# Towards sustainable rural water supply at the grassroot

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ONE OF THE challenges facing the engineers in the field of water provision to rural communities is finding a balance between community's need and government's policy. Hence this paper which presents the issue by making a case of a small community known as Iganke. Iganke is a village located to the North-East of Lagos State and about 7km away from Agbowa on the Ikorodu-Itoikin Expressway. The village is well spread out with individual householders the farming surrounding land. The population of the community is estimated to be around 1140 (ref. Year-1998) with the number of households at a conservative figure of 95. Houses are constructed from local materials but improvements are being made through the use of modern materials such as sandcrete blocks, zinc roofing and glass windows. The community seems to be quite cohesive with strong religious and ethnic aspiration. The highest educational institution within the community is a primary school and this was established some decades ago. The community through its community development association (CDA) has a recognized leader who is educated and well respected by the people. Also, there is a well-established traditional system headed by the Bale (Chief). He oversees day today running of the village.

## Historical background to water need

In 1992, the community through their Community Development Association (CDA) applied to the then Directorate of Rural Development (now, Ministry of Rural Development and Infrastructure) for the provision of rural water supply scheme. On receipt of this request, the author organized a visit to the community in order to assess their water need and commend an ideal type out of the various schemes being provided to communities by the state Government.

On arrival to the community, it dawned on the author that the only source of water supply is a seasonal stream, which is highly laden with sediments and it's a distance walk to the community. It hitherto caused various water borne diseases and affected therein the productivity level of the entire populace. This finding was lodged in the office with a recommendation of the Type "A" water scheme bearing the presence of electricity and the entire population of the community towards the sustenance of the project.

The Type "A" scheme has the following features:

(i) A 6" diameter drilled borehole to aquifer level
(ii) An overhead tank (500 gallons capacity) for aeration/filtration
(iii) A 2000 gallons steel tank (this is of recent replaced with plastic tanks) placed on a 1.2 metres retaining wall to allow for gravitational flow
(iv) 3 Nos standposts – to allow for communal fetching.

Through the normal bureaucratic approach, approval was formally granted and work commenced after the community has agreed to a more central location (beside the community's Town Hall, picture 1). Within one-month duration the entire scheme was completed and handed over to the community with two (2) members of the community trained as operators.

By 1995, the community was faced with what other communities in the state had been experiencing from the hands of the shylock borehole operators, who always come with the hope of assisting in the maintenance of their submersible pumps only to end up either stolen or out rightly replaced with an aged pump.

However, luck ran out for this particular contractor, as he wanted to replace the community pump with an old one, having taken it away for service. Unknown to him, the community had marked their pump for easy identification prior to its been taken away. After much threats and rounds of visits by members of the community to the contractor's office located within Lagos, a new pump was brought in and lowered into the borehole by the maintenance contractor.

Thus with security consciousness and persistency on the part of the community members, they were able to retrieve not only their pump but also a new one as a penalty for default by the contractor.

**Picture 1. The type "A" water supply scheme located by the side of the community hall**

In contrast, due to continued growth being witnessed by the community, which hitherto is a reflection of the presence of basic infrastructural facilities i.e., water, electricity and graded rural road network, the community made another request for the provision of one additional type "A" scheme.

Consequently, a visit by this author in 1998, revealed that rather than having an additional type "A" water scheme, an extension/modification of the existing scheme will provide the required service.

The following were the guiding principles behind this option:

(a) the existing scheme has unified the community-an additional borehole may fragment the entire community with people now identifying more with the project sited near their various houses
(b) the population/financial capability may not be able to sustain the operational and maintenance cost of two type "A" scheme.
(c) There are other communities in the state that are competing for the meager resources and are yet to benefit from any of the various schemes.

To meet the demand of the community and allay disaffection with community members, various discussions/meetings were called and the end result culminated in the below approach adopted in meeting the community water need.

## Approaches adopted

Following discussion held with members of the community, the various stakeholders, made up of the office of Rural Development (the provider) and the Iganke Community (beneficiary), were assigned the following responsibilities within a time frame:-

(i) *Office of Rural Development*
(a) to provide the required surface pump to be used for the lifting of water to the identified highest point in the community – this will therefore provide the needed gravitational head for distribution of water.
(b) to provide 2 Nos plastic tanks to replace the existing damaged/dilapidated 2000 gallons steel tank
(c) to provide the necessary expertise for guidance

(ii) ***The Community***
(a) to provide the required number of UPVC pipes and fittings for distribution of water across the village
(b) to provide both semi-skilled and unskilled members of the community
(c) to excavate trench to accommodate the distribution

From the identified work schedule, each of the stakeholders was given a specific period to achieve the assigned target.

Thus, the Office of Rural Development released 1No surface pump – which is to serve as the booster pump to the community immediately after one of the numerous meetings. This thus provided the impetus for immediate collection of designated levies from all members of the community – this levy was to be used in offsetting the cost for distribution network. Proceeding the levy collection is the mobilization of the entire community for trench excavation to accommodate pipes as earlier directed by the Office of Rural Development.

With trench excavated and materials/fittings purchased by the community, information was sent across to the Office of Rural Development for the last lap.

These include the laying of pipes/fittings, installation of 2No plastic tanks, and erection of retaining walls to create head, provision of standposts/aprons at designated points.

To achieve all these an agreed date was set aside which happened to be a weekend. This was done to give all parties necessary time to get organized/mobilized.

On the agreed date, the Office of Rural Development staffers arrived at the community by 8 O' clock in the morning to be met on arrival by the entire community comprising both old and young, men and women, all waiting anxiously for the Government team and willing to chart a path with their destiny without any enforcement from anybody.

After the formal introduction of the officials – which comprised of a Community Development Officer in person of Mr Badejo, four semi-skilled persons (2 No. plumbers and 2 No. mates) and the author as team leader.

On completion of the introduction, work commenced in earnest, with individual given expected role to be per-

**Picture 2. The 2000 gallons steel tank being taken away from its original platform**

formed. It was a thing of joy seeing community members showing the greatest enthusiasm of involvement (Picture 2)

Also worth mentioning was the contribution of the Epe Local Government, having been confronted with the reality, contributed through the donation of two (2) number plastic tanks to compliment those donated by the Office of Rural Development.

Similarly, like most projects that involve community in decision- making, it was an herculean task to get members convinced about the distribution pattern to be adopted. As members now used the source point (where the borehole is located as the focus point) and therefore felt having contributed financially, the number of pipes should be evenly distributed between the North and South poles of the community without any regard for the flow regime.

In addition, each member wanted the communal standposts to be located in their house frontage accordingly – so as to reduce the fetching distance.

Consequently, both the Community Development Officer and the author now have to rely on their various experiences acquired over the time/academic prowess in Community Management to resolve the issue. This was done through persuasion and enlightenment of the community members on the need for give and take, which is the bedrock towards overall development. Though a truce was brokered but not after the entire work had been stopped and much time wasted on argument. This, thus, forced the work not to be completed on the same day as earlier planned and hence led to another journey by the official to the community on the proceeding Monday which happened to be a public holiday.

However, it was not all work without enjoyment-as the community seized the opportunity to showcase their hospitality through the provision of local dishes and drinks (palm-wine, local gin and soft drinks). It was free wine and dines to everybody and these really kept the work going without recourse to the energy dissipated.

Lessons learned and experience gained:

(i) that through demand driven approach rather than supply driven as always the case – the people themselves can take the initiative and responsibility for improving their water supply situation rather than being passive recipients of the Government services. In this case, support was given only to those activities that were genuinely required and requested by the community (picture 3).

(ii) that although decision taken at the grassroots/community level is very slow and time consuming but once taken is more effective and allows for project sustainability – as witnessed during the pump replacement saga and levy collection for the execution of extension pipes.

(iii) through identified leaders/established institutions (CDAs) capacity building at the grassroots can be achieved.

(iv) that in decision making affecting water supply, gender balancing should be uppermost (as shown in Picture 4a – women and children are not left out in the execution)

(v) that technological selection and service levels must be commensurate with community's needs, and capacity to finance, manage and maintain them.

(vi) that through proper education of the varying types, community would be willing to take responsibility for the system (Picture 4b)

(vii) that for effective development at the grassroots to be meaningful, external support services must be available from governments (i.e Federal, State and Local), donors, and the private sector in terms of training, technological advice, fund facilities, contractors, construction, etc.

**Picture 3: The balancing overhead storage tank – this helps in distributing the water by gravity**

**Picture 4a: Gender balancing – no one group is left out**

**Picture 4b. Proper education on options encourages participation**

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