



Activity Report 116

Urban Environmental Health Pilot Activities
Evaluation of Progress and Lessons Learned
USAID/Democratic Republic of Congo

By

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About the Author

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Abbreviations

ACF	<i>Action Contra la Faim</i>
AEP	<i>Alimentation en Eau Potable</i>
AEPA	<i>Alimentation en Eau Potable et Assainissement</i>
AID/W	USAID Washington
BAD	<i>Banque Africaine de Développement</i>
BCC	Behavior Change Communication
BEAU	<i>Bureau d'Etudes et d'Aménagement Urbains</i>
BERPS	<i>Bureau d'Etudes et de Recherches pour la Promotion de la Santé</i>
BIRD	<i>Banque International pour la Reconstruction et le Développement</i>
BDOM	<i>Bureau Diocese Oeuvre Medicalé</i>
CCCE	<i>Banque Francaise de Développement</i>
CBO	Community-based Organization
CDC	Centers for Disease Control and Prevention
CEBAB	A Kinshasa CBO—Community-Based Organization
CEMDAEP	<i>Centre d'Etudes Multidisciplinaire pour le Développement de l'Alimentation en Eau Potable (REGIDESO)</i>
CFO	<i>Centres de Formation (REGIDESO)</i>
CNAEA	<i>Comité National d'Action de l'Eau et de l'Assainissement</i>
COPEMECO	<i>Confédération des Petites et Moyennes Entreprises Congolaises</i>
CORE	Child Survival Collaborations and Resources Group
CRAEA	<i>Comité Régional d'Action de l'Eau et de l'Assainissement</i>
CRS	Catholic Relief Services

CSP	Country Strategic Plan or <i>Centre de Santé Pilote</i>
DIEPA	<i>Décennie Internationale de l'Eau Potable et de l'Assainissement</i>
DRC	Democratic Republic of Congo
DSSP	<i>Direction de Soins de Santé Primaire (Ministère de la Santé Publique)</i>
EAD	<i>Entité Administrative Décentralisée</i>
ECC	<i>Eglise du Christ au Congo</i>
EHP	Environmental Health Project
ENFEA	<i>Equipe National de Formateurs en Eau et Assainissement</i>
ESP	<i>Ecole de Santé Publique</i> , University of Kinshasa
EU	European Union
FOLECO	A local umbrella organization with numerous NGO members
FOMECO	Belgian Medical Cooperation
FONAMES	<i>Fons National Médico-Sanitaire</i>
GDRC	Government of the Democratic Republic of Congo
GTZ	German Technical Aid
HGK	<i>l'Hopital Generale de Kinshasa</i>
IEC	Information, Education and Communication
IPN	<i>Institut Pedagogie Nationale</i>
IR	Intermediate Result
IRC	International Rescue Committee
MOH	Ministry of Health
MONUC	United Nations Observer Mission in the Democratic Republic of Congo
MSF	<i>Médecins Sans Frontières</i>

NGO	Non-Governmental Organization
OFDA	Office of Foreign Disaster Assistance
OIT	<i>Organisation Internationale du Travail</i>
OMS	<i>Organisation Mondiale de la Santé</i>
ONG	<i>Organisation Non Gouvernementale</i>
OTI	Office of Transition Initiatives
OVD	<i>Office des Voiries et Drainage</i>
PIB	<i>Produit Intérieur Brut</i>
PNA	<i>Programme National d'Assainissement</i>
PNUD	<i>Programme des Nations Unies pour le Développement</i>
RCO	Regional Contracting Officer
REGIDESO	<i>Régie de Distribution d'Eau de la République du Congo</i>
RUDO	Regional Urban Development Office
SANRU	<i>Projet de Santé Rural</i>
SDAU	<i>Schéma Directeur d'Aménagement Urbain</i>
SNEL	<i>Société National d'Electricité</i>
SNHR	<i>Service National d'Hydraulique Rurale</i>
SO	Strategic Objective
SPH	School of Public Health
STI	Sexually Transmitted Infections
UNICEF	<i>Fonds pour le Secours de l'Enfance</i> (United Nations International Children's Fund)
UNIKIN	<i>Université de Kinshasa</i> (University of Kinshasa)
USAID	United States Agency for International Development (<i>Administration de Développement International des Etats Unis d'Amérique</i>)

USG	United States Government
WFP	World Food Program
WHO	World Health Organization
ZSR	<i>Zone de Santé Rural</i>

Executive Summary

Urban areas in the Democratic Republic of Congo (DRC) are in a profound crisis because of rapid growth, anarchic, uncontrolled and unplanned settlement, and poor management of public affairs. These conditions have led to disastrous consequences for urban areas, notably a degradation of the urban environment, the decay of its infrastructure, and the deterioration of public health. In response to these conditions, USAID/DRC developed an Urban Environmental Health Program consisting of both strategic planning and short term, results-oriented interventions. An Urban Environmental Health Strategy was developed in June 2000. USAID/DRC then committed funds to support the implementation of three urban environmental health pilot projects focused on hygiene improvement for diarrheal disease prevention. The three projects that were funded, their objectives, the implementers, and the planned completion dates are presented below:

1. Environmental Health Pilot Project in Kinshasa, Democratic Republic of Congo

Goal: To reduce the incidence of diarrheal diseases in the targeted area by working with the community to eliminate the various disease vectors found in the environment. The program is designed to identify and test creative solutions and alternative techniques to address environmental health problems in the project area. Specific objectives include:

- (1) building the capacity of the community to identify and address their own sanitation needs
- (2) improving wastewater management in the project area
- (3) increasing sanitation facility use in the project area
- (4) improving domestic and community hygiene practices.

Implementer: International Rescue Committee (IRC)

Completion date: December 31, 2001

2. Water Supply and Hygiene Education for the City of Kananga—2000

Goal: To reduce the incidence of morbidity and mortality due to water-borne diseases in the population of Kananga, especially its women and children, by increasing local capacity in water provision and management, promoting preventive health measures, and increasing access to potable water supplies.

Implementer: International Rescue Committee (IRC)

Completion date: December 31, 2001

3. Water and Sanitation in the Public Markets of Kinshasa

Goal: To reduce public health hazards by improving sanitary conditions in the public markets of Kinshasa. This will be accomplished by:

- (1) establishing community management capacity and improved hygiene practices
- (2) improving sanitation facilities in the public markets of Kinshasa
- (3) increasing the availability of safe drinking water in the public markets.

Implementer: Action Against Hunger—USA (ACF)

Completion date: August 31, 2001

The current assignment described in this report sought to:

- (1) evaluate these pilot projects against the components of the Strategy
- (2) evaluate each project against its proposal
- (3) document the broad lessons learned during the projects
- (4) evaluate the significance of the lessons learned to USAID programming in environmental health.

Evaluation of the Pilot Projects Against the Components of the Strategy

The results of this evaluation are presented in the following table. Discussion of the activities carried out related to each strategy component is presented in Section 2.

Performance of Pilot Projects with Regard to the Components of the USAID/DRC Urban Environmental Health Strategy

Strategy Component	Pilot Project					
	IRC Barumbu		IRC Kananga		ACF Markets	
	YES	NO	YES	NO	YES	NO
Community participation	X		X		X	
Behavior change	X		X		X	
Targeted priorities	X		X		X	
Decentralization of service delivery	X		X		X	
Microenterprises for sanitation	X		X		X	
Cooperation with health facilities		X	X			X
IEC and training	X		X		X	
Alternative techniques	X			X		X

Overall, the implementation of the three pilot projects was highly consistent with the eight components of the USAID/DRC Urban Environmental Health Strategy. The only component that was poorly addressed in the pilot projects was “cooperation with health facilities” (in two of the three projects, a determination was made not to apply alternative technical interventions). Each project had the opportunity to work with local health centers, but only the Kananga project did so.

Evaluation of Each Pilot Project Against Its Project Proposal

Overall, each implementing NGO did a commendable job of implementing the work plan presented in its project proposal. This happened even with the normal changes that are expected in community-based development projects. As pilot projects, the work achieved multiple objectives and generated multiple lessons for future projects of this type. The sustainability of many of the activities after project completion—although not a requirement of these pilot projects—remains in doubt at this time. Each implementer currently is focusing on that sustainability.

Each project focused on developing the “hardware” infrastructure required to meet urgent needs. At the same time, each balanced these activities with strong hygiene promotion activities and the strengthening of effective organizations in order to continue the work after their departure. This comprehensive approach—linking access to hardware, hygiene promotion and support to enabling environments explicitly for diarrheal disease reduction—is the programmatic state-of-the-art for these types of projects. Both ACF and IRC should be commended for their balanced approach to what could have been simply infrastructure construction projects with nominal community involvement and a minimal level of effort committed to changing hygiene behaviors.

Lessons Learned During the Pilot Projects

In this section, the broad lessons learned from the implementation of these three pilot projects are presented. More substantive discussion of the supporting evidence for each lesson are contained in Section 3.

Hygiene Behavior Change:

Lesson 1: Training and equipping community animators (*sensibiliseurs*) are crucial to the accomplishment of hygiene behavior change.

Lesson 2: Comprehensive baseline surveys focused on targeted behaviors are important for both planning IEC (Information, Education and Communication) and training as well as for documenting health impacts.

Lesson 3: All community members can be mobilized as educators, not only “official” community animators.

Lesson 4: Multiple means of communication should be used in implementing behavior change activities.

Strengthening of Local Partners:

Lesson 1: Sufficient time must be set aside at the beginning of implementation to understand and train local implementation partners including government and community-based organizations.

Lesson 2: All local partners should be brought together under an umbrella organization rather than conducting all activities with a single local partner.

Lesson 3: Comprehensive market sanitation projects should be viewed as comprehensive community development projects and implemented using the same steps.

Sustainability of Interventions:

Lesson 1: One year is too short a time period to accomplish both interventions and ensure their long-term sustainability.

Lesson 2: Income can be generated by community-based waste management.

Lesson 3: In income-generating projects related to infrastructure management, a targeted amount of funds should be set aside to cover recurring capital costs.

Lesson 4: In income-generating projects in Congo, significant efforts should be made to ensure that collected fees retain their value over time.

Program Design:

Lesson 1: Proposals must be written based upon a thorough understanding of the situation in the field.

Lesson 2: A formal start-up workshop bringing together all stakeholders is beneficial to project implementation.

Significance of the Lessons Learned to USAID Programming in Environmental Health

Environmental health projects in urban areas, and particularly in Kinshasa, that are focused on diarrheal disease reduction, are possible and beneficial in multiple ways.

It is frequently argued that too many donor funds are spent on Kinshasa and that USAID should direct support to activities outside the capital. However, the two urban projects that USAID funded in Kinshasa have clearly demonstrated that the needs of the city can be addressed through community-based interventions occurring in partnership with local authorities if locations are wisely chosen and interventions are targeted toward achieving specific results. These pilot activities have benefited both the implementers and their local partners, but they are also of benefit to USAID. Through these projects, USAID has acquired considerable goodwill with communities, local administrations and the municipal governments. It also has gained local recognition for these projects and has laid the foundation within the municipal authorities and local governments to broaden this work in communities and with partners in administration.

USAID's planning horizon remains short, and it must establish local mechanisms to respond to changing project needs.

At the time of this writing, it is anticipated that USAID/DRC will be constrained in its ability to plan urban environmental health activities beyond a one-year time frame. There are many reasons for this. Within this short planning horizon, USAID supports the implementation of projects designed to respond to locally identified needs through participatory processes that engage community members, local authorities and municipal institutions. Inevitably such projects require changes in order to respond to issues that emerge.

During implementation of the three pilot projects, USAID/DRC's ability to respond to change was hindered by the administrative system that monitored the cooperative agreements under which the projects were implemented. Relatively small changes to plans and budgets required intervention by the USAID Regional Contracting Officer in Nairobi. Instead, USAID/DRC should establish a process to enable rapid, locally-approved amendments to short-term cooperative agreements. For example, decision-making authority to approve necessary amendments could be delegated by the Regional Contracting Officer to the Mission Director in Kinshasa.

USAID's short planning horizon should not interfere with the ability of local partners to prepare well designed projects.

Allowing for and then using appropriate lead time for proposal preparation is crucial for USAID's work with NGOs in urban environmental health. This requirement is mentioned in Section 3 as a lesson learned from the pilot activities. In future programming, USAID should consider two ways to enable NGO partners to better prepare those projects that are under serious time pressures. First, USAID should ensure that adequate time is available for NGOs to produce well constructed proposals based on a comprehensive understanding of the communities in which implementation will take place. Second, USAID should consider requiring NGOs to prepare Initial Environmental Examinations (IEEs) as part of their proposal preparation, with USAID allowing NGOs to request reimbursement for the preparation of these IEEs as part of their cooperative agreement budget.

USAID should remain engaged in the current projects to monitor their long-term viability.

USAID/DRC has made a considerable investment of resources in three urban environmental health pilot projects. Implementation of each project has been very successful, overcoming significant obstacles in the process. However, in order for USAID to maximize its understanding of the long term viability of the approaches implemented, it should have staff make regular visits to each project site to examine the operation, document the income-generating capacity of each, and learn further lessons about each approach. USAID/DRC should arrange a return visit every six months to each market latrine, Barumbu intervention, and Kananga water-vending microenterprise to assess sustainability and identify new issues. On the basis of this knowledge, USAID could then confidently program similar activities in the future.

All Projects supported by USAID/DRC that address water supply, sanitation, and/or hygiene issues should be designed and implemented in accordance with the USAID/DRC Urban Environmental Health Strategy and the lessons learned that are documented in this report.

USAID/DRC has at least two other projects in its portfolio in addition to the three pilot urban environmental health interventions that address water supply, sanitation, and/or hygiene needs. These two projects are SANRU III and the IFESH Rehabilitation and Local Capacity Building Initiative. The pilot projects implemented by IRC and ACF leave behind a set of lessons, educational materials, techniques, and health impacts that should be understood by and incorporated into the planning and implementation of SANRU III and the IFESH project. This will allow USAID/DRC to better support the implementation of a coherent set of projects with shared objectives, implementation systems, and impact outcomes.

1. Introduction

1.1. Urban Environmental Health in the Democratic Republic of Congo

Urban areas in the Democratic Republic of Congo (DRC) are in a profound crisis as a result of rapid growth; anarchic, uncontrolled and unplanned settlement; and poor management of public affairs. These conditions have led to disastrous consequences for urban areas, notably a degradation of the urban environment, the decay of its infrastructure, and the deterioration of public health. The responsible authorities are failing in their ability to deal with this crisis because of a shortage of equipment, resources, and the institutional structures required for any effective organizations. The degradation of the urban environment, decay of infrastructure, and negligence of the population have resulted in the return of water-borne diseases, particularly impacting children under the age of five. The numerous cases of typhoid fever, polio, dysentery, cholera and malaria registered in Kinshasa bear witness to the poor and deteriorating state of environmentally-related health in the population.

1.2. USAID/DRC's Response to Urban Conditions

In response, USAID/DRC developed an Urban Environmental Health Program, consisting of both strategic planning and short term, results-oriented interventions. An Urban Environmental Health Strategy was developed in June 2000 in cooperation with USAID's Environmental Health Project (EHP) and the Regional Urban Development Office (RUDO) at USAID/South Africa. USAID/DRC committed funds in September 2000 to support the implementation of three urban environmental health pilot projects. Two of the projects were implemented in Kinshasa, and the third was implemented in Kananga, a city of 800,000 east of Kinshasa. The lessons learned from these projects are the focus of this report.

USAID/DRC Urban Environmental Health Strategy

The USAID/DRC Urban Environmental Health Strategy serves as a framework for addressing priority health threats in urban areas of the Congo. The Strategy is consistent with the objectives and planned actions of a range of municipal and national entities of the Government of the DRC (GDRC) including the provider of urban drinking water (REGIDESO), the national sanitation program (PNA), the Ministry of Health, and the Municipality of Kinshasa. The Strategy is also consistent with USAID/DRC's focus on reducing threats to health from environmental factors—particularly diarrheal disease and malaria. The Strategy focuses on eight components,

which were developed through discussions with multiple stakeholders in the DRC. These components are intended to form an integrated and comprehensive approach to achieving the objectives of stakeholders, the GDRC, and USAID/DRC. The components include:

- **Community participation.** To strengthen the role played by community members in planning, decision-making, prioritization, implementation, monitoring and evaluation of activities
- **Behavior change.** To maximize health improvement by supporting improved household-level hygienic behaviors.
- **Addressing targeted priorities.** To optimize the use of available resources by focusing on overcoming selected, high priority environmental health risks rather than attempting to broadly address a wide range of issues.
- **Decentralization of municipal service delivery.** To facilitate the formation of cooperative structures where community organizations assist municipal organizations in providing environmental sanitation services to their constituents.
- **Microenterprise support for environmental sanitation improvement.** To encourage the formation of new relationships between the public and private sectors to generate financially sustainable improvements in urban environmental health.
- **Cooperation with health facilities.** To ensure that environmental health improvements are consistent with and supported by health care delivery networks and their community-based organizations.
- **Information, education, communication (IEC) and training.** To increase knowledge and change behaviors through IEC and training focused on addressing targeted priorities.
- **Alternative techniques of environmental sanitation improvement.** To support expanded use of proven innovative alternative technical interventions to improve environmental sanitation in a community.

The Strategy also presented a focused framework for evaluating health impacts related to diarrheal disease reduction based on a *Water and Sanitation Indicators Measurement Guide* developed in 1999 by USAID's Food and Nutrition Technical Assistance Project. The Guide was developed for use by NGOs and USAID to facilitate the consistent measurement of a set of performance indicators for reporting health impacts of water and sanitation activities to USAID. The impact indicators presented in the document are:

- Percentage of children under the age of five with diarrhea in the preceding two weeks

- Quantity of water used per capita per day
- Percentage of child caregivers and food preparers with appropriate hand-washing behavior
- Percentage of the population using hygienic sanitation facilities.

These indicators were used as a basis to evaluate the health impact of the pilot projects in support of USAID Child Survival Program goals.

Urban Environmental Health Pilot Projects to Reduce Diarrheal Disease

In June 2000, a limited competition solicitation was issued by USAID/DRC to US and international NGOs with a presence in the DRC for the implementation of three pilot projects. These have been implemented in accordance with USAID/DRC's Urban Environmental Health Strategy, and they provided a set of lessons learned that will be incorporated into future urban environmental health activities in both the capital and other Congolese cities.

The three projects that were funded, their objectives, the implementers, and the projected completion date of each are:

1. Environmental Health Pilot Project in Kinshasa, Democratic Republic of Congo

Goal: To reduce the incidence of diarrheal diseases in the targeted area by working with the community to eliminate the various disease vectors found in the environment. The program is designed to identify and test creative solutions and alternative techniques to address environmental health problems in the project area. Specific objectives include:

- (1) building the capacity of the community to identify and address their own sanitation needs
- (2) improving wastewater management in the project area
- (3) increasing sanitation facility use in the project area
- (4) improving domestic and community hygiene practices.

Implementer: International Rescue Committee (IRC)

Completion date: December 31, 2001

2. Water Supply and Hygiene Education for the City of Kananga—2000

Goal: To reduce the incidence of morbidity and mortality resulting from water-borne diseases in the population of Kananga, especially in women and children,

by increasing local capacity in water provision and management, promoting preventive health measures, and increasing access of the population to potable water.

Implementer: International Rescue Committee (IRC)

Completion date: December 31, 2001

3. Water and Sanitation in the Public Markets of Kinshasa

Goal: To reduce public health hazards by improving sanitary conditions in the public markets of Kinshasa. In these markets, this effort would encompass: establishing community management capacity and improved hygiene practices; improving sanitation facilities; and increasing the availability of safe drinking water.

Implementer: Action Against Hunger—USA (ACF)

Completion date: August 31, 2001

2. Assignment Description

The current assignment is the third technical assistance mission conducted by Dr. Christopher McGahey, the Coordinator of Community-based Programs for the Environmental Health Project. He first served as the lead author of the USAID/DRC Urban Environmental Health Strategy and later coordinated a multi-day start-up workshop attended by the implementation teams of each of the three pilot activities listed above.

2.1. Assignment Objectives

The USAID/DRC Urban Environmental Health pilot projects described above were developed based on the experience of NGOs in DRC in similar projects, the field accomplishments of the implementing NGOs, and the global experience of the Environmental Health Project (EHP) as reflected in the USAID/DRC Urban Environmental Health Strategy. To guide the longer-term implementation of the Strategy, USAID/DRC and its partner, the Regional Urban Development Office (RUDO), requested that the lessons learned from the pilot activities be documented. The objectives of the assignment included: (1) evaluate the pilot projects against the components of the Strategy; (2) evaluate the pilot projects against each project proposal; (3) document the broad lessons learned during the pilot projects; and (4) discuss the significance of the lessons learned to USAID programming in environmental health.

2.2. Methodologies Used

Four methodologies were used during the assignment. These included:

- (1) review of available information and data
- (2) group and individual interviews
- (3) focus group discussions
- (4) site visits.

Each is described below.

Review of Available Information and Data

Considerable documentation has been generated by the three pilot activities. Key documents for each include: the original project proposal; a baseline study of

conditions, knowledge, and behaviors; various regularly submitted reports; and reports prepared to document specific field activities. A complete list of the documents reviewed during the assignment are in Annex 1. The author reviewed each document relevant to a particular field activity before meeting with the project implementers and stakeholders.

Interviews

Interviews were held in a variety of settings. When possible, formal interviews were held with local government officials—particularly *bourgemestres* in the communes where the pilot projects were implemented. Additional formal interviews were held with USAID staff and the NGO personnel who directly implemented the pilot projects. Finally, informal anecdotal interviews were conducted with Congolese people in the field during site visits.

Focus Group Discussions

Focus group discussions were held with those who had benefited from the pilot projects. They included market administrators, leaders of CBOs (community-based organizations) who were aided to take on a variety of microenterprise responsibilities, and *sensibiliseurs*, who led behavior change activities.

Site Visits

Site visits were made to a range of key locations in Barumbu, to two of the markets impacted by the pilot project led by ACF, and to Kananga. It should be noted that because of administrative restrictions, the consultant was not able to travel to Kananga. Information gathering and documenting of lessons learned for this project was carried out by Baudouin Kutuka, a USAID/DRC Environmental Health Program Specialist. During these site visits, specific results of the project were observed and evaluated, and more general observations were made and discussions held.

3. Findings

3.1. Evaluation Against Components of the Strategy

To begin evaluating the pilot projects, it was determined whether or not each project had conducted activities related to each of the eight components of the USAID/DRC Urban Environmental Health Strategy. The results of this brief evaluation are presented in the following table.

Performance of Pilot Projects with Regard to the Components of the USAID/DRC Urban Environmental Health Strategy

Strategy Component	Pilot Project					
	IRC Barumbu		IRC Kananga		ACF Markets	
	YES	NO	YES	NO	YES	NO
Community participation	X		X		X	
Behavior change	X		X		X	
Targeted priorities	X		X		X	
Decentralization of service delivery	X		X		X	
Microenterprises for sanitation	X		X		X	
Cooperation with health facilities		X	X			X
IEC and training	X		X		X	
Alternative techniques	X			X		X

Overall, the implementation of the three pilot projects was consistent with the eight components of the USAID/DRC Urban Environmental Health Strategy. This reflects the ability of the implementing NGOs and their partners to maintain a focus on USAID objectives in these projects.

The only component that was not addressed well was “cooperation with health facilities.” Only one project—Kananga—emphasized this component. In that project, more than 20 health centers were provided with training as part of IEC activities. Initially, this component was included in the Strategy in order to promote the integration of primary health care and preventive environmental health activities. While this linkage has not proven critical to the success of the projects, closer cooperation between environmental health activities and health centers, already under way in the SANRU III project in rural parts of the DRC, should be encouraged more forcefully in future urban environmental health projects.

Community Participation

Each pilot project was particularly strong in this area. In Barumbu, IRC teamed with CEBAB, a community-based organization (CBO), to ensure supportive planning and implementation. In Kananga, IRC is working with ten NGO partners in the development and management of microenterprises focused on retail water sales for income generation. ACF was particularly innovative in its approach to community participation—partially out of necessity given the non-traditional community setting of their project. ACF treated market administration, vendors and customers as a target community and implemented a project that was responsive to this set of stakeholders.

Behavior Change

Behavior change activities in the three pilot projects focused on the two behaviors that are acknowledged by both the water and sanitation sector and the health sector (as reflected in C/IMCI key family behaviors) as contributing directly to diarrheal disease reduction. These behaviors are hand washing and the use of hygienic latrines. While the precise impacts of the pilot activities on both behaviors will be reflected in formal impact evaluations, at this time it appears that each project, but particularly the Barumbu and market projects, had notable impacts on these two behaviors. Support for that observation came from anecdotal evidence observed and collected in the field, the availability of hygienic latrines to populations who, before the project was implemented, did not have access to hygienic facilities, evidence of both the availability and use of soap and handwashing facilities in the newly available latrines, and the number of customers using each latrine.

In addition to these two targeted behaviors, a range of additional behaviors were positively impacted by the pilot projects. In the Barumbu activity, household behaviors related to solid waste disposal methods were improved, notably by directing household waste away from drains and moving from indiscriminate disposal to organized collection by entrepreneurs and composting. In urban markets, vendors significantly expanded their use of plastic sheeting to cover their wares, while also covering prepared food containers, and using hot water more often for cleaning food utensils. In addition, hundreds of vendors were assisted to move their wares from displays on the ground to displays on constructed platforms and tables. Each small but significant improvement can be expected to contribute to the overall hygienic quality of the market and therefore, the health of customers. Behavior change was a less important focus of the Kananga project, which was primarily aimed at increasing water supply. Nevertheless, the IEC activities carried out in Kananga should lead to improved behaviors related to handwashing, latrine use and water management. These were expected to be reflected in the impact evaluations planned for November 2001.

Targeted Priorities

This component sought to prevent implementation activities from trying to address too many environmental issues, thereby running the risk of diminishing the ability to positively impact any of the issues. Each pilot activity proved highly successful in this regard by focusing precisely on the health-related outcomes described above and on key behaviors and capacity building, all consistent with the targeted objectives of diarrheal disease reduction.

Decentralization of Service Delivery

Each of the three pilot projects has been highly successful in supporting the ability of NGOs and CBOs to take on certain municipally-provided services with the concurrence of municipal authorities. This has included solid waste collection and latrine operation in Barumbu; latrine operation, water point management, and vendor mobilization in markets in Kinshasa; and NGO ownership and operation of water points in Kananga. Each of these has been implemented in financially sustainable ways in cooperation with relevant authorities including market administrators, bourgemestres, PNA, and REGIDESO.

Microenterprises for Sanitation

To date, each pilot project has been particularly successful in implementing this component of the Strategy. Successes are tenuous and are likely to require further oversight, but, nonetheless, they are notable. The Barumbu pilot project has put in place income-generating public latrines, water points, a solid waste collection center, and solid waste-collecting “chariots.” The market sanitation project will leave in place six income-generating public latrines and 32 water points. The Kananga pilot project will leave behind nearly 100 income-generating water points. Each microenterprise is controlled by an NGO, a private sector entity, or an individual.

Cooperation with Health Facilities

As noted previously, this component was lacking in two of the pilot activities. All the pilot projects successfully engaged most stakeholders in planning and implementation, except for local health centers. To their credit, the Kananga project was successful in obtaining cooperation with local health centers, with training provided to health center staff in hygiene and health awareness techniques. This training included techniques in IEC, the use of ORS, and awareness building around springbox construction and maintenance. In both Barumbu and in the Kinshasa markets, community animators who do not have affiliations with health centers have been mobilized and trained. Field health staff from the centers have not been engaged in planning, implementation, or impact monitoring in any of the projects.

IEC and Training

This has been another particularly strong aspect of each of the pilot projects. In Barumbu, educational materials specific to urban environmental health have been developed with community input and thorough pre-testing. In the markets of Kinshasa, animators have shown a strong ability to develop and implement a variety of IEC methods including theater, music, and printed materials. In Kananga, radio and television were important means of communication as were seminars conducted at health centers to engage these professionals in overall hygiene education. Each project has provided training to an active group of sensibiliseurs who have led the successful efforts at community involvement, knowledge enhancement, and behavior change. Both the materials and the enhanced capacity of the animators are notable accomplishments of each of the pilot projects.

Alternative Techniques

Current efforts at technical interventions are insufficient to improve environmental sanitation in the DRC. The Barumbu pilot project in particular responded to this reality in innovative ways. These included the introduction of community-based composting, the introduction and application of the MAPET technology with the community for latrine emptying, and the planned introduction of constructed wetlands for wastewater treatment in the community. The first two have begun to show promise, while to date the third is questionable in terms of its implementation within the time frame of the activity. While the introduction of the techniques has demonstrated that their initial introduction is achievable, their financial and social sustainability is, at the time of this writing, in doubt. The composting activity, while viable, has yet to demonstrate financial sustainability. The MAPET technology, while useful for latrine emptying, has yet to be adopted by a community organization capable of its long-term operation and maintenance. (At the time of this writing, time remained in the Barumbu activity during which attention could be directed to strengthen specific aspects of the project that required attention. During the three to four months succeeding this writing, USAID/DRC mobilized technical assistance to help achieve financial and social sustainability of the Barumbu and Kinshasa market activities.)

3.2. Evaluation Against Each Pilot Project Proposal

For this section of the report, each pilot project proposal was reviewed with the implementing NGO to evaluate how each field performance matched the activities presented in the proposal. Overall, each project closely adhered to its original plan of action, allowing for the changes that are inevitable in all community-based development activities. Brief descriptions of each project's performance relative to each proposed activity are contained in the following tables.

IRC Barumbu Pilot Project – Completion of Proposed Activities

Proposed Activity	Performed		Comments
	YES	NO	
Engage community groups in issues identification and prioritization and participatory planning exercises. Use these exercises to identify activities, develop appropriate work plans that utilize local resources, and assign tasks.	X		This activity has been done extremely well by IRC and has resulted in extensive community involvement in and ownership of the activities undertaken.
Involve community in baseline survey; disseminate results.	X		The community was involved in planning meetings and focus groups in advance of the baseline survey. CEBAB, IRC's local partner, was a core stakeholder for recruitment of survey participants. Sensibiliseurs were also involved extensively. Results of the survey were disseminated in a general assembly hosted by CEBAB and the bourgemestre. Results also were widely disseminated at a session at USAID where USAID staff, NGO representatives, donors, and many bourgemestres were in attendance.
Provide organizational and technical assistance to those organizations/individuals implementing activities.	X		This was carried out in a variety of ways covering technical inputs, educational training, and general capacity building of local partners.
Provide organizational and technical assistance to implementing organizations/individuals in terms of monitoring and evaluation plans.	X		The was carried out for the various interventions in cooperation with CEBAB.
Involve community in mid-term and final surveys; disseminate results.	X	X	This was done for the mid-term survey. The report from this survey is now in final draft form, and it is expected to be available soon. The final survey was to have been conducted later in calendar year 2001.

IRC Barumbu Pilot Project – Completion of Proposed Activities (continued)

Proposed Activity	Performed		Comments
	YES	NO	
Facilitate prioritization and participatory planning exercises with CEBAB and other organizations and individuals in the community to identify major wastewater drainage issues and strategies to address them..	X		IRC has worked with CEBAB, FOLECO, and the bourgemestre to address drainage problems. Reduced flooding has been noted through two consecutive rainy seasons, and the bourgemestre reports zero cases of cholera in the community since the intervention – a significant change from previous conditions.
Purchase <i>chariots</i> and sell them to CEBAB under agreed upon payback conditions.		X	IRC purchased the <i>chariots</i> but opted to give them to CEBAB as a pilot effort instead of selling them to CEBAB. This was done in order to learn the specific actions, training, and materials required for proper management and operation. Nine <i>chariots</i> were purchased, three are currently in operation. Others are under repair at IRC for wheel bearing failure.
Provide organizational and technical assistance to CEBAB as it implements the garbage collection enterprise.	X		This activity has been done and will continue for the life of the project. IRC has learned that the capacity of CEBAB is less than anticipated and is addressing this finding.. Initial findings are that the garbage collection can be operated as an income generating activity, and IRC continues to work with CEBAB and community operators to refine this aspect of the activity.
Work with private enterprise or woman's group to establish recycling and composting center.	X		Recycling is occurring in the form of waste separation and composting. A reliable market for the compost generated has yet to be established.
Provide organizational and technical assistance to organization implementing recycling/composting program.	X		Both technical training and organizational support have been and continue to be provided.

IRC Barumbu Pilot Project – Completion of Proposed Activities (continued)

Proposed Activity	Performed		Comments
	YES	NO	
Facilitate prioritization and participatory planning exercises with organizations and individuals in the community to identify major wastewater drainage issues and strategies to address them.	X		As reported above.
Fund WASTE consultant to assess community work with members of the community to identify viable alternatives to latrine and septic tank evacuation and wastewater management.	X		WASTE consultant worked with community in July 2001. MAPET technology demonstrated to officials and pilot tested at a local church. MAPET was filled multiple times and emptied into an adjacent pit. Training is being provided to potential operators and animators to establish MAPET operation as a microenterprise.
Identify private enterprise to buy MAPET pump under agreed upon conditions of credit. Provide enterprise with technical training in use and upkeep of pump and marketing/management skills.		X	Options for establishing MAPET as microenterprise are currently being explored. Options include: CEBAB management; CEBAB contracting for one person to operate; and donation of MAPET to capable organization other than CEBAB.
Identify a valid system of management of wetlands treatment and build system and provide training in upkeep.		X	Location for wetlands treatment has not yet been established. This involves multiple layers of local administration and currently stands as principal obstacle to project completion and full application of MAPET in Barumbu.
Work with CEBAB or other organization to develop system of septic tank repair that includes training in system maintenance.		X	Successful completion of activity depends upon successful implementation of MAPET program.
Work with Kabambare market organization to construct public market latrines and develop maintenance plan.	X	X	It should be noted that this activity did occur in Kabambare market, although the correct market name is Epolo. Maintenance plan is not yet completed.
Support all activities with the promotion of behavior changes.	X		This has been completed and anecdotal changes have been noted. Behavioral changes are expected to be reflected in final impact survey.

IRC Barumbu Pilot Project – Completion of Proposed Activities (continued)

Proposed Activity	Performed		Comments
	YES	NO	
Issues prioritization and participatory planning exercises are conducted with a variety of organizations in the community representing administrative, church, health, women, NGO, and private sector interests.	X		Activity completed as proposed.
Eight educators, one IRC staff, one representative from the Zone de Santé, and a FOLECO educator attend a two-week training at the School of Public Health.	X		Activity completed as proposed. This training focused on communication skills of animators and has proven to be a valuable step in mobilizing respected and capable animators.
Educators conduct a baseline survey with technical assistance from the School of Public Health.	X		Baseline survey report published and available.
Based on data gathered during the survey the educators, the School of Public Health, and the Zone de Santé develop IEC messages and a strategy.	X		IRC made good use of the results of the baseline survey to prepare its IEC materials and strategy for Barumbu.
Materials identified and reproduced.	X		Materials were developed and field tested to specifically address urban environmental sanitation issues. Widespread dissemination of materials and their availability after completion of project remain unresolved.
Educators conduct midterm and final studies.	X	X	Educators participated in midterm study. Final study was scheduled to be completed in calendar year 2001.

Overall, IRC has done a commendable job of implementing its work plan for the Barumbu project. As a pilot project, the work has achieved multiple objectives and generated multiple lessons learned for future projects of this type. The sustainability of many of the activities after project completion—though not a requirement for their implementation in this pilot project—remains doubtful at this time, and IRC is focusing on this aspect of the project during the remaining months.

It should also be noted that IRC provided additional services to stakeholders and new clients that were not identified in the project proposal. First, it was originally foreseen that payment would be required to PNA for removal of solid waste collected in Barumbu. While an unanticipated and unbudgeted item, it was necessary to adequately address the solid waste disposal needs of Barumbu. Second, the sensibiliseurs were mobilized to provide community services beyond those directly related to the project activities. This was clearly a reflection both of their importance to the community and of the ability of the project to respond to needs identified with stakeholders in Barumbu. Third, the IEC team from IRC was asked to participate in a general assembly in the *quartier* of Ngiri-Ngiri in order to improve the system of collecting household waste there. IRC also provided technical assistance to the *Cellule de Base et Economique pour l'Assainissement de Ngiri-Ngiri* based on the lessons learned from CEBAB's experience in Barumbu.

IRC Kananga Pilot Project – Completion of Proposed Activities

Proposed Activity (Original Project Proposals)	Performed		Comments
	YES	NO	
Initial base-line indicators to be established.	X		Baseline study was conducted and report of the study is available. School of Public Health has not yet returned to present findings of study to the Kananga community. This is scheduled to occur in early September.
Distribution of health/hygiene education materials.	X		Education materials specific to the needs and communities in Kananga have been generated and widely distributed. Materials have been distributed, with training, to schools, health centers, the <i>Chef de Quartier's</i> office, and community groups.
Elaboration and testing of health/hygiene education programs.	X		This program was elaborated and tested by IRC in cooperation with Kananga-based specialists in health education programming.
Health/hygiene education campaign			Multiple communication strategies have been applied in the Kananga education programs. Radio and television have each played a significant role in the program – a logical response to the particular issues in Kananga related to increasing access to water supply. Typically in water, sanitation, and hygiene programs these mass media outlets have been shown to be less efficient in communication, but in Kananga they remained a sensible approach. Regular seminars were also conducted in health centers, and multiple formal and informal meetings were held with the communities surrounding each improved groundwater spring.
Construction and protection of 60 water sources.	X		60 groundwater springs (“ <i>sources</i> ”) were protected by partner NGOs after they received training in proper construction techniques. Unfortunately, one was destroyed by rainfall immediately after construction. 59 sources remain operating in Kananga at the time of this writing.
Construction of four reservoirs and public fountains.		X	Three reservoirs have been constructed along with public fountains. The fourth reservoir is expected to be constructed under the five month cost extension granted to IRC by USAID/DRC.
Develop management plans for the new sources.	X		IRC Kananga has worked closely with a local private sector entity, INADES, to develop management plans for each new source. INADES trained members of IRC’s 10 NGO partners in the development and management of microenterprises. This training has allowed them to manage the newly improved springs and the fountains at reservoirs as fee-for-water enterprises. INADES also assisted in the development of both business and management plans for each new source.
Institutional strengthening of community- based organizations.	X		IRC’s 10 partner local NGOs have been strengthened in both technical capacity and management ability. Technical strengthening has allowed them to directly build the 60 spring protection projects that have been conducted. Management strengthening is allowing them to professionally operate the protected springs as income-generating businesses.

IRC Kananga Pilot Project – Completion of Proposed Activities (continued)

Proposed Activity (Proposal for five months extension)	Performed		Comments
	YES	NO	
Continuation of health/hygiene education campaign.	X		This is an ongoing activity.
Construction and protection of 30 additional water sources.		X	This is an ongoing activity. Current thinking is, however, that only 15 additional water sources will be protected under the extension. IRC/Kananga has been requested to conduct an activity at a local, principal market which will include general cleanliness and roof repair. This unanticipated activity is expected to require the funds originally proposed for the other 15 sources that will now not be built.
Construction of two reservoirs and public fountains.		X	Current understanding is that these two additional reservoirs will not occur.
Technically appropriate solutions	X		This has been a consistent factor in all activities in Kananga.
Decentralization of municipal service delivery	X	X	This is an ongoing activity.
Promotion of water related income generating activities.	X	X	This is an ongoing activity.

Overall, USAID/DRC has been extremely pleased with the successes achieved by IRC in Kananga. The achievement of the complete set of objectives for the project will be quantified in an impact survey that is scheduled to occur in late calendar year 2001. IRC has focused the project on development of the “hardware” infrastructure required to meet urgent needs. But, it has balanced these activities with strong hygiene promotion activities and the creation of strong organizations to continue the work after their departure. This comprehensive approach to hygiene improvement and diarrheal disease reduction has been shown to be state-of-the-art as far as programs are concerned in these types of projects, and IRC should be commended for its balanced approach to what could have been simply an infrastructure construction project with nominal community involvement and a minimal level of effort committed to changing hygiene behaviors.

ACF Kinshasa Pilot Project – Completion of Proposed Activities

Proposed Activity	Performed		Comments
	YES	NO	
Presentation of the project to the authorities.	X		Project introduced comprehensively to local government, municipal government, and market administration.
Baseline environmental health survey	X		Survey conducted in cooperation with School of Public Health. Survey report written and available.
Participatory workshops within the markets to identify the main problems encountered in terms of sanitation, health and organization	X		Activity conducted as proposed.
Organization of Market Committees.	X	X	After a thorough understanding of market social dynamics was gained by ACF, the original idea of joint development of Water and Sanitation Committees (WSC) with CRB was abandoned. In its place, ACF supported the partnership of local NGOs with market administration for sanitation and hygiene improvement. To date, this radical approach has proved successful after initial resistance on the part of market administrators to this type of management of market facilities. The final form of the partnership varied from market to market.
Participatory training of the WSC	X		The training was not done with the WSC for the reasons noted above. Instead, the training was conducted within each of the various market-specific structures that were developed.
Establishment of rules and regulations for the facilities.	X		These rules and regulations are written and agreed to by relevant parties. They are contained in the “Protocole de Partenariat, Hôtel de Ville de Kinshasa, ONG-Action Contre la Faim,” prepared by ACF and accepted by the municipal government, local government, and market administration.
Health education campaign	X		This has been a focused and particularly successful part of ACF implementation. Educational materials specific to market sanitation and personal hygiene have been produced, used, and disseminated.

ACF Kinshasa Pilot Project – Completion of Proposed Activities (continued)

Proposed Activity	Performed		Comments
	YES	NO	
Hand over of the facilities to the WSC.	X		Facilities have been inaugurated and handed over to the management of a local NGO or private sector management organization.
Evaluation survey	X		It is anticipated that the impact of the health education campaign will be quantified in the evaluation survey already conducted. At the date of this writing, the results of the evaluation survey are not available.
Overall study of the water and sanitation in the markets of Kinshasa		X	This activity was partially completed in the comprehensive baseline study carried out by the School of Public Health, and the findings are contained in a report related to vendors, restaurateurs, customers, and the households of vendors. It is not anticipated that this broad study will be undertaken as part of the current pilot project.
Rehabilitation of 3 sanitation units.		X	Rehabilitation was found not to be a cost-effective approach to improving latrine access in the targeted markets. The activity was replaced by construction of new facilities in targeted markets.
Construction of 11 sanitation units.		X	Based on a reassessment of current needs, the proposed 11 units were reduced to nine,, which were constructed and made financially sustainable by creation of public-private partnerships between market administrators and management organizations. In addition, improvements to the originally proposed facility design were made at each facility to respond to the priorities of the community to include shower stalls and piped water in each of the sanitation facilities.
11 new connections to the network of the REGIDESO		X	Based on a reassessment of current needs, nine new connections to the network of REGIDESO were completed – one for each of the sanitation units constructed to facilitate handwashing and bathing.
Construction of nine water tanks of two cubic meters each		X	Due to the low water pressure available from REGIDESO, the originally proposed elevated two- cubic- meter tanks were replaced with two one-cubic-meter water tanks located near floor level in each side of each of the nine sanitation facilities.
Construction of 14 water distribution points: three taps each, apron and drainage		X	Based on a reassessment of actual needs, eight water distribution points were constructed with four taps each, apron and drainage.

The number of marks in the “no” column in the above table should not be interpreted as ACF’s non-performance of proposed activities. Each indicated “no”—with the exception of the overall water and sanitation study—were relatively minor, technical changes in the original implementation plan that were made based upon situations encountered in the field. All involved with this project acknowledge that ACF was inadequately prepared to launch the project. The organization has, however, done an outstanding job of identifying what was required to initiate the project, act on those tasks identified, and bring to a conclusion a set of activities involving multiple stakeholders to improve both access to services and hygienic behaviors.

3.3. Lessons Learned and Discussion

In this section, the broad lessons learned from the implementation of these three pilot projects are presented. The introduction of each lesson will be supplemented by a brief discussion of the context that led to its identification. These lessons were principally drawn from the interviews and focus group discussions held during the assignment, and each was supported by observations and/or discussions held during site visits if possible. An attempt has been made to group the lessons under broad categories to provide some basis for the programmatic implications presented in the chapter that follows.

Hygiene Behavior Change

Lesson 1: Training and equipping of sensibiliseurs are crucial to the accomplishment of hygiene behavior change.

In both communities and in market settings, committed sensibiliseurs were able to engage wide audiences to influence individual and household behaviors. Each pilot project provided training to these animators in partnership with the University of Kinshasa School of Public Health, equipping them with educational materials and the supplies they needed to carry out their duties. Supplies typically were limited to brooms, other tools, megaphones, organizational symbols such as t-shirts and hats, and some small financial compensation. The training provided enabled them to take on a broader community development role than envisioned by the implementers in their proposals and will leave behind a better educated and skilled cadre of people to assist with health improvement in each community. It also should be noted that sensibiliseurs need to be able to communicate in both Lingala and French in Congo, and educational materials should account for this requirement as well.

Lesson 2: Comprehensive baseline surveys focusing on targeted behaviors are important for both planning IEC and training as well as for documenting health impacts.

Both IRC and ACF made extensive use of the results of baseline surveys to identify high risk behaviors that were targeted in community-level IEC campaigns. Messages were developed based on the survey results, and sensibiliseurs worked with project

staff to develop IEC materials to facilitate change in those high risk behaviors. At the time of this writing, none of the impact surveys has been completed, so quantified changes in behavior have not yet been documented. It also should be noted that the baseline and impact surveys were relatively inexpensive activities, yet together are expected to generate a large set of quantifiable impact data. Each survey costs on average 8% of the overall value of the cooperative agreement.

Improvements in hygiene behaviors have not yet been demonstrated according to the mid-term survey conducted in Barumbu. The findings for key behaviors related to diarrheal disease reduction and for maternal reporting of childhood diarrhea are shown in the following table:

Behavior	Intervention	Non-intervention
Knowledge of proper technique for handwashing	56.2% (n = 121)	52.2% (n = 85)
Practice of proper technique for handwashing	58.3% (n = 115)	54.1% (n = 85)
Knowledge of critical times for handwashing	19.8% (n = 121)	26.7% (n = 90)
Use of hygienic latrine (no presence of fecal material on seat, floor, or wall)	67.8% (n = 117)	72.1% (n = 86)
Percentage of children under the age of three with diarrhea in the preceding two weeks (p = 0.0035)	10.4%	29.4%
Baseline study 9.4%		

The most significant finding to date in Barumbu is the apparent reduction in diarrhea in children under age three. Later surveys will be positioned to confirm these preliminary impacts on health.

Lesson 3: All community members, not only sensibiliseurs, can be mobilized as educators.

ACF has been particularly successful at training market vendors and restaurateurs not only to be concerned with their own hygiene and the hygiene of their establishment, but also to teach their customers good hygiene practices such as handwashing, covering of food and cooking locations, and the use of hot water and soap for cleaning of utensils.

Lesson 4: Multiple means of communication should be used in implementing behavior change activities.

Written materials, pictures, songs, radio, individual discussions, group activities, and theater were all used by IRC and ACF to implement their behavior change activities. In focus groups, megaphones, songs, and group discussions—in that order of impact—were seen as the key elements of these activities.

Strengthening of Local Partners

Lesson 1: Sufficient time must be set aside at the beginning of implementation to understand and train local implementation partners, including government and community-based organizations.

Each pilot project was designed to follow a tight and short timeline of implementation activities. Each pilot project implementing team found that a minimum of three to four months was necessary to fully engage their local community partners, integrate them into field activities, and strengthen their ability to work with their constituents. During implementation, each pilot project has achieved the goal of establishing clear lessons learned for future activities, but each pilot project is at risk of leaving behind insufficiently strong partners to sustainably carry on the achievements of the pilot projects.

It is equally important for each implementing NGO to engage local authorities, including bourgemestres and administration of the *Hôtel de Ville*, or city government, as early in the implementation process as possible. Ideally, this should happen in advance of proposal preparation.

Lesson 2: All local partners should be brought together under an umbrella organization rather than conducting all activities with a single local partner.

IRC learned this lesson particularly well in Barumbu. From the beginning of the project, IRC was committed to working with CEBAB. This early commitment reduced IRC's ability to work with a variety of local partners to implement the wide range of activities in which they became engaged.

Lesson 3: Comprehensive market sanitation projects should be viewed and should be implemented following the same steps as comprehensive community development projects.

In order for ACF to achieve their successes, they had to view market administrators, vendors, and restaurateurs as community members and engage them in community-based planning and action in much the same way IRC had to operate in Barumbu.

Sustainability of Interventions

Lesson 1: One year is too short a time period to accomplish both interventions and help ensure their long-term sustainability.

All involved in evaluating or discussing these pilot projects should realize that, as pilot projects, their principal focus was on testing field interventions and developing lessons learned for future projects. They should not be expected to generate financially and socially sustainable organizations and interventions during the brief period of time they were in the field. Nonetheless, each pilot project has achieved notable success in establishing financially sustainable income generating activities—

water sales, latrine operation, solid waste collection, and composting. Their weakness has come from having insufficient time and skills necessary to work with community-based organizations to strengthen their capacity to manage activities over the medium and long terms.

Lesson 2: Income can be generated by community-based waste management.

Numerous examples of this exist in the three pilot projects. Household solid waste can be collected and safely disposed while at the same time generating income for individual collectors (“*pousse-pousseurs*”) and for community-based organizations that mobilize multiple collectors. Composted organic household waste can be sold for income, although at the time of this writing it is uncertain whether income can actually cover the costs associated with the composting activity. Additionally, significant income can be generated from the management of hygienic latrines in market areas. The income of operators should be linked to overall income. This linkage provides motivation to the operator to generate customers and ensure collection of fees. The ACF pilot project has clearly shown the income generating capacity of public latrines in the initial documentation of receipts and expenses shown in the following table:

Net Income for Initial Two Weeks of Public Latrine in Gambela Market—Reported by ACF Pilot Project

Week	Total Receipts	Personnel Transport Cost	Operation and Maintenance Cost	Net Income
12–17 July 2001	150,425 FC 501 US\$	52,510 FC 175 US\$	8,700 FC 29 US\$	89,215 FC 297 US\$
18–23 July 2001	150,280 FC 501 US\$	52,460 FC 175 US\$	46,320 FC 154 US\$	51,500 FC 172 US\$
Average	150,352 FC 501 US\$	52,485 FC 175 US\$	27,510 FC 92 US\$	70,357 FC 234 US\$

FC – Congolese Francs; US\$ - United States Dollars; Fee charged for latrine use – 20 FC per visit

Such data should continue to be collected for the Gambela market latrine as well as all other latrines constructed under the pilot projects either by ACF or by IRC in Barumbu. IRC has clearly shown that income can be generated by small-scale water vending. In Kananga, IRC will leave behind nearly 100 income generating water points when its project is complete.

Lesson 3: In income generating projects related to infrastructure management, a targeted amount of funds should be mandated to be set aside to cover recurring capital costs.

The market latrines developed by ACF are placed under the control of local NGOs or private sector partners according to a written and signed protocol. As written,

however, the protocol does not address the issue of retaining funds for long term capital costs including but not limited to emptying of latrine storage tanks and repairing materials and fixtures. It is recommended that future protocols require that a certain amount of regular income be placed in a bank account specifically to cover both these anticipated and unanticipated costs.

Lesson 4: In income generating projects in Congo, strong efforts should be made to ensure that collected fees retain their value over time.

The political and economic conditions in Congo are volatile. Severe currency devaluations have occurred during the implementation of the pilot projects. Every effort should be made in income generating activities to enable local partners to establish bank accounts in currencies that are not likely to fluctuate as significantly as the Congolese Franc. Focus group meetings have suggested that FOLECO, a local umbrella organization with numerous NGO members, establish these accounts for local NGOs based on a nominal initial fee. If this happens, the individuals or NGOs that are involved in income generation in the pilot projects should be encouraged to open an account with FOLECO in order to secure their funds.

Program design

Lesson 1: Proposals must be written based upon a thorough understanding of the situation in the field.

Both IRC in Barumbu and ACF in their market project suffered somewhat as a result of their limited understanding of field conditions. At the same time, the Kananga activity built upon and benefited from a long-standing presence of the USAID-supported Office of Transition Initiatives (OTI) in the city. In Kananga, the presence of a group already engaged in the community for some time, facilitated coordinated planning with stakeholders, thereby enabling rapid start-up, smooth implementation, and performance in excess of project indicators. On the other hand, at the early stages of the Barumbu project, IRC was surprised to uncover the extremely limited capacity of its field partner, CEBAB. This led to considerable frustration and difficulty around strengthening their capacity to manage the results of the completed activities. The negative impact of limited understanding of field conditions also was reflected in the market project where ACF underestimated the input that would eventually be required to implement activities in multiple locations involving multiple administrations and communities. These problems can be largely attributed to the fact that each project was implemented in locations in which the NGOs had not previously worked and also to the speed with which the implementing NGOs were requested to prepare their proposals for submission to USAID.

Lesson 2: A formal start-up workshop bringing together all stakeholders is beneficial in project implementation.

A three-day start-up workshop was held in the first month of project implementation. It was attended by the IRC/Kinshasa team and their community partners, the

IRC/Kananga team, and the ACF project team. The workshop was organized by EHP and led by a Congolese facilitator. Each of the three implementing teams for the urban environmental health activities referred to the importance of this workshop and recommended that it be a part of their future projects for a number of reasons. It increased their focus on the overall plan for the project, served as a forum to present and discuss information of general interest to all stakeholders and implementers, and resulted in a unified understanding of the project among stakeholders.

4. Policy and/or Programmatic Implications of Findings

4.1. Urban Environmental Health Projects Are Possible and Beneficial in Multiple Ways

It has frequently been mentioned during the implementation of the USAID/DRC urban environmental health program that too much money is spent on Kinshasa, and USAID should support more activities outside the capital. The two urban activities that USAID has been funding in Kinshasa have clearly demonstrated that the needs of the city can be addressed through community-based interventions in partnership with local authorities if locations are wisely chosen and interventions are targeted toward achieving specific results. For example, one market latrine opened by ACF is attracting an average of 1,200 customers per day to a hygienic facility, which also is serving as an educational platform for widespread hygiene improvement. Also, by mobilizing only three solid waste collection *chariots*, IRC has been able to engage more than 130 paying customers and has reduced the amount of their domestic solid waste that clogs drainage canals and increases flooding. The anecdotal reporting of zero cholera cases this year in Barumbu has happened coincident with IRC's efforts in that community. Their flood reduction and hygiene education activities have combined with a parallel food-for-work activity that is clearing drains throughout the community to generate an apparently highly significant impact. In addition, in Barumbu, more than 50 sensibiliseurs have acquired increased knowledge regarding fecal-oral transmission of diseases and new skills to communicate this knowledge to community members. These are just a few of the achievements in Kinshasa by projects that are roughly one year in duration and have been implemented by organizations new to community development. Despite these handicaps, but that have done a superb job in a context of chaotic administration and neglected community engagement.

The issue of accessibility to other urban areas for project implementation remains an issue. Most areas of Kinshasa are readily available for intervention, and the immediate proximity of the University of Kinshasa School of Public Health has been a tremendous benefit to the design, implementation, and impact monitoring of the pilot projects. The ultimate result has been that there have been successes, lessons have been learned, and a foundation has been built of community-based improvement that USAID can build upon to refine achievements and expand its impact on urban health in Kinshasa.

These pilot activities have benefited both the implementers and their local partners. They have been beneficial to USAID as well. USAID has acquired considerable goodwill with communities, local administrations, and the municipal government through these projects. It no longer can be charged that USAID is not actively engaged in the long term development of the urban areas of the country as was the case when these pilot projects began. USAID has gained local recognition for these projects and the foundation has been laid within the municipal authority and local governments to broaden this work in partner communities and with partners in administration.

4.2. Local, Responsive Mechanisms Are Required to Meet Project Needs

It is anticipated at the time of this writing that USAID/DRC will be constrained in its ability to plan urban environmental health activities beyond a one-year time frame. There are numerous reasons for this reality. Therefore, at the present time, the USAID urban environmental health portfolio should be viewed as seeking to develop a firm foundation upon which to base longer term planning when the situation is more appropriate. Yet, even within this short planning horizon, USAID is supporting the implementation of projects that are designed to respond to locally identified needs through participatory processes that engage community members, local authorities and municipal institutions. Such projects inevitably involve changes to respond to issues that emerge in these processes.

During implementation of the three pilot projects, USAID/DRC's ability to respond to change was hindered by the system that monitored the cooperative agreements under which the projects were implemented. For these projects, any field conditions significant enough to require changes to either budgets or work plans required the approval of an amendment to the cooperative agreement. Such amendments could not be approved at the USAID office in Kinshasa. Rather, each necessitated approval by the regional contracting office in Nairobi, Kenya. This regularly led to delays in field implementation, in turn negatively impacting the short-term field activities.

Because implementation is expected to continue to move forward within the short time frames currently anticipated, USAID/DRC must establish an improved process to enable rapid, locally approved amendments to short-term cooperative agreements. If possible, this could take the form of a delegated authority by the Regional Contracting Officer to the Mission Director, permitting budgetary or work plan variations up to a certain monetary value or percent of total contract value. Moving a certain level of this discretionary authority from the RCO to the Mission would greatly facilitate the ability of the Mission to efficiently respond to community-based change. This level of flexibility and authority is required to respond to the inevitable amendments to cooperative agreements that should be expected to arise during the implementation of short time frame pilot projects.

4.3. USAID's Short Planning Horizon Should Not Interfere with the Well-designed Projects

Allowing for and using appropriate lead time for proposal preparation is crucial for USAID's work with NGOs in urban environmental health. Many of the NGOs that work with USAID/DRC are inexperienced in working with USAID. Only two have had any experience working on community-based activities to reduce diarrheal disease among the urban poor. Consequently, they need to dedicate significant efforts in order to prepare well-designed project proposals. This observation is also mentioned in Section 3 as a lesson learned from the pilot activities where a limited amount of time was available for proposal preparation. USAID's NGO partners responded differently to this compressed time line, and each made mistakes during this hurried period, mistakes that were reflected in the constraints they experienced during implementation: IRC teamed with CEBAB and discovered during implementation that their capacity was significantly less than anticipated, and ACF opted not to look for local partnership arrangements before submitting their proposal.

In future programming, USAID should consider two ways to enable NGO partners to better prepare their projects. First, USAID should make every effort to ensure that adequate time is available for NGOs to produce well constructed proposals based on a comprehensive understanding of the communities in which implementation will take place. Second, USAID should consider requiring NGOs to prepare Initial Environmental Examinations (IEEs) as part of their proposal preparation and should allow NGOs to request reimbursement for the preparation of IEEs as part of their cooperative agreement budget. Once the agreement is signed, the implementing NGO could then recover the cost of their comprehensive field investigation. Three objectives would therefore be achieved:

1. Sufficient preparation time would be available.
2. NGO preparation efforts would be focused on preparing information that USAID would eventually require of each project.
3. NGOs would be motivated to develop higher quality, fundable proposals in order to get them accepted and have their costs for sufficient investigation reimbursed.

4.4. USAID Should Remain Engaged in the Current Projects

USAID/DRC has made a considerable investment of resources in three urban environmental health pilot projects. Implementation of each project has been highly successful and has overcome significant obstacles. Three model interventions have been conducted focused on community participation, behavior change, targeted priorities, decentralization of municipal service delivery, microenterprise support for environmental sanitation improvement, IEC and training, and alternative techniques

for environmental sanitation improvement. At the time of this writing each model has been shown to be both doable and successful. But, these interventions really have only just begun.

For USAID to maximize its understanding of the long term viability of the selected approaches, the organization should plan regular visits to each project site to examine its operation, document income generating capacity, and learn further lessons about each approach. This should be done without raising expectations of further support, but instead serve as listening and learning visits to enable USAID to more effectively advocate for the continuation and expansion of urban environmental health activities in the DRC.

USAID should consider arranging a return visit every six months to each market latrine, Barumbu intervention, and Kananga water vending microenterprise to assess sustainability and identify new issues. It is suggested that a reporting format be established similar to that used by ACF for monitoring finances of the latrines that they supported. In this way, the idea of supporting the management and long term sustainability of infrastructure improvements as income generating activities could be verified under field conditions. On the basis of this knowledge, USAID could then confidently program similar activities in the future.

4.5. All Projects Supported by USAID/DRC that Address Water Supply, Sanitation, and/or Hygiene Issues Should be Designed and Implemented in Accordance with the USAID/DRC Urban Environmental Health Strategy and the Lessons Learned Contained in this Report

USAID/DRC has at least two projects in its portfolio other than the three pilot urban environmental health interventions that seek to address water supply, sanitation and/or hygiene needs. They are SANRU III and the IFESH Rehabilitation and Local Capacity Building Initiative. The implementers of SANRU III are familiar with the Urban Environmental Health Strategy and have held regular discussions with EHP. As a result, the two projects are expected to work in a coordinated fashion during implementation of SANRU III, particularly in the training and mobilization of Water, Sanitation, and Hygiene Specialists in SANRU-supported health zones. It is unclear at the time of this writing whether IFESH is familiar with the Urban Environmental Health Strategy, the current environmental health projects supported by the mission, or the lessons learned contained in this document. The Strategy has been field tested and is currently undergoing examination and refinement under a RUDO-funded consultancy. The pilot projects implemented by IRC and ACF will be leaving behind a set of lessons, educational materials, techniques, and health impacts that should be

understood by and incorporated into the planning and implementation of the IFESH project. In this way, USAID/DRC will support the implementation of a coherent set of projects with shared objectives, implementation systems, and impact outcomes.

Annex 1. Documents Reviewed

USAID/Democratic Republic of Congo

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