29.2)	77 18.9	2.63	1.16
2	Developer dialogues with community leaders to improve understanding of its engagements in the local community	28 (6.9)	45 (11.1)	114 (27.9)	104 (25.4)	102 (24.9)	2.50	1.14
3	We have built partnerships with the developer to limit cases of vandalism of water supply systems	34 (8.3)	55 (13.4)	114 (27.9)	104 (25.4)	102 (24.9)	2.55	1.23
4	Developer collaborates with the community on the prevention of alienation of project land for construction of residential quarters	23 (5.6)	68 (16.6)	95 (23.2)	110 (26.9)	113 27.2)	2.50	1.21
5	Some community members were trained and employed for the purpose of maintaining the water supply systems	25 (6.1)	71 (17.4)	118 (28.9)	101 (24.8)	93 (22.8)	2.60	1.20

Note: Figures in parentheses are percentage distributions (ii). Figures outside the parenthesis are frequency distributions. Source: Field Survey Data (April-May, 2021)

The purpose of the research question is to determine the extent that community involvement in sustainability has been enhanced by participatory development communication approaches in the water supply systems at Adiyari, Akute, Iju and Isashi communities. Results from Table 1 show that of the three aspects of sustainability, partnerships to limit cases of vandalism of water supply systems had the highest total variance of 8.3 per cent. This was followed by the provision of socially integrative community programmes or policies that accounted for 6.1 per cent of the total variance, and the hiring of community stakeholders for the protective maintenance of the water supply systems (6.1 per cent). Thus, the least significant contributor to community involvement in sustainability is the approach of collaborating with community stakeholders to prevent the alienation of project land for the construction of residential quarters which accounted for 5.6 per cent. Also noticeable is the approach of dialogue by the water supply systems' developer with community leaders to improve understanding of its engagement in the local communities that had a total variance of 6.9 per cent. This variable pairs with the approach of providing socially integrative programmes or policies.

Provision of infrastructure to meet development challenges in the communities by the systems' developer had the

highest mean score of 2.63, followed by training and employment of community stakeholders for the purpose of maintaining the water supply systems with a mean score of 2.59. Building of partnership to limit cases of vandalism with a mean score of 2.55 was the third variable with a high mean score, while the variables of developer's dialogue with community leaders to improve understanding of its engagements in the local community (2.49 mean score) and collaboration with the host community to prevent alienation of land for construction of residential quarters had the least mean score of 2.46. The fourth research question is, thus, clarified as the developer of the water supply systems is apprised with the participatory development communication approaches to adopt to ensure sustainability of the systems.

Qualitative Data

In the analysis of responses to the in-depth interviews, the dominant approach is that there was dialogue about the sustainability of the water supply systems in the four host communities. Among the 15 traditional rulers, six said that there was no community involvement in the sustainability of the water supply systems, while nine said they had dialogue about the sustainability of the systems in their communities. All the four production managers said they engaged in dialogue with community stakeholders on the

sustainability of the water supply systems. Out of the 31 community development associations (CDAs)/ community development committees (CDCs) chairmen, 20 said they did not dialogue about the sustainability of the systems, while 11 said they engaged in dialogue about their sustainability. However, in terms of feelings of local ownership of the systems, this was low, as interview responses suggested that community involvement in sustainability of the systems was dismal in the four communities. To answer the research question, the views of the production managers are presented first. Their responses show that there is no way community stakeholders will have feelings of local ownership of the water supply systems because they were not considered during the planning and execution of the systems. A production manager at Adiyen responded:

None. As far as I know. Yes, even though what is going on here is the biggest water project around. I will tell you that it is the Lagos State government that owns it. Even the community knows little because it is Lagos State that is funding it.

In Akute, there were such feelings in the past, but not anymore. A production manager said:

In the past, we had some things that really made them have that sense of belonging, but because of the economic challenges that every sector of life is facing in this country, that challenge is getting to everybody.

However, the situation in Isashi is different. There are incentives put in place by the management to give the community a sense of belonging. According to the manager:

Apart from employment, most government primary schools are given water free of charge. Any government school in Isashi is supplied with water free of charge.

The traditional rulers in Adiyen had a different opinion. They felt that the community has not

enjoyed anything, therefore, they have no feelings of local ownership. One of the Baales said:

No. They did not give us anything. They have not given us water or even a road which is bad and vehicles cannot pass. We have been doing the repairs of the roads ourselves.

A traditional ruler in Akute felt there was nothing for the community and nothing that they could do. According to him:

It is not my project, it is a government project. They should have said: "Let us talk to the community about

this project so that if they have anything, there should be a meeting to discuss what they need." But when there was nothing like that, what do you think we should do?

Similar scenarios prevailed at Iju. The community stakeholders said they gained nothing from

being host to the water supply systems. Only some traditional rulers were connected to the free water supply, not the community, as one traditional ruler said:

They have not done anything here. Do you know what happened? Before I could collect this free water that I am using now, one man in the water corporation said the Lagos State governor directed that any Baale in the neighbourhood should be given water for free. It is not for the whole community, but solely for the palace of the Baale.

Even at Isashi, there is no feeling of local ownership. One of the Baales said:

Nothing. There was water in the town, but it has not functioned again for more than 20 years.

Apart from the traditional rulers and the production managers, the CDAs/CDCs chairmen in Adiyen, Akute, Iju and Isashi corroborated what has been said: that there are no feelings of local ownership and the government has not provided amenities to the communities. According to a chairman of one of the CDAs in Adiyen:

They don't encourage anyone here. No facility, no encouragement, no enjoyment of the water. What they do is for their workers. We are for ourselves and they are for themselves. Sometimes in the past, officials of the water supply systems even demanded money from stakeholders in these water bearing communities, with promise of supplying water to them. After such payments, no water was served.

The situation is not only in Adiyen, it is the same in Akute. One of the CDAs chairmen said:

Government has not done anything. Even water for drinking, we don't have here. Sometimes, some contractors do give back to the communities, thereby providing feelings of local ownership.

Rather than generating feelings of local ownership of the water supply systems among community stakeholders, to motivate them to become involved in the sustainability of the projects, government appears not to have taken steps to soften their pains. This is because the community leaders accuse it of not only forcefully taking over their land for the water supply systems, but also refusing to pay

compensation to such landowners. A Baale in Akute lamented:

They have not done anything for us. They took my family land without compensation. I am in court in Ibadan now because they have not done anything. This is a person's property which they came to beg to collect but to give us compensation they refused. They took phase one, then phase two, now this is the third phase. They are now coming to demolish people's homes. None of our indigenes who seek work there are being employed. They don't even ask the qualified candidates to come with a letter from the Baale for recognition and employment, yet they continue to employ people from outside. If they want to come in with anything they come with police or soldiers, nobody can face them.

There is no doubt that the situation can frustrate the stakeholders and lead to agitations in the communities. However, rather than protesting the non-involvement and claiming no benefit to the communities, the stakeholders said they have been peaceful in their demands. A CDA chairman in Iju said:

Even though we have written several letters to them, the water corporation has not provided any benefit to this community. They provide public water supply, but for many years, water has not been coming out. For many years, many of us have been drilling boreholes to get water, even from where the water comes from.

A CDA chairman in Adiyen remarked on the paucity of community involvement in sustainability and the associated feelings of local ownership of the water supply systems in his response. Thus:

Nothing pertaining to the water here, nobody has anything to say about it. The water belongs to the people that are working there or to those who are using it in Lagos State. In Ogun State, nobody can say anything about the water project.

Another CDA chairman in Akute said:

The former Governor of Lagos State, Babatunde Fashola, gave us six or ten taps for water supply. The people used the pumps for two or three years, but when Fashola left power, the corporation blocked the taps and said the indigenes should pay for the water. From there, the people left the water taps and moved on to drill their boreholes. Personally, I dug my own borehole.

Feelings of local ownership were also not experienced in Iju as a CDA chairman said:

It is only recently that we in the area CDAs in Iju-Ishaga grouped ourselves to discuss water supply because for a long time there has been no water, especially in this area. Maybe in the downtown area, they may have water, but here we have no water. We live on boreholes.

Responses from the in-depth interviews were skewed in the direction of a lack of interest in or aversion to the sustainability of the water supply systems. This was an apparent outflow from the absence of empowerment of community stakeholders by the water supply systems' developer. For instance, CDAs/CDCs chairmen in Adiyen, Akute and Iju expressed their angst about the lack of empowerment and its resultant effects on the sustainability of the water supply systems in their communities. One of the CDAs/CDCs chairmen in Adiyen said:

How do we dialogue about the sustainability of the water supply systems? The thing that you are not involved in, that you don't have any plan, they don't call you? How do you plan for the sustainability of something you don't know anything about?

In a similar vein, a CDA chairman in Akute added:

Why do I bother whether the water collapses or not when the villagers are not given water supply to drink?

A CDA chairman in Iju spoke in the same manner, thus:

Which kind of dialogue would you like to discuss again after writing a series of letters to the water corporation without reply?

A traditional ruler in Akute expressed similar sentiments about the protection or sustainability of the water supply systems in his community, as he said:

How do we protect what they have not shown me that they are doing here? It is dangerous. Have they given us information before? They can accuse you of sending someone to poison the water they are producing for people to drink.

However, one of the traditional rulers in Adiyen was receptive to the idea of sustainability as he emphasised that his community has been protecting the water supply systems. He responded:

Community leaders do not allow hoodlums to go to the area to disturb the workers. The government and the community did a Memorandum of Understanding (MoU) that by the time the next phase of the project would commence, the indigenes would be engaged. The signing of the MoU is a current development and it provides that

not all the workers would be hired from outside, but that the corporation would still engage some host communities' indigenes.

A CDC chairman in Akute and a CDA chairman in Isashi were in support of the bid to ensure sustainability of the water supply systems in their domains. The CDC chairman in Akute said:

You know that this water is for public use. We cannot allow people to go there and do what is not good. We encourage ourselves in this community not to go to the water to defecate or put something bad or a dead body there. If, however, someone went to the river to bathe and died there, we would immediately call the police or report it to the elderly people in the community to find a solution to it. We don't allow anything that damages the water, like poison, which is not good. We try to detect such efforts all the time.

An Isashi CDA chairman retorted similarly:

We know that the elderly in the community or close to the areas where taps were located were training their children not to play with the taps. They were using it with maturity so that they would not have to call on the government to come and repair the taps.

The submissions of the traditional rulers, CDAs/CDCs chairmen and the production managers in the water supply systems have answered the research question raised to investigate ways that participatory development communication approaches of community involvement and feelings of local ownership influenced the sustainability of water supply in Adiyari, Akute, Iju and Isashi communities. As the interviewees have expressed, the developer of the water supply systems in the host communities under investigation had not provided sufficient amenities that could create feelings of local ownership among the stakeholders.

Discussion

The research question sought to determine the influence of participatory development communication approaches on community involvement in the sustainability of the water supply systems at Adiyari, Akute, Iju and Isashi communities. The constructs examined were the provision of socially integrative programmes for the host communities, partnerships to limit cases of vandalism, and training of stakeholders for the maintenance of water supply systems. A summary of responses from the survey shows, however, that two of the approaches did not contribute significantly. These were the training and employment of stakeholders for maintenance of the water

supply systems, and the provision of socially integrative programmes for the host communities. The low total variance on these variables was evidence that the water supply systems' developer did not meet the expectations of community stakeholders in its response to their yearnings. The quantitative survey data analysis shows that responses were skewed in the direction of inadequacy of benefits or socially-integrative policies and programmes by the water supply systems' developer in these communities. This suggests that the sustainability impact of the projects in the host communities will be negative socially or economically. The assertion supports findings in a study by Cernea (1992) that projects that focus on generating economic benefits, but which do not encourage local participation, are less likely to provide measurable community benefits.

While it can be argued that organisations that engage local communities actively in their planning and operations management would most likely achieve sustainable development, it is also necessary to assert that bottom-up planning and execution come with costs. These costs involve empowerment and building of beneficiary capacity. However, to generate feelings of local ownership, community stakeholders must be allowed to assume more responsibilities in the planning and execution of the water supply systems. As Thwala (2010, p. 971) explains, special components of such projects must include recruitment of community stakeholders "in all phases of designing, implementing, maintaining, supervising, and evaluating new water supply and sanitation systems." Moreover, such projects stand the chance of becoming sustainable if "the time, effort, and money are spent to do it right."

The developer is required to pay special attention to and dialogue with the community development associations since these associations serve as local governance structures. Their buy-in to the project will readily lead to the generation of feelings of local ownership of the water supply systems. This is similar to the involvement of local community stakeholders in decision-making processes, especially at the planning stage. Cernea (1992, p. 59) aligns with this view as he remarks that "if people's involvement in public programmes is to be expanded, these specific costs must be recognised and assumed, otherwise the approach will be vulnerable to...short-sighted cost-benefit arguments or to expediency counter-arguments." Without community involvement and the attendant feelings of local ownership to which it endears, community stakeholders will be psychologically averse to protecting such systems.

These responses portend negative reactions to the issue of sustainability. They suggest that stakeholders were neither empowered nor encouraged to feel that they could lay claims to local ownership of the water supply systems in

these communities. There were also negative reactions in the area of the provision of socially integrative projects in the communities. Social integration is a process by which minority or socially-disadvantaged groups are brought together into the mainstream of society, so that they can agree on a shared system of meanings and, to a large extent, feel that they form part of the larger community. Social integration is the process of making societies more equitable, especially in promoting values, relations, and institutions that enable all people to participate in social, economic, and political life on the basis of equal rights and dignity (Ferguson, 2008).

On its part, the concept of sustainability is concerned with processes and actions through which humanity is able to avoid depleting its current natural resources to ensure that the quality of life of generations to come does not decrease. The term owes its origin to the United Nations Brundtland Commission (1987), which defines sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs and aspirations.” The concept of sustainable development is associated with the tripod of environmental sustainability, social sustainability, and economic sustainability. While environmental sustainability focuses on maintaining the quality of the environment, social sustainability is involved with ensuring human rights, equality, and respect for cultural diversity. Economic sustainability strives to ensure that the natural, social, and human capital for income and living standards are maintained. The bottom line is that complete sustainable development is achieved through a balance between the environmental, social and economic pillars, though the “required condition is not easy to achieve” because each of these pillars has to respect the interests of the other pillars (Klarin, 2018).

Ensuring long-term impact and project continuity is not only a big challenge but also an important issue of concern that dominates discourse in development communication. To achieve this requires a combination of factors which Acunzo, Pafumi, Torres & Tirol (2014) identify as technical, institutional, political, economic, and financial challenges. Technical challenges refer to abilities such as training for operations and maintenance of the equipment, while institutional challenges involve policy implementation, recurrent budgets, and staffing. Political challenges are concerned with commitments of government, an enabling policy environment, stakeholder interests and lobby or political influence, whereas economic and financial challenges refer to financial viability, resilience to economic shocks, and ability to cope with risks.

A sustainable project is often evaluated as one that has not only survived two years after its completion, but also been

in continuous use and sound maintenance five years after its completion (Mwanyalo & Mberia, 2017). But Wheeler (2004, p. 35) advises that sustainability requires long-term planning of 50 to 100 or more years to create the necessary impact. To be able to do this, “planners may need to more specifically assess how near-term actions can lead to long-term goals.” These water supply systems have been operating in the four communities for periods ranging from 30 to 110 years, meaning that they have met part of the sustainability requirements. However, ensuring that the water supply systems continue to pump raw water, refine and reticulate same for the public in Lagos State and even parts of Ogun State over the coming decades or centuries, is the major challenge of sustainability.

From the participatory development communication perspective, sustainability of these water supply systems can be achieved through three main strategies of developing local capacity, institutional support, and partnerships. A step-by-step approach to ensuring sustainability offered by Acunzo et al (2014, p. 189) involves “obtaining institutional support and buy in of communication as a public service, and creating a solid ground to encourage local partners to replicate and scale-up” participatory development communication activities. Moreover, Paul (1987, p. 3) postulates that certain strategies can lead to the sustainable development of the water supply systems. At the top of these strategies that are anchored on community participation, is the instrument of empowerment. While observing that empowerment can lead to an equitable sharing of power, he explains that “any project or development activity is then a means of empowering people so that they are able to initiate actions on their own and thus influence the processes and outcomes of development.”

The lack of empowerment brings to focus principles of the self-reliance theory adopted by the United Nations in 1973 following resolutions on a New International Economic Order (NIEO). Self-help and mutual-help are related to self-reliance, and self-help enables community stakeholders to exploit to their advantage resources that would have remained idle. Harnessing of related skills and attitudes have the potential of enabling stakeholders to “satisfy their basic needs to grow self-reliant, and to minimise precarious dependence on agencies external to their communities” (Fonchingong & Fonjong, 2003). Stakeholders in these water host communities exercised their sense of responsibility by developing water boreholes to satisfy not only their needs but also the needs of other members of their communities. Although self-reliance panders towards the ‘Do-It-Yourself’ axiom, yet this is an errant interpretation of the situation, as no individual or community is in a position to completely undertake any project without the support of others.

Kim & Ismail (2013, p. 587) postulate that the self-reliance concept connotes a 'helper-doer' relationship where the principles of self-help are adhered to. These principles are listed as: "(a) the outsider must make a positive difference in the living conditions of the doer, (b) the doer (the helped) must own and implement the programme or plan of assistance; (c) the help or support must not undercut the autonomy of the doer – too much help can make the helped lazy; (d) the help must be for a limited period of time – long term charity corrupts self-help and undercuts the capacity for development; and (e) the doer should be able to sustain or continue with the development process if and when the help stops or is even terminated abruptly." This strategy is reinforced by the building of beneficiary capacity in relation to the project. Capacity building, which is related to empowerment, refers to strengthening the knowledge and skill-sets of members of the community, particularly its youth. The benefit of this is that they can take responsibility for managing selected aspects of the project according to the skills they have acquired.

Communication for development is often applied in two major ways. These are either as communication to access, or communication to empower. Communication to access is applied as a research and analytical tool to investigate both communication and non communication situations. On its part, communication to empower is a dialogic feature that "enhances the capacity of all groups, especially the most marginalised ones, to address the issue of poverty" (Mefalopulos, 2008). The outcomes of these communication applications are also viewed in two directions: (a) providing technical information about development problems and possibilities, as well as appropriate innovations in response to local requests; and (b) disseminating information about local groups' self-development accomplishments so that other groups can benefit from the experience of others (Coldevin, 2008). A development programme or project cannot become sustainable if it is not backed by appropriate communication for empowerment. Communication is, indeed, the lifeblood of any strategy and, therefore, an integral part of the process of development. It is an essential prerequisite to intelligent planning and implementation of sustainable development (Esiere & Obot, 2014). While this situation may not preclude the fact that mistakes can occur, the important notion is that it improves the chances of success.

The paucity of socially integrative programmes or projects have generated apathy in the stakeholders towards the sustainability of the water supply systems. The lack of community involvement in sustainability of the projects in these host communities, therefore, is a reflection of this apathy. It also evinces the general absence of the influence

of genuine participatory development communication approaches in these communities. The scenario can, however, be reversed through the adoption of interactive communication approach by the stakeholders and the systems' developer. The stakeholders can adopt a number of factors to ensure that the water supply systems are sustainable in these host communities. One of these is that there must be interactive participation with the host community stakeholders. Interactive participation is a function of the dialogic mode of communication that is applied in two major ways to create a constructive environment where stakeholders can participate to find solutions to their development problems. It offers several positives for communities, among which are teaching the community stakeholders ways to solve conflicts and fostering capacity building. It is the panacea for the achievement of the goal of creating feelings of local ownership of projects and involvement of the host communities in the sustainability of the water supply systems. This participatory development communication approach possesses the potential to enhance the provision of socially-integrative projects in communities and even ensure their sustainability.

The water supply systems' developer did not adopt the genuine participatory development communication approach of interactive participation during the planning and execution stages to enhance interaction with the community stakeholders and ensure sustainability of the systems. It is, therefore, recommended that the developer sets up a host communities' dialogue office in its host communities. These dialogue offices should engage in horizontal communication with host community stakeholders to assess their needs and ensure their involvement in the sustainability of the water supply systems.

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