

Incorporating Productive Uses into Water Systems in urban Nigeria

Joachim Ibeziako Ezeji and Ian Smout
Water, Engineering and Development Centre
(WEDC)

MSc Research Project

- A social survey of households in Owerri city, carried out in 2007
 - To obtain people's views, and
 - To observe their daily economic activities as these relate to the way and manner they use their drinking water supplies for economic and productive enterprises.
- Particular attention was focused on the water supplied by the Imo State Water Corporation and the alternative water suppliers.

Tools used

- Questionnaires, Focus group discussions and Observations.
- Further information was obtained from local newspapers, personal discussions and review of institutional documents.
- Quota sampling technique was used in selecting respondents: (type of water use, neighbourhood, sex).

Study Area:

Owerri city, Imo State, Nigeria

- Owerri is the capital city of Imo State.
 - located in the South Eastern zone of Nigeria.
- Rainfall > 2000mm per year
- Owerri is predominantly an urban community with a population of about 1.5 million people.
- Annual population growth rate ~ 4.5%.
- Population density > 400 per km²
- The Imo State Water Corporation (ISWC) has the mandate to supply water to Owerri and other parts of the State



Owerri City



Water sources and the Utility

Water Sources:

- Utility supplies
- Streams/Rivers
- Private Boreholes
- Water hawkers/vendors

Other water sources:

- Opportunistic Rainwater harvesting
- Waste water reuse (Not in use)

Features of the Utility:

- Public owned
- Effective service coverage of 31%
- NRW between 50-69%
- Intermittent supplies
- No meters
 - Fixed domestic tariff
 - Extra charge for productive users
- Bill collection efficiency 30%

City water vendor



Productive Uses in Owerri

Productive uses fall into 2 categories

1. High water users

- Horticulture, Car Wash, Bricks/Block Making and Home Gardening

2. Moderate water users

- Restaurants and Ice Block making

The Horticulture, Car Wash, Bricks/Block Making and Home Gardening groups

- Reluctance to be interviewed, observed and photographed
- Poor reputation of using and wasting so much water.
- Are often hesitant to pay anything near commensurate charges.
- Notorious for many cases of illegal connection and disruption of water flows in the IWSC system.
- Opposes the introduction of meters
- Contented with the existing status quo
- Currently underpay.

The Restaurant and Ice Block groups:

- Currently these two groups use 250 and 50-100 l/p/d of water respectively .
- Source 50 and 75% of their water supplies from water cart vendors.
- Operate basically within their households.
- Both activities are dominated by women and represent the highest number of productive users surveyed.
- Their activities are more water efficient than the other groups.
- Willingness to Pay (WTP) for ISWC water was higher.

Indicative Financial Analysis of Productive Uses in Owerri City

User/Activity	Estimated daily water use (l)	Monthly tariff payable to Water Utility(N)	Average monthly land/plot area rent (N)	Total utility water + rent (N)	Estimated average monthly income (N)
Horticulture	250-450	5000	3000	8000	45000
Car Wash	500-1000	7000	2500	9500	55000
Brick/Block	1000-3000	15000	10000	25000	90000
Home garden	250-450	2500	10000	12500	15000
Restaurant	250	1500	4000	5500	20000
Ice Block	50-100	1000	5000	6000	7000

Conclusions

- Urban planners and utilities need to acknowledge contribution of productive water uses
 - to the city economy
 - to poverty reduction
- Income and employment benefits for urban productive water users depend on
 - a functional and efficient utility
 - an appropriate policy framework
- Major differences between types of productive use
 - Different water consumption rates and sources
 - Different groups involved (men/women)
 - Different profitability, ability to pay and WTP
 - Need to be charged accordingly – metered if possible?