WaterAid has been active in Hitosa and Gonde Iteya in Arsi Zone and Robe Maliyu in Bale Zone in the Oromia Region of Ethiopia for the last ten years. The three large-scale gravity-fed water supply schemes have been implemented in partnership with Water Action, an indigenous non-governmental organization (NGO), and have involved close collaboration with local communities and with the Oromia Water, Mines, and Energy Resources Development Bureau (OWMERDB). Physical implementation in Hitosa was completed in 1995, in Gonde Iteya in March 2000, and in Robe Maliyu in March 2001 (except for final work on some extensions). Community-elected bodies and their salaried staff are now responsible for all activities required to sustain and manage the schemes.

Introduction

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Gonde Iteya: Water Supply, Sanitation and Hygiene Education Project System Layout

Progress still needs to be made in such matters as the provision of water for livestock, and the promotion of proper sanitation and hygiene practices. Participatory evaluations indicate that community-managed differentiated tariff levels and cross-subsidization do assist in providing a service to the poorest community members.
Management Model

The key to the success of these schemes is the level of community participation in management. Each scheme has evolved differently and displays some unique characteristics. However, all schemes have one important feature in common: they are fully owned and managed by community-elected bodies. This participatory approach has met with tacit approval from regional governmental authorities and many of the lessons learnt have been incorporated into Oromia’s regional water policy and guidelines.

### Hitosa

Institutional arrangements for water supply management with clear lines of communication and authority are firmly established in Hitosa (see ‘Basic Management Structure’ box). The administrative units associated with this management structure are as follows:

- **Water Management Board (WMB)** is in overall charge of the scheme and comprises 62 members from all sections of the local community. Convoking WMB meetings on a regular monthly basis with all 62 members present has inevitably proved difficult. It was therefore decided to appoint an Executive Committee composed of five board members and four local government officials, thereby providing an important link between the local community and the woredas (districts) and kebeles (sub-districts) that constitute the local government structure. The Executive Committee is accountable to the WMB.

- **The Water Administration Office (WAO)** is the central body responsible for the day-to-day running of water supply operations in Hitosa.
Queuing has not been eradicated altogether — the tap stands are open during a few morning and afternoon hours, partly to reduce the tap attendants’ working hours. Note the elevated stand for water containers — higher on one of the sides — making the lifting easy for adult women and young girls alike.

Salaried staff manage the system, read meters monthly, collect charges, and disburse funds. The WAO also coordinates the activities of Village Hygiene Communicators (see below), and encourages expansion of the service by promoting additional private connections. To ensure effective division of responsibilities and to provide dedicated services the WAO is split into three units: technical, administration, and finance. The WAO is accountable to the Executive Committee of the WMB.

Communities maintain an active interest and stake in the system through community-based Water and Sanitation (WATSAN) Committees. One male and one female member of each WATSAN Committee stand on the WMB, bringing a grassroots perspective to the highest echelons of the water-supply management structure. The WATSAN Committees provide a vital link between private and public customers and the formal management structure of the system.
Other groups who assist the efficient and sustained operation of the scheme include Village Hygiene Communicators (VHCs) who operate at the local level, stressing the vital link between water usage and hygiene; and tap attendants, numbering 61 in total, who dispense water from tap stands, collect the fees due, and use their contact with the community to advise on water and hygiene matters.

Communities in Hitosa are justifiably proud of their integrated rural and urban management system and are content with the present management structure.

**Gonde Iteya and Robe Maliyu**

The more recent Gonde Iteya and Robe Maliyu schemes use the basic management model provided by Hitosa. However, since these projects are at an earlier stage of implementation and evolution, management arrangements are less clearly defined.

In Gonde Iteya, the water supply system is fully managed by a Water Management Committee (the equivalent of Hitosa’s WMB). At present there is no independent WAO, though plans are afoot to adopt a similar system to that established in Hitosa.

As regards Robe Maliyu, communities have long held the view that a central executive body (like a WMB) is needed to integrate the urban and rural water supply components of the scheme. It has recently been agreed that there will be one Water Board with overall responsibility, while two separate WAOs will deal with Robe-town (35,000 people) and the rural villages respectively.

The Robe Maliyu scheme is being completed with additional funds. The Ethiopian Social Rehabilitation and Development Fund (ESRDF) has agreed to part-finance eight villages (about 13,000 people), matching a massive 33 percent contribution from the communities themselves. Local government and locally hired staff will implement the project using the ‘WaterAid Approach’ to ensure community participation in management.

**The Livestock Question**

Livestock watering is a critical rural water demand that needs to be fully integrated into water supply system design:

- Livestock water consumption was never included in the original system design of the Oromia WaterAid projects. If animal husbandry is to be improved and livestock watering encouraged through the construction of cattle troughs, the design capacity of each water supply system is likely to be exceeded within a few years.
- Livestock represents a significant asset within the Ethiopian context and wealthy farmers may be willing and able to pay for additional services. Subsequent income would be welcomed by each WAO and could be reinvested in capital items and the development of new sources. It could also be used to cover the cost of any major repairs expected in the near future.
- On the other hand wealthy farmers, especially those with large herds of livestock, are among the local elite who tend to dominate water supply management, and they can use their influence to avoid paying set tariffs.

Before communities embark upon new schemes and tap into the potential for livestock watering, careful investigation of all the relevant factors is necessary. The potential exists to improve the socio-economic status of water user groups through improved animal husbandry and increased meat and milk production. In addition, the increased revenue generated from water sales would allow communities to plan for reinvestment, and to contemplate the possible expansion of each scheme.

**Financial Management**

Despite the differing institutional arrangements operating in the three project sites, communities display a strong sense of ownership. This is confirmed by their willingness to pay set water tariffs and take financial responsibility for water supply systems in the future (provided adequate justification is given for various project expenditures). Recent evaluations have shown a high degree of motivation amongst both salaried staff and volunteers.
In communities already connected, the water meters are functioning and read monthly. The efficiency of bill collection is high (exceeding 90 percent), and salaried tap attendants are collecting and depositing cash efficiently. The communities maintain a high level of trust in financial management systems. Defaulting on payments is not a significant problem; on average, fewer than five customers a month are temporarily disconnected in Hitosa due to non-payment of water bills.

Income from water sales currently exceeds running costs (including staff salaries and minor maintenance) at all three sites. It still remains to be seen whether the costs of capital depreciation and future investment can be incorporated into the financial structure.

There is a complex interrelationship between supply, demand and potential yield. The discharge capacity of sources at all three sites remains underused and consumption is generally low, particularly in rural communities. Some of the reasons for this are as follows:

- Long-standing habits of economizing on water use
- Limited number of tap stands
- Inconvenient or limited hours of operation of tap stands
- Inadequate household storage facilities
- Lack of affordability

Perhaps surprisingly, considering the higher cost of water purchased from this source, water vendors still operate in both rural and urban areas. People reportedly buy water when they have a pressing need and tap attendants are unavailable to provide the necessary service, or when the nearest tap stand is some distance from the point of delivery.

Future Initiatives

This review of the Oromia region WaterAid pilots suggests the following lessons and suggestions to enhance the future effectiveness of water supply schemes:

**Increasing Revenues Through Additional Private Connections**

In an attempt to boost revenues, the WAO in Hitosa hopes to increase the number of private connections. Demand is high despite the higher price of water supplied privately. However, the one-off connection charge is often felt to be prohibitively expensive. To encourage the installation of new private connections, the WAO is considering a variety of measures, including linkage with a micro-credit provider or recovering connection charge by instalments through increasing the volume tariff.

**Increasing Rural Consumption**

Effective hygiene education and promotion of sanitation may well
encourage water users to increase their personal consumption rates. Such programs could draw attention to the high incidence of eye and skin diseases that exist in the area, the need for regular bathing, loss of earnings due to medical expenses, and lost productivity due to disease. In addition, increasing the number of tap stands and introducing more convenient hours of operation could help in improving consumption rates.

**Facilitating Household Storage and Transportation**

At an average cost of 1 birr (100¢) per 1000 liters, the minimum volume of water that can be purchased in a single transaction using the smallest unit of Ethiopian currency (the 5¢ coin) is 50 liters (approximately two large jerry cans). Transporting and storing this volume of water is difficult and impractical for the average household. A voucher system, whereby individuals can buy low-unit vouchers which allow smaller quantities of water to be drawn and purchased, is already in place in some communities, and could be advantageously extended to other communities.

**Enhancing Community Commitment to Sustainability**

The majority of people are willing and able to pay for water at the prevailing tariff. Some users already understand indefinite service provision. Nevertheless, awareness could be raised to help all users understand the correlation between capital reinvestment and sustainability.

**Clarifying the Role of WATSAN Committees**

The roles and responsibilities of WATSAN Committees need to be updated and redefined. In the first instance, the role of Committees was to organize labor and community inputs during the construction phase. Moving from this phase to the operation and maintenance of a water supply scheme requires new insight, training and renewed commitment.

**Raising Awareness of Gender Issues**

Although, at community level, WATSAN committees have a higher proportion of women members, it tends to be men who assume leadership roles. In addition, domestic responsibilities often make it difficult for women to be more active in community affairs. WaterAid and Water Action are trying to increase the involvement of women through gender training and consultation with women on such issues as hygiene, the timing of training workshops, and the siting of tap stands.

**Assisting Disadvantaged Members of the Community**

Certain sections of the community, such as the elderly, the disabled, and members of female-headed households, can struggle to keep up with payments. Fortunately, there is a feeling amongst wealthier community
members that something must be done to provide a safety net for them. Communities themselves are able to identify poorer households that may have difficulty paying for water, and who may benefit from some form of subsidization.

**Encouraging Latrine Construction**

An appreciation of the benefits of properly constructed latrines, including disease prevention, is widespread in all communities. A certain level of prestige is also attached to having a private latrine 'similar to those in town'. Despite this, rural communities remain poorly served and facilities are often inadequate. The main reasons identified by WaterAid and its partners include:

- Lack of knowledge of low-cost options for effective sanitation
- Limited access to concrete latrine slabs and suitable pit-lining materials
- Lack of relevant building skills amongst rural communities
- Inability of some households (e.g. the elderly or disabled) to dig latrine pits
- Lack of space for latrine construction in more densely populated areas
- The habit of open-field defecation, particularly amongst those living on the periphery of built-up areas
- Shortage of funds to purchase the required materials

In an attempt to increase latrine coverage and to improve hygiene practices Water Action, in collaboration with WMBs and WAOs, intends to:

- Provide basic training for local artisans
- Promote and provide information on the benefits and use of public communal latrines where space is limited
- Intensify hygiene education to raise awareness of the dangers of open-field defecation
- Cross-subsidize latrine construction using surplus funds from water sale revenues
- Introduce phased payment schemes, possibly with the help of existing community-based self-help cooperatives or local financing mechanisms

**Conclusion**

These large-scale, gravity-fed water supply schemes provide an excellent model for future development programs in Ethiopia and elsewhere.
Their success is attributable to several factors:

- **Administrative capacity building:** Since it started funding projects in Ethiopia in 1983, WaterAid has worked with an increasing number of partner organizations, including government departments. In 1995, WaterAid helped establish Water Action, a local NGO, which is now seen as an effective agent in the country’s water and sanitation sector. Thus, the groundwork had been laid for the accommodation of the Oromia project into the regional administrative system.

- **Quality of design and construction:** The extension of the Hitosa Supply Scheme to include the lowland villages showed a most effective use of the two available springs. The elaborate planning and organization of labor involved in laying a network of pipes radiating to many villages was effectively undertaken.

- **Effective training:** In the early days of the schemes, selected trainees from each village were trained in plumbing and construction, health, home economics, finance, and administration. Thus a core of skilled personnel was available to operate the project from its inception.

- **Community management:** Delegation of ownership of the schemes to the local community has proved to be a major incentive to sustained commitment to the responsibilities associated with management, maintenance, and finance.

- **Positive community perceptions of the schemes:** The affordability of water in relation to the perceived benefits in terms of water supply, sanitation, hygiene, and general social and economic welfare has encouraged the community as a whole to feel committed to the maintenance and protection of the whole system.

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**References**


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