ETHIOPIA ENVIRONMENTAL SANITATION
SUPPORT PROJECT

Executive Summary

Environmental Sanitation Case Study in Addis Ababa

1997

CASE STUDY BACKGROUND

This study of Community Based Environmental Sanitation (CBES) in the city of Addis Ababa was carried out on behalf of Region 14 by CERFE, an Italian non-profit research institute.

The Terms of Reference were provided by the UNDP-World Bank Water and Sanitation Program (CWSP) as part of its Ethiopia Environmental Sanitation Support Project. The Project was funded by the Government of Italy.

PROJECT OBJECTIVES

CERFE's study project comprised two components:

- inventory and mapping of all community-based sanitation projects in Addis Ababa;
- in-depth analysis of a sample of 12 projects.

The study sought to identify the key factors for setting policies in the environmental sanitation field and for implementing future projects. The case study approach involved analysing current practices - good and bad.

STUDY METHODOLOGY

CERFE formed a study team of three international experts and three national consultants. Their expertise included sociology, economics and water projects engineering. The study team worked with a working group of three officials of Region 14, with WSP's resident consultant in Ethiopia, and with the **Reference Group** chaired by Region 14.

The projects were identified from lists of implementing agencies and by visiting all the 28 Addis Ababa Woredas. The projects were examined by reviewing all the documentation available, conducting interviews with project staff and by on-site visits. Out of the 118 projects surveyed 12 were selected for case studies, which entailed in-depth analysis of the information collected. The product was a report, which included a general report, reports on each case study, the project inventory and the maps.

TIMEFRAME

The work started in May 1996 and was concluded with a first draft of the Report dated November 1996; a revised version of the Report was issued on March 1997 after a workshop held in Addis Ababa on December 16 and 17, 1996.

OVERVIEW OF SANITATION IN ADDIS ABABA

The **sewerage system** is very limited in its coverage. It is designed for a mere 200,000 users, and even this limited capacity is not fully exploited.

As for **on-site sanitation** systems, about 175,000 people use septic tanks and about 1,459,000 share dry pit latrines. Some 700,000 people do not have access to any kind of sanitation facility at all.

The **stormwater drainage** system (piped drainage and open-ditch drains) is also insufficient. Whole sections of the city, central zones included, lack ditches. And trunk-level facilities are inadequate, thus limiting the functionality of local systems.

Dump sites and dump trucks for **solid waste** disposal fall far short of the requirements of a city the size of Addis Ababa. Some areas lack any kind of organised solid waste disposal service.

Lack of access roads, inadequate water supply and the general deterioration of many residential areas exacerbate the problems mentioned.

Operation and maintenance of infrastructures is perhaps the main problem: the city services and utilities are not able to provide full coverage of the difficult operations of emptying latrines, cleaning ditches and removing solid waste.

SYSTEM ASSESSMENT

The city's sanitation system is lacking in both physical infrastructural integration and in institutional / organisational capacity to provide services to all parts of the city. The investment required to integrate physically all infrastructures into one network is far to great to contemplate as a feasible solution.

One possible solution is to rely on institutional and administrative co-ordination of decentralised sanitation systems in order to make the best use of local level public administrations and agents, such as NGOs and CBOs.

COMMUNITY BASED ENVIRONMENTAL SANITATION PROJECTS

Of the 118 projects identified and examined, 72 were being run by NGOs. This exceeded all estimates by experts and officials working in the sector, who put the total number of CBES projects at 30 to 40. Moreover, no government body or NGO had a full picture of the situation, which can be summarised as follows:

- Only one Woreda (Woreda 27) among the 28 in Addis Ababa has no project;
- 3 Woredas have only 1 project;
- 19 Woredas have between 2 and 6 projects;
- 5 Woredas have 7 or more projects;

There were government projects in only 8 Woredas and NGO projects in only 5 Woredas; NGO and government projects were ongoing simultaneously in 14 Woredas.

PROJECT COVERAGE

Of the 305 Kebeles in the city, 143 (46,9%) have been the targets of at least one project during the past 3 years (the number is higher than 118 because some projects were implemented in more than 1 Kebele). 23 Kebeles were the beneficiaries of more than 1 project, bringing the number of localised actions (planned or implemented) to 173.

While much remains to be done - 162 Kebeles are not receiving any environmental sanitation project support - it is not necessary to start from zero, as much can be learned from the experience already gained. And many ongoing projects can be made more efficient through improved co-ordination and optimisation.

BENEFICIARIES

Even if it is difficult to identify the real number of beneficiaries for each project, our rough estimate is that 500,000 to 700,000 people are potential beneficiaries in the 143 Kebeles with CBES projects. This constitutes more than the 60% of the residents of these Kebeles and about the 29% of the total population of Addis Ababa. Most of the projects are medium sized (47 out of 118 projects serve between 2,000 and 7,000 people, 11 have between 1,000 and 2,000 beneficiaries, while 15 projects serve less than 1,000 beneficiaries and a few serve more than 20,000.

DONORS

The 118 projects surveyed are funded by 41 different donors, including international and foreign agencies. However, national government bodies and NGOs also play a significant role. We note that NGOs also appear as donors in a good number of projects. NGOs implement projects of an average cost of 2,000,000 Birr. The range is approximately about 10,000 Birr to 20,000,000 Birr.

PROJECT TIMEFRAMES

The study examined projects active in the last two and a half years. By July 31, 1996, 38 projects were completed and 66 were still ongoing. Their duration ranged from 3 months to 10 years; 12-24 months was typical.

SANITATION SECTORS

The sanitation projects we surveyed included:

- 84 projects dealing with stormwater drainage;
- 62 dealing with excreta disposal;
- 8 dealing with solid waste disposal;
- only 3 dealing with sullage disposal.

The level of integration was low: only one project included all 4 sectors and only 9 projects dealt with 3 sectors. Approximately two-thirds of the drainage works and half of the latrine construction were being implemented in projects that included no other environmental sanitation works. This constitutes a risk: the proper operation of latrines is threatened by the of lack drainage works and access roads, and drainage is threatened by poor solid waste and excreta disposal.

Concentration on a single sector was often tied to the institutional aims of Government agencies (drainage for EDPO and excreta disposal for the Health Bureau) or the specialisation of NGOs (drainage for CARE projects and latrines for Daughters of Charity projects) .

A higher degree of integration can be achieved by planning and **co-ordinating** the activities of several **specialised agencies** that produce good results in their particular sector.

Latrines

The 62 latrine projects contemplated building 866 latrines in 111 Kebeles with an overall population of 800,000. The number of latrine rooms is estimated at 3,820, with a potential to serve about 100,000 people. 49 of the projects - 91% of the 866 latrines - selected the VIP design for latrine construction; 13 projects chose simple dry pit latrines; and a few selected other models, like pour-flush.

Drainage

84 projects were providing 128 Kebeles with approximately 117,000 meters of open ditches and culverts. Only 28 projects were being implemented together with excreta disposal components and 6 projects were being implemented together with excreta disposal and solid waste. The most common technology adopted was stone-paved open channels with piped culverts - the most suitable option under the circumstances.

Most drainage projects were planned in connection with road construction projects (67 out of 84). This is relevant to the sanitation situation because roads provide access for suction trucks and solid waste collection. In fact, sites where road and drainage projects are under way or planned should be considered preferred sites for future excreta and solid waste disposal projects. And good management of human and solid waste would in turn help keep the ditches clean.

Solid Waste

The study found solid waste disposal projects in about 18 Kebeles; 2 NGOs were working in this sector by organising collection at the household level and the disposal of refuse in containers by the Region 14 Administration. This form of integration of public and non-governmental bodies seems to be the only way to deal with the solid waste management problem.

CBES ACTORS

In the city of Addis Ababa there were 23 NGOs and 19 government agencies (GAs) from city to Kebele level, implementing a total of 118 projects during the period between January 1, 1994 and July 31, 1996. 72 were implemented by NGOs and 46 by the government.

The 23 NGOs were active in 108 Kebeles, while GAs worked in only 58 Kebeles (bearing in mind that one project may cover more than one Kebele). This was due to the fact that some NGOs implement large projects in many Kebeles (Good Shepherd in 11 and Integrated Holistic Approach in 7), while GAs generally undertook single-Kebele projects.

Among the 23 NGOs, 8 were international or affiliated with international NGOs, and the other 15 were wholly national organisations.

Among the 19 GAs, only 3 (EDPO, Health Bureau-WIBS and Project Implementation Office) were central, while the remaining 16 were individual Kebele administrations implementing projects on their own. However, city-level agencies worked in 42 of the 58 Kebeles and the Kebele administrations worked in only 16.

The role of NGOs, including national NGOs, was of great importance: together they were active in more than 60% of the Kebeles, while 3 central GAs worked in another 30% of the Kebeles. The 16 local GAs worked in less than 10% of the remaining Kebeles.

Sector Coverage

All NGOs dealt with excreta disposal, 12 with stormwater drainage, 16 with water supply and only 4 with solid waste. Little more than half of the NGOs combined drainage and excreta disposal. Among GAs, only 10 (2 central and 8 local) were involved in excreta disposal, while 11 worked in drainage. This fact evidences the crucial role of NGOs in CBES, i.e., that they play a critical role in the crucial on-site excreta disposal sector.

Funding

The 19 GAs relied on funding sources that were diverse in nature but limited in number: PIO is funded by World Bank, Health Bureau by UNICEF, while EDPO is funded by the Region 14 Administration. The 16 Kebeles were all funded by ESRF (now ESRDF), which also funds many NGOs.

NGOs had much more varied funding sources, even for the same project: international agencies, international NGOs with which they may or may not be affiliated, bilateral agencies, individual local and foreign donors, and Ethiopian NGOs, often with their own funds derived partly from income-generating activities from CBES schemes.

On the whole, NGOs showed a healthy entrepreneurial attitude toward fund raising and toward sustaining projects using a mix of funding. A significant contribution was also made, in cash or in kind, from the beneficiary communities and the concerned Kebele and Woreda administrations.

In addition to the implementing agencies, each project benefited from the involvement of local actors, of an institutional or an informal nature,

whose capability to become fully active is crucial to the sustainability of the projects.

Three relevant categories of local actors were found:

- GA institutional actors;
- community organisations already existing before the implementation of the project;
- ad hoc committees or community actors that emerged in connection with the project implementation.

Among the *institutional actors* we found:

- **Kebele Administration:** often supervises the works, facilitates legal procedures, at times mobilises people's participation and provides resources like office space and, more rarely, cash contributions;
- **Kebele Development Committees:** often take care of needs assessment, people's mobilisation and are, at times, entrusted with the operation and maintenance of infrastructures;
- **Woreda Administration:** provide further co-ordination and control, especially when projects are carried out in more than one Kebele.

The following relevant *community organisations* were found:

- **Edirs:** used to some extent by various NGOs; they proved particularly useful in creating consensus about the project and settling disputes within the community;
- **Semi-skilled community people:** these included, for example, traditional birth attendants, who were involved in various awareness building and sensitisation activities within the community;
- **Community associations and self help groups:** these included, for example, the leprosy association and spontaneous development committees that provided an introduction to the community.

Among the *ad hoc committees and community actors* we found:

- **Co-ordinating committees** (only for NGOs), with general co-ordination functions and overall responsibility for identification, implementation and follow up of the project. They are usually strong and motivated and receive special training, but may

sometimes duplicate or conflict with the Kebele offices. Names used are Core committee, development committee and the like. Care has a special model, Multi-Purpose Infrastructure Development Committee (MPIDC).

- **Users committees,** dealing with communal management of specific infrastructures, especially latrines. Many different names and procedures are adopted by these committees;
- **Community based health promoters and facilitators**, important in disseminating proper sanitary practices and acting as tutors and facilitators of new users' committees.

Many more actors were involved, especially in NGO projects, e.g., **Neighbourhood Groups and Credit Co-operative Societies**.

CONCLUSIONS

The existing CBES projects and agencies implementing them are a significant response to the crisis in Addis Ababa's sanitation system and to the lack of physical and institutional integration.

Yet, their sustainability and final impact cannot be ensured. Current CBES projects are a start, but are not the solution. The solution is a self-sustaining, co-ordinated and decentralised system to control environmental and sanitation risks.

In particular, we note three disparities from the collected data:

- the significant mobilisation of actors and resources versus the relatively limited number of beneficiaries and areas of the city covered;
- the territorial specialisation of implementing agencies versus the sectorialization of projects and lack of co-ordination;
- the remarkable attention paid to the issue of people's participation versus the practice of making little use of already existing actors in favour of creating new groups.

The potential of CBES as shown by the study is not yet fully realised due to lack of communication, co-ordination and co-operation.

DECENTRALISED SANITATION MANAGEMENT SYSTEM

A decentralised management system may be one solution to the sanitation crisis in Addis Ababa, where there is no physically integrated network of infrastructures and there is no prospect of establishing one in the near future.

In particular, it can be a solution if it achieves a "light" form of integration of services, based on institutional and organisational links. In achieving this, the local communities are to play a fundamental role, both with their political/administrative bodies and through citizens' associations and organisations.

Such a system would however need to:

- control, at local level, the events that could endanger sanitation, taking care above all of drainage, excreta and solid waste disposal;
- provide adequate links at the trunk level of the construction, maintenance and disposal networks and services.

This solution requires actors capable of guaranteeing over time the implementation of the needed works, as well as their operation and maintenance and incentives for proper behaviour. Moreover, these actors have to deal with some sets of problems, or "areas," that are critical to the sustainability of the system over time.

CASE STUDIES

The 12 detailed case studies were conducted on projects selected from the 118 projects surveyed. The agencies and projects studied include:

NGOs

- Care Ethiopia (3 projects);
- Daughters of Charity Urban Development Project;
- Concern;
- Good Shepherd Family Care Services-Ethiopia;
- Integrated Holistic Approach for Urban Development Project;
- Redd Barna, Ethiopia;

Government

- Environmental Development Project Office;
- Project Implementation Office;
- Health Bureau-Wibs program.

Each project was studied by taking into consideration the general performance, the actors (implementing agency and local actors) and their capability of dealing with the critical areas of sustainability, i.e., institutional syntax, people's participation, technological suitability, cost recovery and legal status.

INSTITUTIONAL ORGANISATION

At present many institutional models are being experimented with. They are generating many new ideas but also the risk of fragmentation and institutional conflicts. At present there are *two main approaches* to the overall management of project implementation and follow-up.

The *first* is preferred by government agencies. It consists of relying solely on official bodies, i.e., Kebeles and Kebele Development Committees. Even people's participation has to be channelled through them.

The advantages include:

- the Kebeles and KDC have a defined legal status, are permanent and institutionally concerned;
- they make use of their own structure and staff;
- they are able to mobilise people;
- they have legal authority and power of enforcement, using sanitary guards.

The disadvantages include:

- people do not develop feeling of ownership;
- poor responsiveness to people's demands;
- responsibility for O&M is taken for granted and no special measures are taken;
- Kebeles do not have a budget for O&M;
- Kebele staff lack motivation and specific training in CBES;
- Capacity-building needs for staff are not provided for;
- Sanitary guards have only enforcement and no sensitisation role.

The *second approach*, favoured by NGOs, is to form new structures and committees to represent more directly the beneficiaries. These constitute a third institutional dimension, along with the implementing agency and the local authorities. These new institutional arrangements can be either very complex or limited to few committees.

The advantages include:

- ability to mobilise beneficiaries;
- good responsiveness, fostering relations between implementing agency and beneficiaries;
- fosters feeling of ownership and builds awareness;
- more training and capacity-building oriented;
- encourages proper practices by sensitisation (health promoters etc.)
- capability of involving traditional organisation like the Edirs;
- ability to solve conflicts informally;
- involvement of disadvantaged and marginalized groups;
- addresses directly the phasing out and O&M issues;
- ability to deal with Kebele administration and municipal utilities.

The disadvantages include:

- the need to find means to sustain the involved human resources after the implementing agency is phased out;
- possible institutional conflicts with local authorities;
- dependency on the implementing agency;
- *for long term projects*: the very complexity of the scheme, which makes it fragile and difficult to replicate on a large scale;
- *for short to medium term projects*: not enough time to strengthen the new structures to last after phasing out.

PEOPLE'S PARTICIPATION

All agencies pay great attention to people's participation. The methodology is consistent with the institutional approach: GAs tend to channel it through the Kebele administration and NGOs through ad hoc committees. However one should note that:

- People tend to be directly involved mainly in implementation, less in identification and design, and much less in monitoring and evaluation.
- Needs assessment and prioritisation through official bodies or other indirect methods can be misleading.

TECHNOLOGICAL SUITABILITY

The prevailing solutions adopted are: VIP latrines for excreta disposal, and paved open channels and cement pipe culverts for drainage. They appear to be appropriate under existing conditions, even if some recurring problems were found such as:

VIP Latrines:

- vent pipe exhaust not high enough off the roof (less than 500 mm) and not protected with netting;
- no vent space on the superstructure; or no fly netting where there is vent space;
- vent pipe not painted black to improve ventilation;
- corrugated iron for superstructure deteriorates quickly due to gas erosion;

Drainage:

- some channels do not have an adequate slope;
- blockage of channels because of frequent refuse dumping;
- use of channels to discharge human waste.

COST RECOVERY

Even if cost recovery measures for O&M of infrastructures were planned for most of the projects, they were not consistently implemented. Especially in the case of drainage, it was often unclear who was supposed to contribute and how much. Even specific arrangements, like the Edirs' collection of monthly contributions in the Care projects, were not fully successful.

In the case of latrines we found three variations on the theme: (1) users knew how much they were supposed to contribute, but, in general, did not do so on a regular basis; (2) the contribution amount had not been fixed; (3) the contribution amount was fixed but did not cover the actual costs of O&M. The rule of setting the contribution on a per person basis was always preferred by the users as opposed to contributions per household. In general, we saw an insidious tendency to put off collection until it was absolutely necessary.

We should add, however, that we saw some admirable case of responsible collection systems that could constitute a model to follow.

LEGAL STATUS

The foremost problem in this area was lack of security of tenure, which acted as a disincentive for tenants to invest in house upgrading and as an incentive to adopt the communal latrines approach.

The fall-out of this problem could be seen in the implementation stage, involving specifically ownership of land and / or rights of way. Disputes arose because of:

- having to cede portions of housing space for road or drainage construction;
- claims of ownership (often irregular) over selected construction sites;
- claims of rights of way where channels impede access to dwellings.

NGOs showed an ability to resolve disputes amicably with the help of influential community leaders. Sometimes, however, it is necessary to resolve the matter in court. In some cases no solution was found and the works were interrupted. The compensation system is effective, but it has two drawbacks:

- it requires an ownership certificate that is difficult and time consuming to obtain;
- it encourages irregular ownership claims.

INDICATORS FOR EVALUATING CBES

Two sets of indicators were prepared, one for the planning stage and one for monitoring and evaluation stage.

Indicators for *planning* regarding the quality of the implementing agency and include:

- stability and cohesion;
- quality of the organisation;
- disposition toward action.

Indicators for *monitoring and evaluation* include:

- quality of the sanitation management;
- institutional dimension and capacity-building
- technological quality;
- legal status;
- cost recovery and resource mobilisation;
- participation;
- environmental dimension.

RECOMMENDATIONS

Based on the study, we formulated a number of recommendations for action for improved coverage of sustainable environmental sanitation services in Addis Ababa. They are listed below under two headings, general and specific.

General

- Plan CBES not by projects, but by sites, to achieve integration of services by different agencies implementing complementary projects in the same place.
- Consider ways and means of integrating the implemented one-component projects with the missing sanitation components.
- Integrate the demand-driven approach with a multicontextual approach in which community requests are considered interactively with the perspective of specialists, the utilities and local government.
- Promote integration in the management of projects between local authorities and citizens' groups, and increase the involvement and empowerment of existing CBOs rather than creating new ones.
- Provide some forms of tutoring for the actors charged with O&M after phasing out.
- Seek more involvement of utilities (water, power, etc.), at least on the level of exchange of information and co-ordination of the works to be carried out.

- Under the aegis of Region 14, form a *General Council on Water Supply and Sanitation for Region 14*. The Council could facilitate the flow of information and planning. All concerned actors, public and non-public, should be involved.
- Seek the participation of beneficiaries at all stages, including monitoring and evaluation.
- Increase capacity-building activities, including those for the Kebele administration officials and staff.
- Establish, from the planning stage of the project, a feasible cost recovery mechanism for O&M.
- Devise a mechanism to provide security of tenure and thus an incentive for residents to invest in upgrading their houses.
- Enhance the role of women in CBES.
- Organise a massive publicity campaign on the sanitation crisis in Addis Ababa. Messages should be targeted to different audiences, including schools.

Specific Issues

- Use all the indicators associated with technological quality as a checklist of standards and technical recommendations to be followed (e.g., height of vent pipe over roof).
- Integrate municipal solid waste disposal with local organisations that handle and incentivize the transfer of waste from households to containers.
- Consider promoting sorted collection of solid waste by sensitising, training and organising local scavengers.
- Add income-generating activities to sanitation schemes to facilitate cost recovery.
- Hold conflict resolution workshops whenever significant conflicts emerge between different actors.
- Utilise Edirs as mediators and opinion leaders rather than as agents to collect funds.