Women's Role in Rural Water Supply and Development: Trends and Expectations in Nigeria

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Summary

There has been a paucity of reliable data on the contribution of Nigerian women in rural development, particularly with respect to water projects. From a detailed survey of many rural settings, and an evaluation of the availability of sources of water and the existing methods of purification, it was discovered that rural women, especially those of younger years, were heavily involved in water collection. The time and energy involved in water fetching and purification could sometimes be so high that other economic and domestic activities were adversely affected. The participation of Nigerian women in water development and quality improvement is hindered by problems, such as their standard of education, low level of awareness of the benefits of a good water source, lack of funds and organisational constraints. In general, this study has recognised an urgent need for more imaginative, better funded and better co-ordinated water development projects for the enhancement of the quality of life, especially for women in rural settings.

Introduction

Since the onset of traditional African societies, domestic activities, such as the provision of water for general household use, have been delegated to the women of the community. It is unusual to find men engaged in such activities. Water purification involves the various treatments performed on raw water from its initial collection to making it potable. In the general sense, development refers to changes aimed at transforming the living conditions of people. It is a complex phenomenon, comprising economic, social and political aspects. Dennis (1976) identified two major components of development as the increase in productivity promoted by the use of new techniques and a reflection of the increased productivity by improved life-styles of the people. In this regard, water development may include activities aimed at reducing or totally eliminating the drudgery involved in the search and collection of water, and probably the act of keeping the cost of the water down to affordable levels. These processes must involve the development of a technology that can be easily operated and maintained by the beneficiaries.

The existing knowledge of a woman's role, particularly with regard to water resources development is scanty. The reports produced by Boserup (1970), and the activities initiated during the United Nations' Decade on Women (1975–1985) have underscored the need for greater attention to be paid to women's issues. Makinde-Adebusoye (1985) observed that the under-reporting of women's activities in development is due mainly to the difficulties in measuring their work. They are often involved in multiple occupations that tend to be practical, private and voluntary. The need to provide a satisfactory estimate of the economic activities of women calls for an assessment of all activities both in the wage and non-wage earning sectors. This study attempts to assess the role of Nigerian women with regard to rural water supply, its purification and development; to identify new trends as well as the constraints imposed on women involved in rural water supply schemes; to assess the equipment used and the technology available to women for water purification; and to examine

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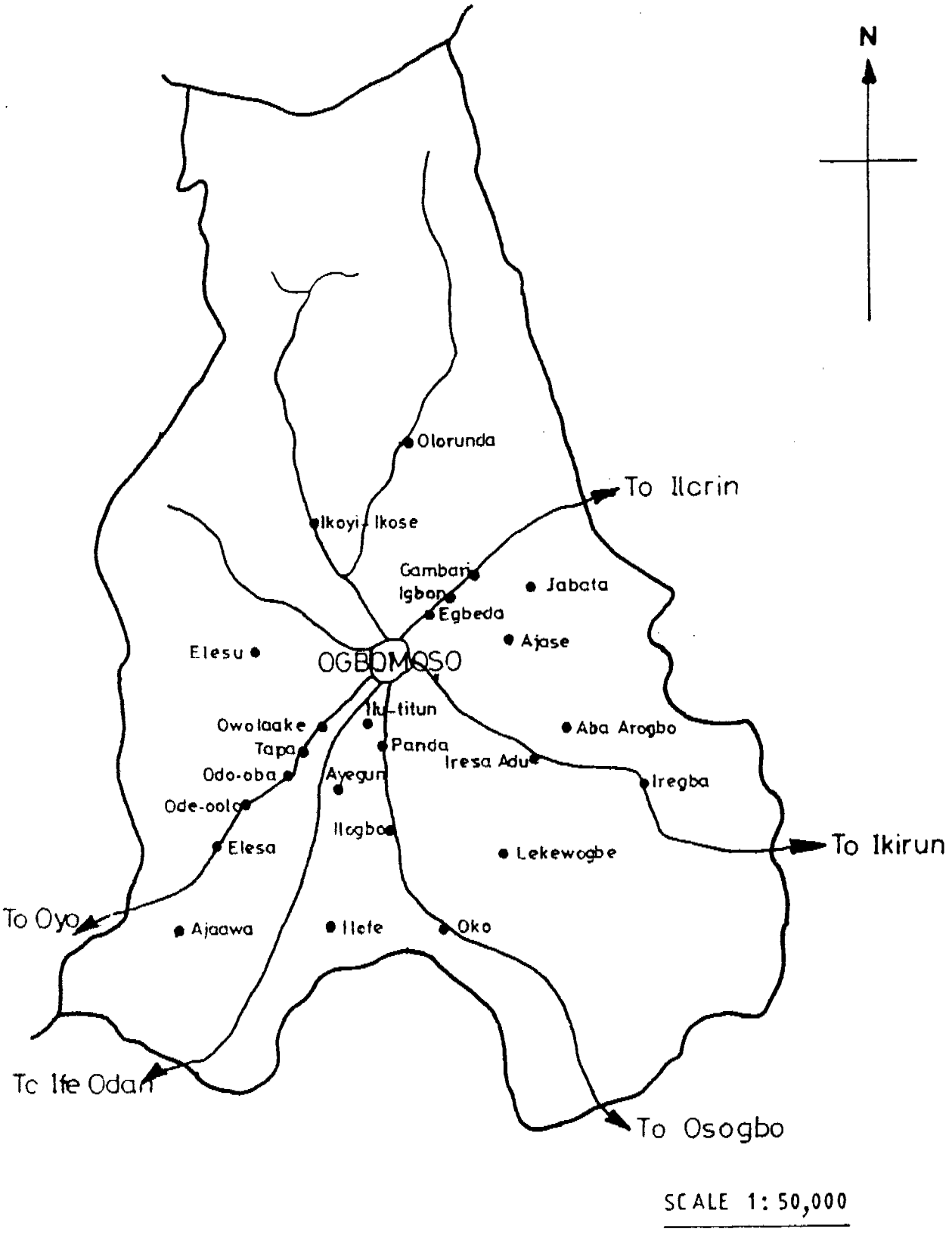

Fig.1 Map of the area studied.

women's overall access to resources, such as capital, labour and material, and their effects on rural water schemes. The present study also aims at using these observations and deductions to recommend strategies for improving women's participation in rural water supply schemes.

Justification

In most African communities, the collection of water, whether from rivers, lakes, springs, wells, rain-water, ponds or other sources, has always been regarded as the responsibility of women. One major factor responsible for this development is that the men often leave their families in the rural areas whilst in search of money-earning occupation in the urban centres (Getechah, 1980). Sixty-three percent of households in a South African country were surveyed as headed by women, due to the migration of the men into towns and cities in search of salaried jobs (FAO, 1984). In a study conducted by Haile (1980) in Ethiopia, a growing tendency for the participation of women in rural development was observed. In addition to their household duties, women in many parts of Ethiopia were observed to be actively involved in road cutting, reforestation, environmental sanitation, cooperatives and other development projects. Nkom (1990) reported that the distributive trade in Nigeria would cease without the active and enterprising involvement of women. A United Nations Children's Fund survey (UNICEF, 1977) had earlier revealed that development programmes which did not involve women failed to realise their full objectives.

Water collection can sometimes be a very strenuous exercise, especially when the distance from the water source is great and the water is not easily accessible. A single collection exercise can last for several hours, or in some cases, a whole day. Such demands might be responsible for women spear-heading many of the efforts to bring water close to the house and also to improve its quality. Getechah (1980) cited the case of a Mabati Women's Group in Kenya which, influenced by the onerous task of water collection, approached the government for financial assistance. The money raised within the community, together with the governmental assistance, was then channelled into the execution of a deep well project. In Kano State, Nigeria, several villages have been provided with piped fresh-water supplies from boreholes operated by electric generators. Although this project was entirely financed by the Federal Government, Hofkes (1984) noted that it was the womenfolk of that area in their unrelenting efforts to obtain potable water both closer to their homes and for use in cottage industries, who spurred the government into action.

Community participation in creating a water supply plays a significant role in developing and increasing community awareness, instilling a sense of responsibility and pride of ownership. Communities, and especially the women, are normally encouraged to participate fully in the planning, construction, operation and maintenance phases of rural water supply projects. In Kenya, Getechah (1980) noted the active participation of women in digging trenches, laying pipes and the movement of construction materials in these projects. The major share of money raised for self-help community water development projects was also acknowledged to have been by women.

Water may be of potable standard either as a result of judicious selection of the source or by purification after collection. Women in rural areas perform various water purification processes, of which removal of sediment is the simplest. Although disinfection by boiling is sometimes done, Oluwande (1983) observed that the quantity of water subjected to heat treatment is usually small when compared with the total amount of water needed by a household for domestic and other uses. Initially, water which is drawn may be reasonably acceptable and potable at source, but due to poor and unclean storage, it usually becomes contaminated (Haile, 1980). Frequently the same cup is used for scooping and drinking, especially where the water source is a spring or pond.

Although women in developing countries are making a substantial contribution to water development, there remains a lot of room for improvement. This study attempts to evaluate the influence and participation of women in the various aspects of providing rural water supplies in Nigeria.

Field Study

The Ogbomoso North and South Local Government areas of Oyo State, Nigeria, were selected as a region for study (Fig.1). The area of investigation included sites very close to major roads, and sites remote and accessible only through rural and seasonal roads. The rationale for such a study area was that nearness to an urban centre and accessibility to communication networks and social amenities, such as electricity, have different influences on the exposure of rural people to modern methods of water supply.

A pre-test was conducted in two communities from the local government areas under study to assess the adequacy of the questionnaire devised, the ease of administration, as well as the efficiency of the interview methods used. Following the pre-test, the questionnaire was restructured to eliminate ambiguous questions and the survey

method was properly planned. Interviews and participant observation were the procedures employed for data collection. The low literacy level (informal education) among the rural residents made data collection by interview procedures more appropriate than the use of a direct written questionnaire (see Appendix).

The interview schedule had both open- and close-ended questions. Both individual and group interviews were conducted. In group interviews, respondents were encouraged to discuss aspects of the subject matter under investigation. The author occasionally participated in the discussions to clarify certain points or to explain questions which were not clear and to ensure that the discussions were relevant.

Participant observation supplemented data collected through interviews. The unit of analysis was the household and the focus of inquiry was adult females of the selected households in the study area. The household was chosen as a unit of analysis because it was central to any analysis of the women's work role.

Initially, many of the respondents in all locations were sceptical of the outcome of the interviews. Some of the married women in particular wondered why it was necessary for them to be interviewed, explaining that it was their husbands that should be interviewed since they were the heads of the household. However, it became easier to get responses from the women once they were enlightened as to the objectives of the study and the importance of the woman's role in the study. The observations also covered the activities of other members of the household. The duration of study covered both the dry and wet seasons. This enabled the author and his assistants to have an adequate opportunity to record and observe the seasonal variation of water sources in the rural households under investigation. The survey results, participant observations and some of the hypotheses were statistically analysed to determine their acceptability.

Observations and Findings

Women's interest and performance in rural water development projects were significantly influenced by their age (see Table 1). Analysis showed that 67 percent of the respondents that participated actively in rural water projects were younger women. This may be due to the fact that they were the strong and agile representatives. They are also able to cope with the rigours involved in carrying out the non-technical tasks, such as digging trenches and transporting materials required for water supply projects. The greater involvement of younger women in water projects may also be due to the fact that they were the ones most involved in the establishment of women's associations. Such organisations are formed to protect women's interests and members exhibit an eagerness for success in any development project, especially those that have to do with improving their living conditions. This is achieved either by self-participation or through financial contributions. The participation of older women (particularly in the provision of labour) in water supply projects is not significant because most of them usually have daughter-in-laws and grown-up children to replace them in such activities.

The level of education of the respondents in all the study locations was generally low. Most of those interviewed did not have any formal education. Despite this, many of them had positive attitudes towards education. They realised through experience that education provides a stepping-stone to progress.

Among the various methods of water purification being performed by the women in the area of study, the use of alum was the most favoured. Since the majority of the women extracted water from wells, they believed that the water from such sources was free from bacteria and germs. In these circumstances, little or no purification was carried out before consumption. It was only in cases where such water was seen to contain visible organisms, such as mosquito larvae, that purification by boiling was undertaken. Water from sources such as streams and springs were also subjected to heat treatment, the general belief being that these sources contained a lot of impurities. One other water purification method that was regularly performed was filtration. Water drawn from various sources was usually kept in clean containers once it reached home. Particles in this water settles at the bottom of the containers after a short period of time and the water is sieved prior to use.

Although the men were more involved in the construction of wells, women's associations constituted pressure groups that tended to seek the installation of pumps (manual or electric) for easy delivery of the water. These groups have also succeeded in many circumstances in attracting funds from wealthy individuals, philanthropists, religious and social organisations for the procurement and installation of pumps in community wells. They also expressed more eagerness for the maintenance of rural water systems as compared to their male counterparts.

Water fetching from spring and stream sources is generally strenuous, each trip taking a great deal of time. In such cases, for example in Arogbo Village (see Fig.1), a vigorous search for an

Table 1 Analysed responses (percentages in all cases) on the role of Nigerian women in rural water development.

Respondents occupation:	
Farming	33
Trading	42
Paid Employment	15
Housewives	10
Water source:	
Stream	13
Spring	18
Wells	53
Vendors	0
Borehole	6
Pond	10
Consideration in the choice of water source:	
Abundance	7
Quality	20
Proximity	30
Only choice	32
No preference	11
Groups mostly involved in water projects:	
Men	32
Women	60
Children	8
Age groups mostly involved in the execution of water project(years):	
<25	23
25–45	67
>45	10
Source of finance for water project:	
Individual/philanthropist	19
Community effort	29
Government	49
Donor agency	3
Diseases linked with the use of locally available water:	
Guinea worm	17
Typhoid	23
Dysentry	6
Cholera	17
None	37
Mode of water purification:	
Boiling	22
Alum addition	31
Filtration	4
None	43
Mode of water delivery (wells):	
Manual	50
Handpump	39
Electric/diesel pump	11
Groups responsible for maintenance of water projects:	
Individual	13
Community	77
Government	10
Donor agency	–
Water projects maintained through community efforts:	
Taxation	28
Contribution	72
Distance to water source:	
<100m	15
100–500m	58
>500m–1km	10
>1km	17
Period of a fetching trip (hours):	
<1/2	43
1	24
1–2	15
>2	18
Per capita water consumption (litres):	
<20	46
10–50	45
50–100	9
>100	–

alternative water source was inevitable. Artificial ponds were usually dug deeper during the dry season. Although this provided a temporary solution to water quantity problems, women were actively involved in the carrying of the dredged material from the pond site to nearby depressions. Rubbish

in the vicinity of streams and springs was regularly cleared, mostly by women and children. In general, with pipe-borne water systems, women had little role to play. However, at the construction phase, for example, in digging the trenches, they played an active role. In rain-water harvesting, women in the study area were actively involved in maintaining the gutter structures and storage drums. They were also responsible for cleaning the water storage containers from time to time.

Conclusions

Generally, rural women in Nigeria are more involved in water development projects than men. This is not surprising, for in the absence of local, good water sources, they usually bear the heavy burden of fetching water, sometimes under adverse conditions. It appears that the younger women participate more actively in this pursuit than their older counterparts. The women's participation in water-source development and quality improvement is hindered by problems, such as their level of education, a low level of awareness of good water sources and how to purify the water, as well as lack of funds. The non-technical aspects of several rural water development projects examined were mostly carried out by women. Some of the water projects were funded by the Nigerian Government. The methods of purification mainly applied were boiling, the addition of alum and filtration. The study recognised the need for well-coordinated rural water development schemes and the recognition of the role of women to enhance the success of such schemes.

Since the acquisition of a basic education is fundamental to a woman's capacity to function and cope effectively with the demands of modern living, teaching women to be literate and training them in simple water-treatment methods will go a long way in alleviating the problems of water quality. The success and effective implementation of special programmes on rural water development will depend on the active mobilisation of rural women. Their organisation into cooperatives, clubs, associations and pressure groups, using available resources, is recommended. Small health units or village health communities are required to assist in imparting knowledge of sanitation, water purification and disease control. Women should be taken into and be active in such units. This will enable a faster and more effective transfer of information. Training centres are advocated for water technicians in which rural women should also be involved.

Appendix

Questionnaire on the Evaluation of Women's Role in Rural Water Supply in Nigeria

The following questions were asked of respondents:

– Water Source:
stream, pond, spring, well, borehole, vendor, others.

– Factor(s) which motivated the choice indicated above

– Previous source before shifting to present source

– Briefly explain the reasons for the change.

– Identify groups that are mostly involved in water projects:
Men, Women, Children,

– Age groups mostly invoved in water projects (in years).
<25, 25–44, >45,

– Source of finance for execution of water project individual, community effort, government, donor agency, loan
(state level)

– Diseases linked with the use of locally available water?

– Briefly explain methods and procedures for purifying available water

– List and discuss problems encountered in the execution of water projects in your locality.

–How are the problems identified above overcome?

–Groups responsible for maintenace of water projects. Individual commmunity, government, donor agency etc.

–Water projects maintained through community effort by, taxation, contribution, other methods.

– Distance to water source.
<100m, 100–500m, 500m–1km, >1km.

–How long does a fetching trip last (in hours)?

– Estimate of per capita water consumption (in litres)
<20, 20–50, 50–100, >100.

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