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USAID URBAN GARDENS PROGRAM FOR HIV/AIDS- AFFECTED WOMEN AND CHILDREN

FINAL PROGRAM REPORT

OCTOBER 2012

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USAID URBAN GARDENS PROGRAM FOR HIV/AIDS- AFFECTED WOMEN AND CHILDREN

FINAL PROGRAM REPORT – OUTCOMES AND LESSONS LEARNED

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PREFACE

The USAID Urban Gardens Program for HIV-Affected Women and Children was an innovative approach to improve the health and well-being of vulnerable and marginalized populations. Although this was technically an urban agriculture project, the participants were not full-time farmers. Most of the gardeners were casual informal laborers. Some of the children attended school full time and shined shoes, or washed clothes as a means of gaining income. The gardens not only provided food but also more often supplemented their income. It took only a few visits to the field to realize the true value of the gardens. There were anywhere from 10 to 85 people to one garden plot. The social networking and support that the gardens provided was hard to measure.

One of the most successful gardens was located in Bahir Dar. In 2008, 85 women formed an association and acquired land from the government. It was virgin ground, and even after it was plowed by oxen, it needed additional hard labor by the women. Most of the women were living with HIV, and many had lost their husbands to AIDS. They spoke of their despair and how they now received drugs that allowed them to feel much better, but they still struggled to support their families. Two of the women said that this garden was their last hope. As they looked across this barren land, it was hard to imagine that the gardens would provide the income or the nutrition they dreamed of and so desperately needed.

Three years later, these same women hosted a knowledge-sharing event on their land. Drip kits helped them to conserve the small amount of water they could access, while dairy cows helped to support an additional stream of income and nutritional support. The knowledge-sharing event drew people from the other USAID Urban Garden sites and the gardeners learned from each other. The Bahir Dar women led the event and shared their expertise. These women leveraged the small resources provided through the project to create a viable business. The women are now mentors to other women and children who want to create productive gardens.

The women of Bahir Dar not only benefitted through income and nutrition, they also became invested in each other and their communities. The most important legacy of the USAID Urban Gardens Program is the sustainability of gardens and the empowered gardeners who will continue to mentor others in their communities.

USAID Urban Gardens Program was possible because of the foresight of USAID and the dedication of the Ethiopia Mission to support such an innovative approach to improving income and nutrition of HIV-affected women and children. It is the courage and determination of the thousands of women and children who benefited from the program that will sustain urban agriculture in Ethiopia.

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USAID Urban Gardens Program

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- DAI and the Urban Gardens Program staff would like to thank the Government of Ethiopia, which played a critical role in working with local implementing partners, program staff, and our program beneficiaries. The government’s commitment and support to provide access to land and other resources allowed for rapid expansion of gardening. Government support included active arrangements with the following agencies:
 - HIV/AIDS Prevention and Control Office (HAPCO)
 - Office for Small Business and Microfinance
 - Keble Administration in 23 cities
 - Addis Ababa Department of Urban Agriculture
- Program beneficiaries
- USAID
- Local implementing partners
- FHI360
- Land O’ Lakes
- USAID’s Food by Prescription Program
- Johns Hopkins University
- Tufts University

ABBREVIATIONS

CBVCT	Community-based voluntary counseling and testing
EDHS	Ethiopian Demographic and Health Survey
FAO	Food and Agriculture Organization of the United Nations
GSLA	group savings and loan association
HIV	Human Immunodeficiency Virus
IPs	Implementing Partners
IYCN	Infant Young Children Nutrition
NGO	nongovernmental organization
OAC	operational area coordinator
OVC	orphans and vulnerable children
PEPFAR	President’s Emergency Plan for AIDS Relief
PLWHA	people living with HIV/AIDS
UAPHAW	Urban Agriculture Program for HIV/AIDS Affected Women
UGP	Urban Gardens Program
USAID	U.S. Agency for International Development

EXECUTIVE SUMMARY

In Ethiopia, the 2007 national adult HIV prevalence rate was 2.1%, while the rate in urban populations was more than 3 times higher (7.7%). The total number of HIV positive individuals (0-49 years of age) is growing and is expected to be about 30% greater in 2012 than it was in 2006. Some experts estimate that the number of AIDS orphans is expected to be over 800,000. Urban women are three times more at risk for HIV than urban men. About 59% of the HIV-positive and around 61% of all HIV-positive individuals reside in urban areas.

Nearly one half of the population consumes inadequate food daily, micronutrient deficiencies are highly prevalent, and rate of chronic and acute malnutrition in children are among the highest on the African continent. According to the 2011 Ethiopian Demographic Health Survey (EDHS), 44% of children were stunted (21% severely stunted), 29% of children under age 5 were underweight, and more than 44% of Ethiopian Children ages 6-59 months were anemic. The same report indicated that 27% of women are malnourished.

HIV/AIDS severely affects the economic stability of a household. Increasing numbers of households living with or affected by HIV/AIDS, especially those caring for orphans and vulnerable children (OVC), struggle to meet the most basic needs of food, shelter, education, health, and protection. Without assistance, many HIV/AIDS-affected households cannot meet these basic needs, making the children in the home even more vulnerable to abuse and exploitation. Children and women from these vulnerable households are at an increased risk of engaging in risky food-seeking behaviors, including transactional sex for food or cash, potentially exposing them to HIV/AIDS and violence.

The United States Agency for International Development (USAID) Urban Gardens Program (UGP) for HIV/AIDS-affected Women and Children (2008-2012) was designed to improve the nutritional status and general well-being of households affected by or living with HIV/AIDS. Built upon previous efforts from USAID's Urban Agriculture Program for HIV Affected Women (UAPHAW) (2004-2008) this second phase of the project expanded areas of urban gardening support and increased the number of beneficiaries. Implementation included critical government and NGO partnerships to support OVC, intensive agricultural training and HIV/AIDS prevention efforts, and creating economic strengthening opportunities through market oriented business development training.

Funded by the President's Emergency Plan for AIDS Relief (PEPFAR), the programmatic approach was built on delivering sustainable and replicable activities that address some of the many constraints facing the urban poor – limited access to land, insecure food access, limited capital, and challenging environmental constraints like irregular access to water and poor soil conservation. This report highlights achievements and provides recommendations for future implementation, representing eight years of lessons learned and a commitment to aligning interventions and technologies to beneficiary's household levels of vulnerability. The Urban Gardens Program worked in six regions throughout Ethiopia to improve gardening capacity; land and water management; expand knowledge of sustainable environmental practices; improve quality and management of school gardens; improve access to group savings and increase financial literacy; improve understanding of market dynamics; improve backyard poultry production; expand health referral networks; improve health and nutrition activities; and build the capacity of local implementing partners for long-term sustainability.

OVERVIEW OF THE PROGRAM

Since September 2008, the USAID Urban Gardens Program for HIV-Affected Women and Children has been improving household economic resilience and nutrition through the creation of school and community gardens; the provision of agriculture-related education, tools and inputs; improved access to economic opportunity; and increased linkages to HIV/AIDS care and nutritional and health education and services. USAID Urban Gardens Program has integrated innovative health, food security, agriculture and economic empowerment programming through an approach that combines intelligent behavior change and community and social mobilization strategies, a commitment to long-term grass-roots level responses, and smart, innovative partnerships with the Ethiopian government. The result is that HIV affected women, orphans and vulnerable children (OVC) and their caregivers access healthy food, new economic opportunities, stronger support networks and a secure policy environment. The USAID Urban Gardens Program has directly reached at 35,762 HIV-affected households, providing support to 113,658 OVC. It has achieved these impressive results by working through a strong network of 51 local NGO implementing partners (IPs) to establish 564 gardens across 20 cities in six regions of Ethiopia.

The core technical approach has been focused around cutting edge methods that use garden dialogues and peer education to build networks of support between communal gardeners that ensure permanency of technical skills transfer, increase grass roots support, and reduce top-down reliance and dependency on outside support, knowledge and services. To ensure the success of each garden, gardeners receive important technical support in agronomy, irrigation and water system management, crop / land maintenance and nurturing, and pest management.

In addition to agriculture support, garden dialogue discussion groups also linked gardeners and their families with HIV, health, financial and advanced economic services. This has included increased access in local health referral networks and technical training in critical areas of basic marketing, household nutrition, chicken farming, and informal group savings and loan associations (GSLs), cash-crop horticulture and small-scale market development / access.

Finally, the program also worked specifically on alleviating environmental constraints that influence a person's ability to grow food in urban areas: reviving polluted land and reducing soil contaminants; mitigating erosion; increasing access to sustainable water sources in addition to municipal water; and maximizing the management, filtration and use of household wastewater for agriculture. With the Ministry of Agriculture and the Addis Ababa Office on Urban Agriculture, the program engaged the Ministries of Health, Urban Planning and Environment to develop a multi-sectoral urban agriculture policy that was approved in July 2010. The program has worked with the government to form a steering committee to ensure that policies will be implemented to increase access to land and water for urban gardening as well as provide a framework for other Ethiopian municipalities to follow suit — especially those areas with high HIV prevalence.

The established gardens and strong local partnerships allowed the program to provide a notable array of technical support, training and physical infrastructure throughout our program sites. The table below summarizes main project outputs from four years of implementation (see table 1).

Table 1: Total Number of Gardens and Technical Support

Cities	Gardens: Established and Operating		Wells: Completed and Operating		GSL's Formed	Discussion Groups Mobilized	Vegetable Shops Opened
	Urban Plots	Schools	Boreholes	Hand Dug			
Debremarkos	18	12	-	7	34	27	1
Finoteselam	6	1	-	2	7	22	-
Bahir Dar	36	11	-	3	28	36	2
Maksegnit	3	2	-	-	4	11	-
Gondar	32	11	-	2	22	26	2
Adwa	8	5	-	-	18	18	-
Woldiya	8	6	-	-	6	8	-
Mersa	8	5	-	-	10	10	-
Dese	46	27	-	-	22	46	2
Kombolcha	24	7	-	-	17	22	-
Addis Ababa	39	20	-	-	18	20	1
Sebeta	3	2	1	-	20	6	1
Jima	15	7	-	3	40	16	-
Woliso	6	4	1	1	3	6	-
Assossa	3	1	-	-	6	5	-
Debrezeit	5	-	-	-	23	17	1
Adama	40	15	-	-	39	16	-
Mojo	9	2	-	1	13	1	-
Zeway	7	4	1	1	6	7	-
Meki	3	1	-	-	1	-	-
Shasemene	26	15	-	-	39	6	1
Hawasa	38	25	2	5	20	26	1
Total	383	183	5	28	396	352	12

It is important to stress that the program achieved such scale and success because of the presence and hard work of local NGO IPs, through which the program linked directly to beneficiary gardeners. Supported technically by the program's field based Operational Area Coordinators (OACs) and financially by targeted grant support, each NGO partner's Extension Officers (EOs) oversaw day-to-day gardening activities, trained and mentored gardeners, and linked gardeners to other value added health, education and social services provided in the community.

SUCCESSSES AND RECOMMENDATIONS

1.1 IMPROVED GARDENING CAPACITY

FINDINGS

Despite the prominent role agriculture plays in the Ethiopia's national economy, food and nutrition security remains a problem for most of Ethiopia's subsistence farmers who live on less than \$US0.50 per day. Many factors play a role in this paradox— structural, environmental, social. Limited resources push subsistence farmers into marginal land areas, not suited for agriculture; as a result, soil and environmental degradation intensifies. These farmers often face difficult challenges and are sometimes forced into rural-to-urban migration in search of employment, income, and support from social safety net programs.

The Urban Gardens Program recognizes that rural-to-urban migrants are often the poorest subsector of the country's urban households, unable to meet their basic needs and are often chronically food insecure. Women and people affected by HIV/AIDS are especially at risk and struggle to produce enough food to meet their family's daily dietary requirements. The majority of these migrant city dwellers have some experience in agriculture and growing crops, though usually staple cereal grains, limiting their ability to achieve adequate dietary diversity. They end up relying mostly on food purchases. Low levels of education and insufficient knowledge of effective agricultural techniques such as mulching, composting, and fertilizing compounds their vulnerability. Low agriculture productivity is directly attributed to limited or no access to agricultural inputs, limited financial inclusion, and, as mentioned, poor land management practices.

Program staff learned that more than 80 percent of the gardeners from the first iteration of the program (2004–2008) did engage in some form of gardening activity before joining the program. In the program's first iteration, agricultural capacity building and behavior change was fostered according to a top-down approach using a four-tier methodology. The model relied on staff from a training institute to conduct agricultural training to program operational area coordinators (OACs), who trained local implementing partner's extension officers, who trained garden champions, who trained program beneficiaries.

The majority of these training sessions took place within classroom settings and did not include an applied or experiential learning component. This lack of personal attention and applied non-formal education methodology resulted in many gardeners with few ideas on how to solve problems occurring in their garden beds.

Assessments of UGP beneficiaries (2010) demonstrated that only 7 percent of gardeners reported they did not know how to plant a vegetable and just 1 in 10 gardeners had no knowledge on how to effectively raise seedlings; nearly 90 percent of the gardeners knew how to properly layout a garden, including plant spacing. However, only half of the gardeners surveyed knew that the basic steps following land preparation were watering and providing shade for the seedling production. Twelve percent of gardeners did not know of any mechanism for pest/disease control compared with 38 percent of the gardeners already acquainted with organic pest control solutions such as ash, soap, animal urine, and garlic.

ACHIEVEMENTS

Our team of technical staff and extension officers improved the gardening skills and knowledge of gardeners through hands-on practical training focusing on community and school-based horticulture. During its four years, this iteration of UGP trained 20,551 OVC gardeners and 15,211 caretaker gardeners (see Table 2).

Table 2: Total Number of Gardeners

	Y1	Y2	Y3	Y4	Total (Y1-Y4 by gender)
OVC Gardeners					
Male	1,355	2,157	5,851	1,079	10,442
Female	1,147	2,204	5,821	937	10,109
Total (by year)	2,502	4,361	11,672	2,016	20,551
OVC Caretaker Gardeners					
Male	503	1,244	1,957	0	3,704
Female	1,734	3,682	6,091	0	11,507
Total	2,237	4,926	8,048	0	15,211

Most of the gardeners were not full-time farmers, especially among OVC, and training in new techniques needed to be adapted to meet their needs reaching them directly in the garden with “hands on” training. Program beneficiaries typically work one and sometimes two other jobs, varying from daily laborer to domestic worker. Therefore, changing the training design used in the program’s first iteration, the program adapted the “community conversations” model to transfer gardening skills to beneficiaries not living in a rural scenario.

Instead of a top-down approach, OACs and extension officers trained gardeners together within their community or school-based garden. In addition, UGP recruited professional agronomists from the government sector to give specialized training in subjects such as composting and irrigation. This methodology proved more beneficial than the previously layered method but still held program staff in the position of “lecturer” and the gardener in the position of “student.”

In Year 2, the program created its first training guide developed in line with the Food and Agriculture Organization of the United Nations (FAO) Farmer Field School guidebooks but adapted for an urban setting. In the same year, the program made micro-gardening techniques a focus, as micro gardens require less water and can be placed in small areas where land scarcity may be an issue. To foster sustainability and outreach, program staff used the school gardens as a platform to exhibit the advantages of urban gardening.

The baseline survey conducted with the first- and second-year participants helped staff better tailor technical assistance to meet the knowledge gaps among gardeners. In Year 3 (FY 2011), program staff revised their strategy to focus on gardening capacity building. Instead of a top-down knowledge transfer, UGP trained its own staff on how to more effectively engage gardeners, OVC, and community members around key agriculture issues. This involved incorporating an asset-based approach for transferring knowledge about gardening on the household, school, and community level. UGP sought to create organic behavior change through horizontal knowledge transfer among UGP technical experts, gardeners, and members of the community through what UGP termed the “Urban Garden Dialogue.”

Figure 1: Five-Step Urban Garden Dialogue

Building on existing agricultural knowledge and skills, the Urban Garden Dialogue stresses critical thinking within the context of on-site training in the garden (see Figure 1). Program staff carried out one-on-one dialogues on how to handle a variety of potential problems in the garden. Once a gardener or gardening group showed marketable improvements in critical problem solving, garden maintenance, and harvesting, technical support decreased. The new approach created immediate results in many areas of the garden. Gardeners began establishing nursery sites for the first time and properly managing seedlings. Gardeners shared knowledge on soil fertility and the use of manure; compost and green manure began to appear in school and community gardens.

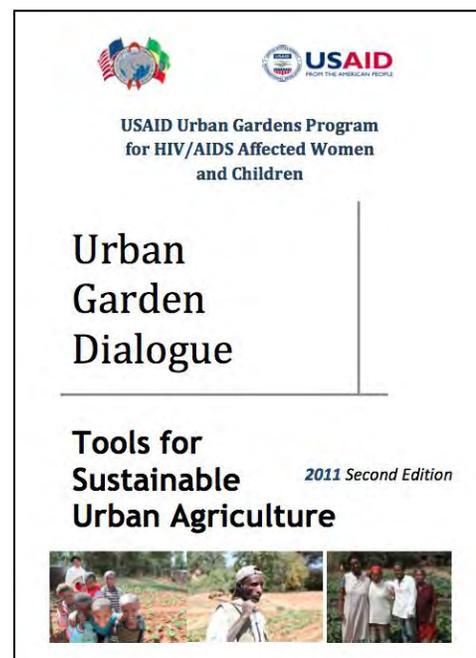


This approach was coupled with a new one-year program period of intensive technical support. At community gardens, UGP beneficiaries would work closely with their assigned extension officer for one year and then “graduate” from receiving technical support. This allowed group gardeners the opportunity to take the knowledge and skills gained from the program back to their communities, engaging in micro gardening or creating small kitchen gardens. After one year, the implementing partners would bring a new group to the garden and begin intensive technical support and training. This model was adapted slightly at the school facilities where OVC gardeners would graduate but continue to garden on their plot of land, encouraging school attendance and participation. Many of the school gardeners would transfer their new knowledge to their homes and communities.

Technical staff using the Urban Garden Dialogue allows gardeners to do what they already know how to do. The five-step approach (see Figure 1) exemplifies sustainable improvement in the gardeners’ ability to critically analyze and assess their garden plots and to take action. For example, program agricultural experts do not necessarily have to advise the gardeners about soil fertility, but are expected to provide the impetus to use locally available resources as inputs for the garden or guide gardener groups through the process or preparing organic fertility inputs, such as manure.

UGP disseminated *Urban Garden Dialogue: Tools for Sustainable Urban Agriculture* in both English and Amharic to program staff as reference material for sharing effective dialogues and for focusing on core issues in urban gardening such as crop selection, nursery management, soil fertility, plant care, pest control, harvest and post-harvest. Additional topics also included HIV/AIDS prevention messaging, nutrition, and food preparation.

In the same year, gardeners participated in a nationwide knowledge-sharing event in which highly successful gardeners were invited from different cities to share their experiences among other beneficiaries. Gardeners then returned to their



gardens and communities to teach their colleagues what they learned.

Finally, in Year 4, OACs and technical experts collaborated to create a master agronomic training manual aimed to enhance the extension officer's proficiency in agriculture. This comprehensive manual served as a tool for implementing partners to continue providing technical assistance to gardens.

RECOMMENDATIONS

- The one-year program period of enrollment—the time from which a beneficiary was identified and began activities until his or her graduation from the program—was often too short to produce significant results among beneficiaries with newly acquired agricultural skills. Enrollment must be aligned to the crop calendar and provide a flexible period of time to see significant results, which would ultimately require a more dynamic set of graduation criteria. Extending the beneficiary enrollment period to two years would greatly improve and ensure the achievement of gardening skills and agricultural knowledge.
- The model of engaging local implementing partners provided opportunities for building local intuitional capacity. However, in some cases, grants were often not large enough to allow small-scale implementing partners to manage their resources effectively. Choosing well-established partners should be a priority, and a significant focus must be placed on developing the organizational capacity of local entities.
- The flexible program approach to adapt to the learning needs of beneficiaries was a challenge with program staff and local implementing partners. Switching from a top-down lecture-based learning model to a side-by-side experiential model proved difficult for many program staff accustomed to educational privilege in the context of Ethiopian society. To achieve a successful two-way skill and knowledge transfer, program staff must cut through class, gender, and cultural differences.
- The garden dialogue methodology, based on the FAO Farmer Field School approach should continue to be adapted and refined for horizontal knowledge transfer.



Gardeners sharing knowledge with other gardeners. Samson Aberra from Dessie shows gardeners the technique of double digging. The technique increases soil drainage and aeration and improves fertility by bringing nutrients to deeper areas of the soil.

1.2 IMPROVED LAND MANAGEMENT

FINDINGS

Ethiopia has one of the highest rates of soil nutrient depletion in Sub-Saharan Africa. As the rural and urban poor reach to animal dung for fuel instead of using it as fertilizer, the loss of phosphorus and nitrogen in the soil continues to rise. In addition, poor land management and degradation is exacerbated by overgrazing, deforestation, population density, and poor use of land.

In Ethiopia, land management is a complex; all of the land is owned by the government and the administration of land use is decentralized to the regional and district level governments. For every community garden, the *kebele* has the final word in how much land can be allocated and in many instances, how much water community garden members may use.

This system of land management places vulnerable populations like widows, OVC caretakers, and women affected by HIV/AIDS at a particular disadvantage, especially since large gender disparities already impede women's empowerment and potential for heading a healthy household. On average, women have fewer years of schooling, heavier workloads, and are often excluded from control of the household income and inheritance of property.

When the program began in October 2008, no Ethiopian governing body had created a policy that addressed urban agriculture. In the majority of cities, the construction of roads, buildings, and homes do not follow any zoning laws. The lack of a clear policy made it difficult for implementing partners and beneficiaries to identify sustainable sources of land and water for community gardens. The lack of policy coupled with constraints of working in an urban area created a situation in which the program and its implementing partners were dependent on buy-in from local leaders.

Nonetheless, thanks to the former Urban Garden Program's presence, *kebele* administrations in major cities were already aware of UGP. Since 2006, many *kebeles* granted leases for community gardens for as little as one year and as many as five years. The first iteration of the program (2006–2009) had established urban gardens in schools and on public land throughout Ethiopia.

Typically, program staff and implementing partners counted the number of beneficiaries and then determined the size of the land needed before soliciting *kebele* and school leaders. Under the program model, every beneficiary received at least 24 m² of land. When staff were unable to meet this requirement, the program distributed grow bags and encouraged gardeners to create micro gardens in their homes.

Ethiopia's urban farmers tend to follow the practices of their rural counterparts: agriculture based on low-input/low-output crop cycles and rain-fed farming systems. In some instances where government leaders observed little progress, land repossession was likely to occur within the year.

ACHIEVEMENTS

In Year 2, the program expanded, adding three new cities (Jima, Woliso, and Ziway) and allowing program staff to broker new relationships with local government officials (see Figure 2 for a map of UGP operational areas). At the same time, the program began to map the creation of a citywide urban agriculture policy for Addis Ababa. However, due to the program's scope, USAID funds could not be used to shape national policy.

In late 2010, the UGP sponsored a conference and workshop titled “Addis Ababa Urban Agriculture Situation Analysis.” The event targeted stakeholders invested in building a sustainable policy for urban agriculture in the capital including Addis Ababa’s Urban Agriculture Office, Urban Planning Office, Environmental Protection Authority, Ministry of Agriculture, Trade and Industry Bureau, and various microfinance enterprises and city politicians.

As a result of the workshop, participants drafted the first urban agriculture policy document to address land access challenges for urban dwellers living in the Addis Ababa metropolitan area. The policy was translated from Amharic to English and approved in 2011, and UGP and Addis Ababa Urban Agriculture Office partners set up an implementation strategy in 2012.

In Year 3, the program secured 69 community gardens, 24 institutional gardens, and 130 school gardens (practically matching the number of gardens from the first two years). All of these gardens were granted by the local *kebeles* and required a commitment to the program on the part of the local government. Program staff continued to create strong relationships with local governments, which provided 38 parcels of land, access to water, and, in some cases, sources of electricity for beneficiaries. In the case of a beneficiary without access to at least 24 m² of land, the program encouraged use of micro garden techniques to complement smaller gardening plots.

Involving local government in core activities created ownership of community and school gardens. Field fairs, the micro garden contest, and the biannual stakeholders meetings often featured officials from a variety of government offices including city and *kebele* administrators, local ministries of agriculture, water and livestock offices, and city mayors. These types of events provided officials with an opportunity to demonstrate their appreciation for program and show their colleagues their support for a sustainable agriculture project targeting people living with HIV/AIDS.

At the community level, program staff and implementing partners worked closely with village associations known as *eder*, which often hold power over *kebele* leaders and are tasked with leasing land to PLWHA associations.

At the school level, program staff worked to establish strong relationships with school principals and administrators. Once school officials bought into the concept of a school garden, program staff assisted in the creation of school committees to grant adult leaders more ownership and closer relationships with OVC gardeners. Due to these types of relationships, OVC gardeners could access their garden plots on holidays and in the evenings when the schools were usually closed.

To ensure sustainability, in Year 4, the program reduced the overall expansion target and shifted resources toward the already established community and school gardens under the banner of “quality,

Figure 2: USAID Urban Gardens Program Operational Areas



empowerment, and sustainability.” To improve land management, program staff reviewed land access issues in all areas and strengthened memorandums of understanding with partners, *kebele* officials, school administrators, and *eder* leaders. In collaboration with school officials, staff also updated garden registries and created a small profile for every garden. In the first half of 2012, technical staff drafted cost recovery action plans for 150 community and school gardens.

RECOMMENDATIONS

- The programmatic approach to securing land and water resources was often based on accommodating a certain number of beneficiaries. In most cases, the size of the garden was not revealed until the very end of the process. By looking first at the size of the land available for urban gardening use, program staff and partners can better provide sustainable and profitable garden plots for beneficiaries without the risk of overcrowding and lack of resources.
- Due to a high turnover of school administrators and city officials, program staff often faced a new school administration or *kebele* government. Asking for longer leases on public land, both in schools and communities, will help ensure the future success of the school and community gardens.
- The most commonly reported reason for opposing urban gardening interventions on the part of community leaders (schools and *kebeles*) was mistrust. Due to a history of corruption and misuse of funds, many leaders believed that international development agencies were often misguided by local partners. Building on anterior successes, future programs should sensitize *kebele*, school, and *eder* leaders about the positive benefits to community and school gardens.
- Beneficiary groups must be very organized. Many *kebele* leaders already know the beneficiaries and are less willing to help if the members are not organized. The creation of OVC school committees to support an organized approach should be extended. Many schools in Ethiopia have excess land inside the school compound and administrators, when happy with how the students are gardening, are more likely to expand school gardens to reach more children.
- The repossession of land is often beyond our control, especially in cities with high population density (such as Addis Ababa, Adama, and Bahir Dar). At the initial stage of securing land, program staff should put in place a mechanism to ensure beneficiaries will be given access to other plots if the original land is repossessed, or encourage city governments to outline new policies providing compensation for displaced gardeners.

1.3 IMPROVED WATER MANAGEMENT AND IRRIGATION

FINDINGS

Poor urban farmers depend on seasonal water fluctuations and water levels in nearby rivers and lakes; the majority of the urban poor cannot afford to irrigate their gardens with municipal water. Many urban and peri-urban dwellers rely on nearby wells for drinking water, sometimes using the local waste waterways to irrigate plants and vegetables.

The primary concern in the majority of UGP gardens is long-term, dependable access to quality water sources and solutions. Drip kit irrigation was, in many ways, the most innovative water and labor saving technology introduced by UGP. By providing drip kit technology, UGP provided gardeners with a safe and practical way to irrigate a garden patch while conserving water in drought-prone areas. This simple irrigation method results in less work for women affected by HIV/AIDS and children.

When program staff reviewed the school and community gardens of participants from the first iteration of UGP (2006–2008), more than 50 percent of the drip kits issued had been abandoned and gardeners had adopted other forms of irrigation. Many of the drip kits were damaged and needed replacement parts, while other gardeners preferred to water their plots with watering cans. According to assessments, the earlier program did not use a side-by-side experiential training methodology, building capacity of gardeners to understand the new technology.

For the first two years of this Urban Gardens Program (2008–2009), the program followed a similar approach and offered drip-kits to every gardener in all community and school gardens. However, after impact studies and more thorough assessments, program staff adapted the program model to be more responsive to the individual needs and vulnerabilities of the population.

As a result, UGP began to look at more permanent water security solutions such as wells, water conservation techniques, and wastewater filtration. To better utilize drip kits, UGP trained beneficiaries on the technology and made better assessments of school and community gardens in terms of their water needs.

ACHIEVEMENTS

In Year 1, the program focused its energy on drip kit distribution and installment under the principle that drip technology would automatically lead to water conservation and less energy expenditure. However, by the end of the first year, this blanket approach was abandoned for more thorough water assessments. The program increased its budget for a variety of water sources and reduced the budget for drip kits and accessories.

In 2009, UGP collaborated with the Corvallis Sister City Program and dug a borehole in a Gondar-based school compound. Positive results in both gardening activities as well as the general wellbeing of the schoolchildren led UGP to target more long-term water resources with its budget. In addition, because of improved direct relations with the regional government offices of Benishangul-Gumuz, regional politicians financed and established two wells in Assosa-based community and hospital gardens. UGP's approach shifted and the program started to draw on natural bodies of water such as nearby rivers and lakes, and created the position of Environmental Officer to test water sources and evaluate new wastewater irrigation techniques. In Year 3, UGP's Environmental Officer worked closely with an on-site water expert to assess the water needs of 78 community and school gardens. Under the leadership of the Environmental Officer, the water team identified local resources, budget prospects, and gardeners' priorities to suggest appropriate water sources and conveyance systems.



Drip irrigation lines in a school-based garden site

In part thanks to better water assessments, UGP created 27 hand-dug wells in community and school gardens in Gondar, Bahir Dar, Finote Selam, Debre Markos, Jimma, Woliso, Mojo, Ziway, and Hawassa.

Among the hand-dug wells, 20 were fitted with hand pumps, while the other seven used a rope and washer pump. In addition to hand-dug wells, in Year 3 UGP financed the drilling of five boreholes (30–75m deep), deep enough to penetrate aquifers and the water table thereby virtually guaranteeing water for many years to come.



OVC and women enjoying a newly built community well

Once new wells were dug, water conveyance often became an issue as the program tried to avoid forcing gardeners to carry heavy watering cans long distances. To remedy this, UGP placed large water tankers in community and school gardens to provide a central water storage area for gardeners. The program granted six electric and fuel-powered water pumps to community and school gardens and

distributed 10 hand pumps as well as accessories and fuel. To better store water and decrease the gardeners' workload, we distributed nearly 340 water tankers ranging from 80 to 4,000 liters.

By Year 3, UGP had completely modified its approach to drip kit installation and use. One OAC was appointed to serve as a Drip Kit Trainer. The Drip Kit Trainer was responsible for thoroughly training all OACs and extension officers according to training guidelines in proper drip kit installation. All beneficiaries were provided with a one-page, laminated instruction guide to installation, written in the local Amharic language.

As a result, beneficiaries re-utilized 8,400 drip kits from the first three years that were not properly set up. The new approach also included a monitoring checklist for every extension officer and OAC to make sure beneficiaries were not only setting up the drip kits correctly, but also putting them to proper use. Using clean water, cleaning the kits regularly, and placing a lid on the drip kit bucket were including in the checklist.

By Year 4, UGP's Environmental Officer and OACs had employed more than 40 types of water points, from water harvesting pits to water infiltration galleries where water is stored and filtered in the ground.

RECOMMENDATIONS

- Community and school gardens must be weaned from using municipal water lines that are often difficult to manage, unreliable, and costly.

- Using drip kit irrigation technology is not always the answer. Drip kit technology is expensive and high-tech. Proper assessment, training, management, and use of the technology is necessary since drip kits require technical knowledge of the parts and accessories, which is sometimes seen as too complicated by beneficiaries. Using a more comprehensive training model is an effective way to improve technological uptake.
- Drip kit technology should be promoted in dry areas such as the Great Rift Valley sites and the region of Welo. Highland sites, including Bahir Dar and Jimma, have fewer needs for the technology. Start drip kit installation and training immediately. Use participatory methods to train beneficiaries on the installation and use of drip kits to create ownership.
- The quality of the water also affects the selection of the chosen irrigation method. Heavy silted water is not suitable for drip kit technology because it clogs the lines and eventually damages the drip kit.
- In many cases, wells coupled with tankers and water-harvesting pits remain the best way to achieve water security for community and school gardens. Outfitting gardens with either hand-dug wells or boreholes represents a significant investment and commitment that must be considered for future program design.

1.4 EXPANDED KNOWLEDGE OF ENVIRONMENTAL PRACTICES AND TECHNIQUES

FINDINGS

Poor sanitation presents not only risks but also opportunities especially for urban and peri-urban farmers. In many cases, Ethiopia’s farmers accept the risks of accessing land, water, and resources that are rich in nutrients but possibly contaminated. To assist beneficiaries in assessing these risks, UGP began carefully examining the relationship of agriculture and sanitation.

The environment can greatly compromise urban agriculture, especially in areas where industry, air pollution, and other environmental hazards are common. However, agro-waste and water can often benefit an urban garden at low or no cost. To deliver on waste resources, program staff worked with government environmental protection agencies and USAID to ensure that urban garden sites were safe for beneficiaries to plant, irrigate, and eventually consume crops.

School gardens located near latrines were the most common environmental concern, as flies originating from latrines present health hazards to aboveground vegetables by depositing human waste on leaves and stems.

Ethiopian farmers also face problems of soil erosion, deforestation, and loss of biodiversity. In urban areas, these problems are exacerbated by poorly implemented land and water management practices. Many urban farmers have little knowledge about techniques to mitigate environmental damage. According to the programmatic baseline study, nearly 21 percent of gardeners believed that their source of water for their vegetables was “bad.” However, most gardeners were still willing to use these water sources to irrigate their garden, often unaware that the water quality affects their harvest quality.

ACHIEVEMENTS

Since Year 1, an important component of UGP’s mission was the beautification of unused land in urban areas, which often resulted in accepting easy-to-secure, littered plots of land for beneficiaries. Due to the

high number of garden plots on former dumping grounds, the program had to quickly adapt and sharpen its environmental management approach from the start of implementation.

In the first year of UGP, the program hired an outside expert to help it create the first edition of the Initial Environmental Examination (IEE) methodology to better identify and select water and land resources. Following the recommendations of the IEE, UGP created the position of Environmental Officer. The Environmental Officer's first task was to develop an environmental monitoring checklist for garden visits and the Environment Mitigation and Monitoring Plan (EMMP), a comprehensive approach to land and water management. The gardeners and extension officers worked together to create the plan to address potential contamination issues.

Following the creation of the plan, program staff collected an EMMP for every garden site and launched a campaign with beneficiaries to take care of their sites by keeping them free of litter and the water safe from contaminants. In Year 3, the Environmental Resource Advisor created the first amendment to the IEE, establishing a clear methodology to well and water supply system development.

By implementing and utilizing mitigation measures, beneficiaries could still convert former dumping sites and water sources with low levels of contamination into safe garden plots and support access to safe water. For program staff, the environmental issues created an opportunity to make environmental management a teachable moment for beneficiaries. Gardeners were more willing to adopt environmental mitigations measures after seeing evidence that the quality of their produce was reduced when planted in contaminated soils or irrigated with polluted water.

If a garden or water source did not pass a physical examination, the soil or water was sent to a laboratory to be tested for fertility status and potential contaminants. In Years 3 and 4, the program management denied six gardens due to contamination problems that required too much work for remediation. In the same period, 12 gardens were found to be marginally suitable for gardening due to extreme soil erosion, but remedial measures were taken and the gardens continued and are currently in use.

Also in the same period, staff tested 38 water sources from newly constructed wells and nearby rivers. Some wells proved to be suitable for gardening but not for human consumption. In cases where wells were contaminated, program staff placed not-potable signs around these wells. As a result, gardeners abandoned several wastewater sources thanks to laboratory testing.

To address school gardens situated near latrines, UGP encouraged school committees to move the garden away from latrines whenever possible. In other cases, program staff and gardeners planted border shrubbery like elephant grass and sesbania trees between the latrine and the garden. These plants provide a natural line of defense against latrine flies. Finally, as a last resort, student gardeners planted tubers and root vegetables, such as carrots and onions, instead of leafy vegetables prone to the flies.

To promote effective water management, program staff provided training on effective use of household wastewater for garden irrigation by sorting and filtrating. Using hand-washing water for garden watering promotes water conservation while supplementing gardens in water scarce areas. Some gardeners adopted the new technology and program staff trained four OACs and 14 extension officers on collecting, sorting, and reusing household gray water for micro-gardening.

In Year 4, the Environment Resource Advisor added another amendment to the IEE that promoted the use of alternative water supply systems and conservation methods. In the same year, the program published and distributed its *School Garden OVC-Friendly Handbook* that includes a section about environmental

protection in the school compound. To build training continuity, program staff frequently integrated environmental groups into the school committee linked to the school garden. Environmental groups assisted program staff and implementing partners in supporting environmental mitigation plans, advocating for a cleaner work environment and gardens that are more sanitary.

Finally, the urban agriculture policy with the Addis Ababa city government—that UGP helped incubate— included an entire section on environmental considerations.

RECOMMENDATIONS

- Through training and awareness, gardeners must be aware that the quality of their harvest is directly related to the quality of soil and water being used for irrigation. The quality of the vegetables then determines their price and the ultimate benefit of the garden. In addition, involving gardeners directly with remedial measures creates garden ownership and practical knowledge for the future.
- Program experience that reveals participatory learning is more effective and fosters better community and individual ownership. By incorporating all stakeholders (UGP staff, OACs, extension officers, and beneficiaries) in the environmental management process, gardeners are more inclined to understand the process and be prepared to identify any potential risks.
- Urban gardening interventions should continue to target dumping areas for potential gardens. In our experience, these sites are not always contaminated beyond usefulness and present fewer difficulties in terms of land acquisition. The dumping areas present an opportunity to reclaim neglected land and transform it into a resource of food and income security for the community.
- Within the framework of the program’s environmental management methodology, beneficiaries should be reminded that recovering water, nutrients, and energy from otherwise wasted resources is a priority in urban areas where resources for agricultural production are already limited.
- Looking beyond household waste—to sources such as agro-industrial waste products—offers an alternative stream of highly valuable resources for crop production. The productive reuse of waste resources should be considered a crucial and lasting service to the local ecosystem and a compelling way to involve the citizenry in proper environmental management.

From Scraps to Seedlings

USAID UGP Mentor turns a garbage dump into a successful garden and supports his family

Sometimes when Samson Aberra is working in the garden, planting seedlings or replenishing his nursery, onlookers gather to watch him toil. What they don't know is that Samson Aberra is not "toiling"—he's barely working. In fact, he is doing what he loves: gardening.

Samson's garden lies next to the main highway running through the Ethiopian highland town of Dessie, located in the northeast of the country. The garden forms a triangle between the main road and a contaminated stream that meanders through the city in its journey to the low lying plains below.

In 2009, the same land was ankle deep in plastic bags and bottles, worn out shoes and dead animals. Samson wondered why the city would allow the eyesore, not to mention the waste of land.

Samson acted on his longing and joined USAID UGP through local implementing partner Netsebrak. They trained him in urban agriculture and gave him productive gardening skills in soil fertility, plant management and irrigation methods. He approached the kebele, or neighborhood association, and described his vision to clean the land and plant vegetables.

Samson came a long way to get his hands on a 300 square meter garbage dump. He was born in the port town of Asmara, the capital city of Eritrea. His father was a soldier for the communist government and his mother ran a small restaurant out of their living room.

When the Derg ended its rule in 1991, his family faced a crisis, and 11 year old Samson landed in Dessie, where he cobbled together a shine box and polished shoes. Balancing the tight tope of survival, he was able to gain a 9th grade education.

His mother died ten years later the same period his father was tested positive for HIV/AIDS. Samson was expected to take care of his five brothers and sisters and his sick father on an unsteady income of 5 birr (40 cents) a day.

"Life was up and down," he says casually with a half smile.

Throughout 2010, Samson irrigated his garden from the contaminated river. He noticed the quality of his vegetables did not stack up to other products in the market. With his earnings he installed a municipal water line direct to his garden, bringing fresher better highland water to his urban garden. Every month he pays 10 birr for the water and now has a product he can really be proud of.

"Consumers need quality vegetables. It was an easy decision to make," he says.

Samson grows a variety of vegetables as well as ornamental plants, which he sells in the market. He has embraced everything USAID UGP has to offer including, fruit trees, compost piles and nurseries. Like a garden pro, he plans successive plantings and seedlings quietly wait their turn in his nursery.

Every month his garden earns him some 2,500 birr (\$150 USD) and allows him to support five siblings as well as his bedridden father.

In mid 2010, the kebele administrators awarded Samson recognition for the "beautification of the neighborhood" making an example out his efforts to transform wasteland into sustainable land.

Two of his fans have since hired Samson to come to their homes and build similar urban gardens. With the increase in work, he took on two more gardeners whom he pays a monthly salary of 300 birr.

"My interest in not only making money, but sharing my knowledge and skills in gardening. It's so practical," he says. In early 2011, Samson got married and went back to the ninth grade to finish his education. His dream is to be an agricultural engineer.

1.5 STRENGTHENED QUALITY AND MANAGEMENT OF SCHOOL GARDENS

FINDINGS

At one point in Ethiopia’s history, the formal education system included a comprehensive agricultural component to train schoolchildren on improved agricultural practices. Over time, this approach was no longer included in the standard curriculum, creating a large gap in generational knowledge transfer.

Today, many universities have improved their agriculture departments, but only a small percentage of Ethiopians have access to tertiary education. In primary and secondary schools, agricultural training is



A micro-gardening contest winner from Addis Ababa, Ethiopia (2011)

still not included in the standard curriculum. The school gardening approach presented UGP with an opportunity to fill a much needed gap in the education of urban school children while simultaneously reaching orphans and vulnerable children. Not only did this encourage a new form of knowledge transfer but also it provided OVC beneficiaries with a reliable and sustainable garden plot.

In the beginning, school gardens took many forms and employed many operating methods, each depending on what school principals would allow and provide. Some school gardens allowed the beneficiary’s caretaker to garden side-by-side with the child, while other schools took a more didactic approach and used the school gardens as a demonstration area for biology and other science courses. UGP also incorporated this “walk and talk” methodology to improve knowledge transfer and train on other critical topics, including health, nutrition, and marketing of surplus vegetables. A group savings and loan approach was also introduced and some OVC savings and loan funds solely existed to pay school, uniforms, and materials fees while other OVC groups had the freedom to spend their money on whatever they choose.

In the latter two years, improved relationships with school leaders allowed for the standardization of garden management through school committees—composed of school administration, teachers, and community members. The emphasis on five-member school committees incorporated the wider community and built ownership within the gardens. Thanks to these school committees, school gardens flourished and thousands of economically disadvantaged students benefitted.

ACHIEVEMENTS

UGP’s school gardens provided value to OVC on a variety of levels. In addition to a providing a source of income and vegetables for household consumption, school gardeners experienced an increase in social status, self-esteem, and general wellbeing. Because adolescents are especially vulnerable to the negative effects of discrimination and stigma associated with poverty, gardening allowed students to show their peers their ability to create something, follow through, and start their own enterprise. Increased social benefits also contributed to the gardener’s commitment to stay in school and continue his or her education.

According to results from an analysis of school gardens carried out by Tufts University (detailed in the monitoring and evaluation section of this report), social benefits proved to experience the highest degree of transformation in comparison with financial and nutritional benefits.

“I value self-confidence most. If you do not have confidence on yourself, you won’t be successful. If you are confident on yourself, you will be successful.”

—A student gardener from Bahir Dar interviewed for the Tufts University study

In the first two years of implementation, school gardens reached more than 44,000 OVC directly and indirectly. The program exceeded its target by more than 2,000 OVC due to successful expansion and the promotion of micro gardening among student gardeners.

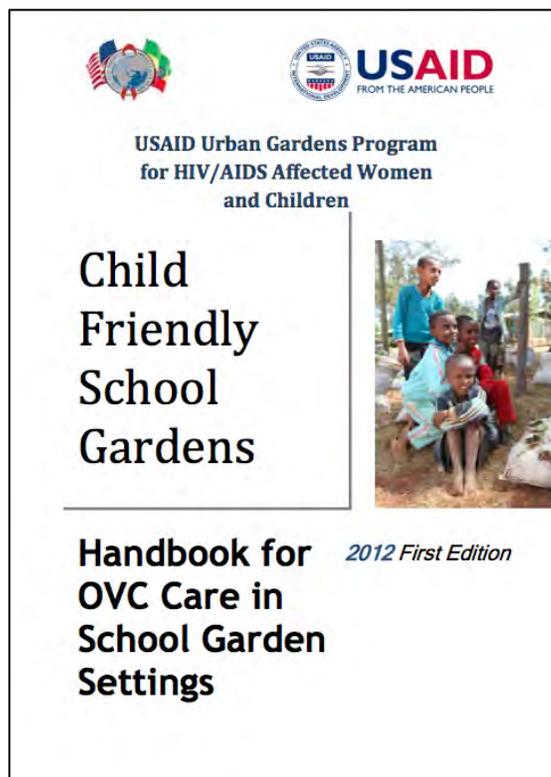
In the beginning of Year 3, UGP created the position of OVC School Advisor to strengthen the program’s approach to the implementation of school gardens and the creation of school committees. Thanks to the strengthened school committees, in Year 3, the program reached an additional 25,000 OVC and became more engaged with school leaders, administrators, and local government officials.

School committees helped program staff follow up on gardening activities, create clubs, run OVC savings and loan groups and lead discussion groups among the students. Thanks to the OVC School Advisor’s involvement, OACs and extension officers worked harder to improve OVC service standards and strategies to improve the overall impact of urban agriculture in schoolyards. In addition, the OVC School Advisor assisted extension officers and school committees in creating a summer vacation plan, allowing gardeners to continue harvesting crops throughout the break. Student gardeners maintained their garden plots throughout the holidays and school committees became more engaged with urban agricultural approaches and the success of their target beneficiaries.

At the same time, UGP began providing orientation on OVC service provision for OACs and extension officers throughout the country. Orientation emphasized garden safety, cleanliness, labor-related activities, and child protection.

In the same year, the program unveiled the successful *Micro Garden Contest: Innovation in Small Spaces* among student gardeners. Beneficiaries created teams and planted their own micro gardens in the school compounds. After two months, the teams were judged on creativity, production, and school spirit and honored at a public event widely attended by government officials and community members. A total of 3,910 OVC from 89 schools participated in the 2011 contest. Program staff distributed over 27,000 grows bags but also encouraged the gardeners to find containers and other means of creating micro gardens. The purpose behind the event was to empower OVC gardeners to recognize micro gardening as a viable option for crop production as well as to further integrate OVC gardeners with the school community, leaders, and peers. The contest was held again in 2012 with similar levels of participation.

The Urban Gardens Program added 100 additional school-based gardens in Year 4. Thanks to progress from the

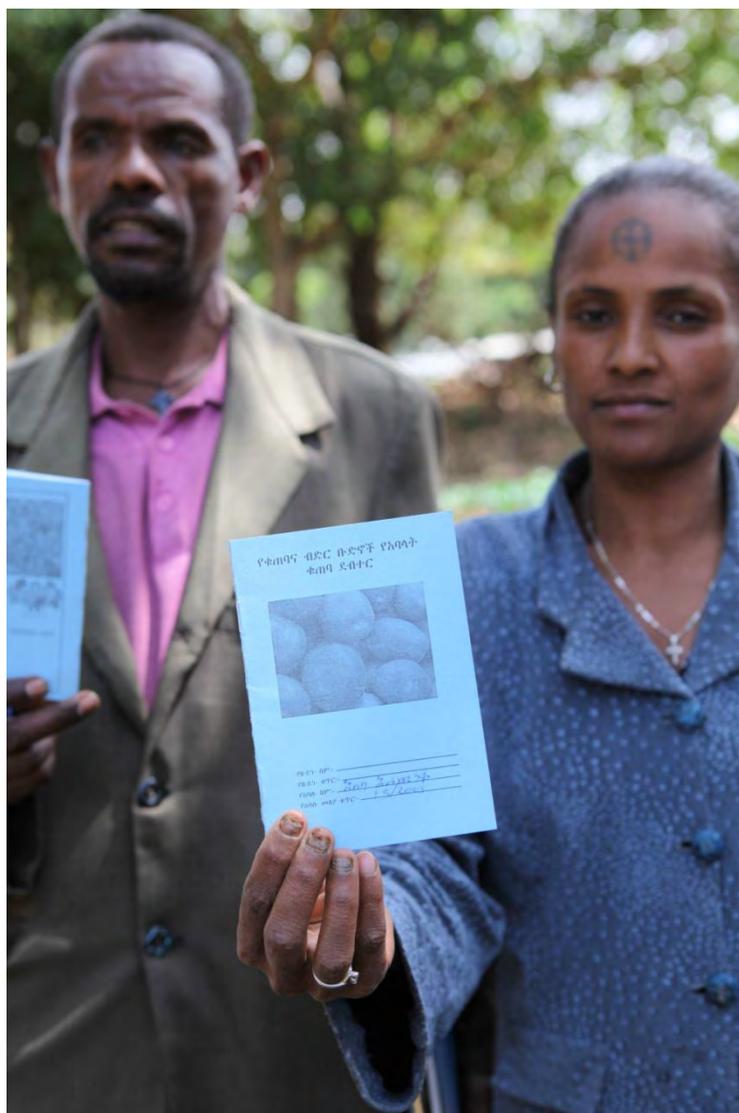


previous year, beneficiaries enjoyed access to school grounds during the holidays. Seventy-seven new school committees were formed throughout the country within 111 newly created school gardens. Each school committee was responsible for replacing drop-out gardeners, mobilizing gardeners for activities such as harvest and post-harvest activities, monitoring saving and loan accounts, encouraging links to other services, and assisting with procurement of in-kind support from schools and municipal government partners.

In early 2012, program staff provided comprehensive training for OACs and extension officers on OVC care and support. To accompany the training, UGP published and distributed the OVC school-friendly handbook (shown on the previous page).

RECOMMENDATIONS

- Due to the time-sensitive nature of school gardens, a longer intervention period would greatly benefit student beneficiaries. Since most gardeners had never participated in gardening or agriculture, a two-year project intervention with the garden plot would produce more confidence and commitment to the garden.
- At the earliest phase of engagements with schools, securing a water source and costing plan for municipal water must be established through a clear policy.
- School-based urban agriculture interventions should work closely with the Ministry of Education to include agriculture and farming in the school's curriculum and allow teachers to use a garden plot as a field laboratory.
- OVC without caretakers should be assigned a mentor who will assist the young gardener in planting, irrigating, harvest, and post-harvest activities.



Two GSLA members show off their savings books provided by the Urban Gardens Program

2.1 IMPROVED ACCESS TO GROUP SAVINGS AND LOAN ASSOCIATIONS AND INCREASE FINANCIAL LITERACY

FINDINGS

In Ethiopia, the ultra-poor, especially women, often lack access to financial services. As a result, the urban poor, including UGP beneficiaries, are more exposed to economic shocks and vulnerable to losing their household safety net. During the first iteration of the Urban Gardens Program (2006–2009), implementing partners and beneficiaries employed a variety of models according to the knowledge and experience of program partners. Some partners encouraged savings and lending activities, other implementing partners linked beneficiaries to microfinance institutions. Overall, there was no clear strategy to improve financial access. According to an assessment conducted in 2010, 44 percent of gardeners were members of savings and loan groups, while 42 percent of the members joined groups organized by the Urban Gardens Program. A total of 38 percent of the respondents were also members of savings and loan groups organized by other nongovernmental organizations (NGOs).

Many implementing partners linked program beneficiaries to savings and loan programs supported by other donors. As a result, with no definitive training or support from the Urban Gardens Program, some gardeners were members of savings and loan schemes and others were not. Many implementing partners viewed the implementation of a functional savings group as extra work in addition to garden preparation, capacity training, and setting up discussion groups.

In the first year, this iteration of UGP followed the methodology already in place from the previous program and left the savings and loan component up to individual implementing partners and the commitment of the OAC. Over the course of the first year, the program management concluded that the ground was fertile for savings and loan schemes since community and school gardeners were already close and had reached a basic level of trust, central to forming a group savings and loan association (GSLA).

ACHIEVEMENTS

In May 2010, UGP created the position of Finance and Enterprise Specialist to standardize and strengthen the program’s savings and loan methodology and to provide close technical support for implementing partners and OACs.

After visits to the field, the Finance and Enterprise Specialist confirmed that beneficiaries were perfect candidates for group savings and loan activities. Together with a DAI home office technical expert, program staff designed a GSLA methodology that encourages groups of 20 to 30 self-selected gardeners to mobilize internal financial resources as savings in a cashbox under the management of a committee formed within the group.

Despite available microfinance institutions throughout Ethiopian cities, beneficiaries preferred to deposit their money in a cashbox knowing they have easier withdrawal and loan access than they may have with banks and formal financial institutions. Building on the already existing discussion groups in community and school gardens, UGP staff and implementing partners retrained



GSLA meeting in Bahir Dar, Ethiopia

the existing savings and loan groups with the new standard GSLA methodology and added new groups to the total.

Each GSLA created a management committee, developed their own bylaws, had a lockable cashbox, and recorded deposits and withdrawals in savings passbooks provided by the program. Once the GSLA mobilized enough money, some groups opened a savings account in local microfinance institution under the belief that access to these institutions will facilitate linkages to advance the fund and access other financial services.

In September 2010, staff issued program-wide guidelines for implementing a successful GSLA and distributed the document in English and Amharic to OACs and extension officers. A month later, program staff trained all OACs and extension officers on GSLA and provided tool kits (cashbox, passbooks) to every garden group GSLA. Implementing partners launched the standardized methodology between October 2010 and February 2011. Due to the model's success, more and more beneficiaries wanted to start saving in a GSLA. The number of GSLA grew from under 200 in 2010 to 368 in 2011.

Similarly, many implementing partners also began to adopt and replicate the GSLA methodology. An Addis Ababa-based high school incorporated the methodology into the school's general education curriculum and gave all students a chance to start their own GSLA. Furthermore, in 2011, Gondar city government replicated the GSLA model in a local development program.

In Year 3, the program created the position of community mobilizer among its implementing partners. The community mobilizer was responsible for organizing discussion groups as well as GSLAs. By the end of Year 3, GSLA participation increased from 6,900 beneficiaries to nearly 8,200 and the group savings increased from 207,900 birr to 350,250 birr. In the first three years, the program facilitated the start of 368 GSLA. The GSLA component had a positive impact on the gardeners' enthusiasm and allowed gardening groups to support water bills, the cost of seeds, and other agricultural inputs. OVC benefitted from the GSLA scheme in that successful savers could use the savings deposits later to pay for school materials and fees.

In Year 4, the program produced the second edition of its GSLA guidelines and gave several refresher training sessions on GSLA to OACs and extension officers. This shift in focus resulted in successfully linking 51 GSLA groups to local microfinance institutions.

RECOMMENDATIONS

- Garden activities often start late, sometimes six months after the proposed starting date. Gardeners cannot start saving money until they start making money and the GSLA methodology is designed to give every member his or her share at the end of 12 months. In some instances, GSLA groups lost momentum due to the shorter intervention periods that hinged upon garden activities. A longer program intervention would benefit GSLA groups.

2.2 IMPROVED UNDERSTANDING OF MARKET DYNAMICS AND RECOGNITION

FINDINGS

Ethiopia is a country in which more than 75 percent of the national economy is based on farming and agriculture. The majority are subsistence farmers rather than mid-size to large-scale agriculturalists. Where many farmers living in rural areas rely on trips to weekly markets to sell their goods, urban

dwellers have the advantage of living near markets, outlets, and can access thousands of potential customers.

One gardener said that 10 years ago nobody would think about buying a product from a person who was open about living with HIV/AIDS. Today, Ethiopians have achieved a heightened state of awareness about the HIV virus and its modes of infection. Doing business with PLWHA is not only accepted as normal, but many communities have begun to rally around PLWHA groups, showing them support by buying their produce and products.

Despite lower levels of stigma and discrimination against PLWHA, UGP discovered a weak level of marketing skills among gardeners and local governments and NGOs. Program staff observed that most Ethiopian gardeners lacked basic marketing capabilities, including market research to assess demands, the ability to identify buyers and understand the competition, marketing and promotional material to gain access to new buyers especially through intelligent branding, and creating synergies with other organizations, NGOs and the private sector to increase sales and secure a customer base.

The Ethiopian government has been successful in providing marketing and basic business development strategy training for PLWHA groups engaged in urban farming or other types of businesses. By linking group gardens to city-sponsored business development training, garden groups could improve the knowledge and skills of gardeners thus giving them a better chance of getting a spot in local marketplace or participate in citywide field fares to market their produce.

According to program baseline analysis, gardeners' median monthly salary was 300 birr. The assessment also revealed that more than 40 percent of gardeners also worked as daily laborers to supplement their income. Another 31 percent of gardeners ran their own small business and only 5 percent of gardeners relied solely on their gardens as a form of income. In terms of marketing their products, more than 90 percent of gardeners believed they could find a market to sell the produce from their gardens.

For the first two years of the program, the business development approach of the programs focused on solely on participating in local field fairs and market days.

ACHIEVEMENTS

In May 2010, the program introduced the position of Finance and Enterprise Specialist to increase marketing knowledge and market access for community and school gardens as well as provide close technical support for implementing partners and OACs. Following Year 1's success with field fairs, staff continued to promote the participation in regional trade fairs, as they are important instruments to create business relationships with input suppliers, processors, value-added actors, local government officials, and consumers. In addition, regional trade fairs increased the visibility of the USAID program. Gardeners also organized their own field fairs on a smaller level, to showcase their gardens to members of the community.

The Finance and Enterprise Specialist began to test innovative ways of bringing updated market information to gardeners. The program devised a plan to put information boards at each community



A market information board in a community garden

and school garden to post updated market information on the price of vegetables in selected markets in the area. Following on the new approach to increase market opportunities, program staff created a series of marketing and basic business skills guidelines and skills training for gardeners. In Year 3, more than 250 gardeners received the training, which encouraged the establishment of marketing groups following a microenterprise model.

To strengthen the marketing groups, the program had significant success in linking group and school gardens with hotels, supermarkets, and other businesses to deliver their produce and other products. In Year 3, the Finance and Enterprise Specialist assessed Ethiopia's small enterprise laws and the gardeners' success in marketing their products. This resulted in a new approach to organize selected gardeners in vegetable marketing groups to capitalize on their experience, share risk, and provide enough quality and quantity produce to meet market demand. Selection criteria included the availability of surplus marketable products, market opportunities, members' commitment and solidarity, technical support from the implementing partner as well as support from other stakeholders in the area. The majority of the groups formed small enterprise business models while only a few groups formed under cooperative business models.

The program created eight vegetable marketing groups in Year 3 and provided technical and financial support. Program staff first assisted the group in creating a business plan, bylaws, and leadership positions. Financially, UGP provided a grant for the construction of a market stall as well as for the purchase of scales, shelving, refrigerator, furniture, and materials for record keeping. In addition to the eight vegetable marketing groups, staff trained and equipped four more groups with government-approved legal certificates to start their own vegetable production marketing activities. In 2012, the program organized, trained, and equipped three more vegetable marketing groups to obtain legal status as microenterprises and begin marketing their products in their cities.



Vegetable Sales on a Bicycle. The Woramit Hawaria OVC group garden has differentiated its marketing and customer service by delivering vegetables door-to-door on a bicycle. The peri-urban garden is located 10km from Bahir Dar center and the bicycle connects the garden to the market at a lower price than a taxi.

RECOMMENDATIONS

- Building a sustainable marketing capacity for urban gardeners interested in small and micro enterprises within Ethiopia's business structure is a long-term endeavor that requires fundamental support through government policy as well as local culture and practices.
- Market development, production, and market integration can be constrained by a lack of capital and long-term investment gaps in the business. Although demand for vegetables is high and continues to grow, improved production, marketing, and organizational leadership require different techniques, approaches, and service delivery.
- Developing entrepreneurial thinking across the program, among gardeners as well as staff is crucial for future success of garden cooperatives.

2.3 IMPROVED AGRICULTURE TECHNIQUES THROUGH BACKYARD POULTRY PRODUCTION PROGRAM

FINDINGS

The urban poor often turn to poultry and livestock husbandry to supplement their income as day laborers and to increase their food security. By raising chickens at home, the urban poor gain access to a high-protein food source, but more importantly gain control over where their food comes from and what goes into it. UGP beneficiaries who grew up with chickens are prone to adopting traditional methods of feeding and rearing poultry, which result in less-productive chickens.

A strong training methodology that incorporates productive behavior change can make urban farmers see that the Backyard Poultry Program requires commitment and a significant initial investment. In addition, chickens are easy to manage and can provide high-value protein without a significant amount of labor.

Proponents of urban agriculture maintain that birds raised on a small scale are less likely to carry diseases than factory-farmed poultry, although some public health officials are concerned that backyard chickens could elevate disease risks that can be transmitted from birds to humans.

The program started the Backyard Poultry Program in Year 1. To qualify for the program, gardeners and OVC had to first construct chicken coops at their homes meeting quality standards in ventilation, space, and heat as well as human health parameters to protect each gardener. Six chickens were granted to gardeners and OVC meeting these minimum standards. To transfer knowledge, program managers hired local experts in chicken farming to give beneficiaries a half-day training on poultry production.

In the first year, the program distributed 1,440 chickens and more than 13,000 kilograms of chicken feed. Year 1 participants received an exotic chicken breed known as White Leghorn. Due to the breed's incompatibility with its surroundings, the majority of the animals distributed to Year 1 beneficiaries fell victim to disease. Further, many beneficiaries often complained that white chickens were easier to hunt for predators, thus leading to a higher death rate.

After a thorough review of available breeds, the program adjusted the breed of chicken in the second year and began distributing Bovans Brown chickens to beneficiaries; Bovans Brown chickens are highly regarded to their high adaptability to local conditions. That year, the program provided 1,280 gardeners two days of training on chickens, distributed 7,440 chickens, and provided vaccinations and 6,200 kilograms of feed (significantly less feed than distributed to the first-year beneficiaries).

ACHIEVEMENTS

Once gardeners were selected and trained, implementing partners and vendors coordinated the distribution of the animals. In Year 3, program staff and partners also invited local government representatives to the day of distribution to ensure transparency and improve official linkages with the USAID Urban Gardens Program. In Years 3 and 4, staff trained nearly 5,000 beneficiaries in poultry production, and some 4,600 gardeners and OVC began poultry-raising activities.

Entering into Year 4, the program provided another 2,600 chickens and 228 quintals of feed. In collaboration with Retrack Ethiopian, the program provided an additional 50 chickens, 25 quintals of feed, and training.



A young beneficiary showing off his healthy chicken and the coop he created with UGP support

In Year 3, the program managers hired a livestock expert and redesigned the poultry production training methodology. The expert also updated the program's criteria for beneficiary targeting, placing a special emphasis on the beneficiary's economic status and ability to properly feed and care for chickens. The new approach placed more responsibility on OACs and extension officers who received two years of consecutive training in both practical and theoretical material. The extension officers then trained beneficiaries in groups of 30 and incorporated poultry production and its relationship to environmental and public health into the community and school garden discussion groups.

In many cases, OVC gardeners were more successful with poultry production than adult gardeners were because OVC had little or no exposure to poultry rearing techniques and harvesting eggs. The OVC took the training and followed care and practice closely, while adult gardeners often reverted to traditional methods of feeding and caring for poultry. In addition, the OVC typically devoted more time to their animals than adult gardeners did.

The Backyard Poultry Program confers a higher level of responsibility toward livestock on participants, resulting in an improved work ethic. The program also strengthens social bonds among other chicken farmers and the community at large. In addition, gardeners were responsible for keeping chicken coops clean and healthy and for taking the chickens to district animal clinics for vaccinations and treatment.

From egg sales, many OVC gardeners purchased school uniforms and materials and could contribute to household expenditures.

RECOMMENDATIONS

- Poultry rearing must follow a focused beneficiary targeting methodology aligned to the livelihoods pathway before distributing chickens.

- Thorough monitoring of beneficiaries is essential for program staff in order to ensure that chickens are properly fed and taken care of, ultimately resulting in greater production.
- In some cases, small ruminants might be a better option—vaccines are locally produced, less expensive, and do not consume grains, making them easier to feed.
- When training beneficiaries on poultry rearing, it is critical to include local poultry farmers and take beneficiaries to the poultry farm to have more hands-on training. Experience sharing among gardeners is crucial to empowering gardeners to succeed in poultry production.

3.1 STRENGTHENED AND EXPAND GARDEN HEALTH REFERRAL NETWORKS

FINDINGS

In accordance with PEPFAR requirements, the first iteration of the Urban Gardens Program partnered with FHI360 to cover the community health component of the program. FHI360 was also responsible for the program’s monitoring and evaluation and data collection. In 2009, when UGP started its second phase, the program created the position of the health integration officer to provide staff and beneficiaries with a higher awareness of access to a health service referral and linkage network as well as nutritional information to complement the ongoing consumption of vegetables.

Outside of the FHI360 partnership and the seconded health integration officer, the program’s core staff came from an agricultural background with little experience in HIV/AIDS care and prevention. However, many of the OACs had worked on the first phase of the program and therefore had experience working with HIV/AIDS-affected communities. The responsibility of providing beneficiaries with referrals and linkages to local health services fell into the hands of core partner FHI360 as well as the implementing partners that were chosen due to their work with HIV/AIDS populations.

As OACs and implementing partners worked with gardeners in both technical aspects of gardening and HIV/AIDS care and prevention, they realized that further support was needed to better serve the gardeners’ health referral needs. FHI360 and the newly hired health integration officer began by creating a strategy to bring basic knowledge of HIV/AIDS services to the gardeners. Program beneficiaries—many of whom are HIV positive—already had some knowledge of HIV services offered in their areas thanks to local associations, local media outlets, and government agencies. According to baseline analysis, nearly 50 percent of the beneficiaries already knew of at least three methods of HIV prevention, however only 9 percent of the beneficiaries had comprehensive knowledge about HIV/AIDS.

At least 57 percent of the beneficiaries had received informational material about HIV/AIDS care and prevention the six months before the baseline survey, the largest source being local media outlets. Knowing this, the program built on the existing HIV/AIDS comprehension of its beneficiaries and used school and community gardens as a distribution point for HIV-related messages.

Beneficiaries are not required to disclose their HIV status; in the baseline assessment, it was reported that nearly 62 percent of beneficiaries had been tested for HIV at least once in their lives, while 50 percent of all beneficiaries were tested in the previous six months.

ACHIEVEMENTS

In Year 1, UGP took the first step toward establishing a referral and health linkage system among beneficiaries and local health providers—including governmental organizations, local and international NGOs, and other associations. The following year, the program hosted various meetings and training for its implementing partners including implementing partner directors, extension officers, and the newly created community mobilizers.

In the beginning, program managers recruited health professionals to visit community and school gardens and give beneficiaries short training, lectures, and written material about HIV/AIDS prevention, care and services, and nutritional training. This method, after quickly proving costly and ineffective, was phased out in Year 1.

UGP continued to focus on streamlining a health referral system for beneficiaries while the health integration officer, OACs, and extension officers spearheaded the implementation of a series of weekly group discussions (Component 3.2). Seeing the garden as more than just a place of work, gardeners met weekly or twice monthly to discuss their health, share experiences, and support one another. The discussion groups were intended to supplement the health referral system and provide beneficiaries with a platform from which to speak and share information.

In early 2011, the program distributed a referral guideline to OACs and extension officers to ease the task of steering beneficiaries to better HIV/AIDS care and service provision. As a result, nearly 4,000 gardeners were referred to HIV/AIDS services in Year 3; 88 percent of those referrals resulted in service provided. In an attempt to provide comprehensive services, implementing partners were encouraged to prioritize their own services for beneficiaries in addition to referring the services of other providers in the area.

In the first half of 2012, 294 student gardeners (OVC) were referred for psychosocial support while nearly 460 received referrals for healthcare services. In addition to the implementing partner's services, the program tasked community mobilizers with establishing a resource map of each operational area that could link beneficiaries to HIV/AIDS service providers. In this capacity, the community mobilizers played a key role in researching and gathering information to create *The Urban Gardens Program Service Directory*, which was published in mid-2011.

The service directory booklet encourages referrals, resource mobilization, and experience sharing in the realm of health, nutrition, and, especially, HIV/AIDS. Putting the directory in the hands of beneficiaries increased their confidence to use social services in their community while encouraging family and friends to do the same. Putting the directory in the hands of extension officers and OACs provided yet another tool to better service the needs of beneficiaries.

RECOMMENDATIONS

- In lessons learned from the first iteration of UGP, staff realized that more education in HIV/AIDS, nutrition, and basic services lead to improved health and eventually to an improved experience in the garden.
- Discussion groups should place a more concentrated focus on HIV/AIDS, but also include topics such as hygiene and nutrition.

- Future community garden interventions may want to integrate an HIV-testing component within community and school garden groups via mobile testing or community based voluntary counseling and testing services with other local organizations.

3.2 IMPROVED HEALTH AND NUTRITIONAL EDUCATION OPPORTUNITIES

FINDINGS

The poor nutritional status of children and women has been a serious problem in Ethiopia for many years. In the last decade, the health sector has increased its efforts to enhance good nutritional practices through health education, treatment of extremely malnourished children, and provision of micronutrients to the most vulnerable group of the population—mothers and children.

Nationally, 44 percent of children under age five are stunted, and 21 percent of children are severely stunted, according to the Ethiopia Demographic and Health Survey (2011). The majority of gardeners are either mothers or caretakers and mainly feed their children grains. Rarely do mothers from lower economic classes feed their children fruits and vegetables rich in vitamin A or foods made from roots and tubers.

Ethiopia’s education curriculum does not include comprehensive information about nutrition and the body’s relationship to vitamins and minerals. Through community and school gardens, the program strived to fill gaps in the relationship between agriculture and nutrition by providing beneficiaries with information that their parents and grandparents once considered general knowledge.

Agricultural researchers accept that a general increase, both calorically and in micronutrient intake, takes place among urban gardeners/farmers. However, studies often caution against assuming that significant nutritional impacts occur simply through the introduction of a vegetable garden. By partnering with FHI360 at implementation, the program intended to provide additional training in nutrition and health as it relates to vegetable farming to complement technical knowledge and acquired farming skills.

According to the mid-term assessment conducted by Tufts University, Year 1 and 2 beneficiaries experienced increases in both the amount of food consumed as well as dietary diversity. To capitalize on the increase in consumption, program staff and partners implemented a series of practices to complement harvesting vegetables.

According to baseline analysis, nearly 20 percent of the beneficiaries said they consume vegetables from their gardens, and 55 percent of the beneficiaries had received information about nutrition during the previous six months. The majority of gardeners reported they heard something about nutrition through extension workers, followed by their group mentor and the local health clinic. At least 50 percent of those interviewed said they had eaten kale within the last 24 hours.

ACHIEVEMENTS

The integration of health and gardening was introduced in the first year through health referrals from implementing partners and through group discussions. The health integration officer and the extension officers worked together to begin implementation of discussion groups and provided beneficiaries with topics covering HIV/AIDS, nutrition, hygiene, gender, and the relationship between antiretroviral therapy, nutritional intake, and HIV/AIDS. The group discussion not only uncovered original topics among gardeners but also took advantage of gardeners’ existing knowledge. For instance, Cooking with beetroot

leaves was unheard of in Debre Markos until recently when gardeners learned that these leaves can be used in the same way as Swiss chard. Today, many gardeners use the whole beetroot and know the leaves have high nutritional value (see the textbox that follows this section).

In October 2010, the program established 420 discussion groups throughout the community and school gardens. By the end of the fiscal year (September 2011), 391 of those groups were still meeting, meaning that 93 percent of the groups established were still functional after 12 months.

In the same year (fiscal year 2011), 13,000 gardeners participated in at least one group discussion. Successful discussion groups contributed to high gardener commitment to planting vegetables and to continuing to garden after graduation.

In the final year, program staff distributed handbooks for both participants and facilitators. The participant's handbook was printed in Amharic. The guidebook is meant to assist facilitators steer discussions by providing topics for gardeners.

UGP also partnered with other organizations to strengthen the quality of health and nutritional education opportunities. Based on the established linkage with Infant Young Children Nutrition (IYCN), the partnership provided extension officers and OACs with training on nutrition and health, to give staff members the tools to better link gardeners to health/nutritional services. The IYCN training covered basic health and nutritional as well as HIV/AIDS, hygiene, and food preparation skills. All extension officers in the training returned to their community and school gardens to share the information with gardeners through group discussions. Other partnerships included other organizations like the World Food Programme, John Hopkins University, and the U.S. Peace Corps. Each one of these partnerships emphasized identifying gaps as outlined by the program's health integration officer. In the end, the partnerships were created to help beneficiaries learn about the advantages of vegetable consumption.

Thanks to these types of trainings, 3,327 beneficiaries participated in nutrition-related discussions in the first half of Year 4. In addition, extension officers and garden leaders conducted 141 training sessions on food preparation and preservation in the same period.

RECOMMENDATIONS

- Continue to integrate health and nutrition training into already existing group discussion opportunities

Nutrition Classes Bring Young Gardeners Healthier Habits in Debre Markos

USAID UGP partners with US Peace Corps to offer nutritional skills training to orphans and vulnerable children

The residents of Debre Markos did not know that they could eat the leaves of the beetroot until recently. While beetroot is a popular dish throughout the country, Ethiopians usually discard the top of the beetroot, the same way they do with carrots. Thanks to nutrition-based classes offered by USAID Urban Gardens Program in conjunction with the US Peace Corps, hundreds of young gardeners now have a better understanding about the nutritional value of the vegetables grown in their gardens.

In January 2011, USAID Urban Gardens Program and the US Peace Corps began offering nutritional classes that promote new ideas like beetroot leaf preparation as well as other nutritional insights. The partnership aims to tackle of the lack of nutritional awareness in Ethiopia, especially at a grade school level.

“It has been a growing relationship,” says Veronica Triana, Peace Corps volunteer between October 2009 and October 2011. “Peace Corps programs are focused on three major areas: health, education and environment. We believe that the Urban Gardens Program fits into all three of those.”

After establishing a working relationship with area coordinator Getachew Fente, Veronica began offering classes, in Amharic, in January 2011. After selecting some of the lessons from the Food and Agriculture Organization’s School Garden manual, Veronica taught an afterschool class to all USAID UGP gardeners at four schools.

“We begin by talking about what they eat, which is usually injera and shiro wot, or local bread and chickpea puree. We play a blindfold game and smell and taste many different types of food. Surprisingly, Ethiopians do not eat uncooked carrots,” Veronica explains.

Currently, Ethiopian public school curriculum includes a lesson plan on the difference between fats, proteins and carbohydrates, but specialized knowledge about vitamins and minerals is usually omitted. “We reiterate to the gardeners how lucky they are to have access to these healthy vegetables. In a place where everybody eats the same thing every day, having a garden is a huge advantage for their health,” she says.

The next classes, she explains, will demonstrate to the young gardeners how overcooking vegetables can damage nutritional intake and other methods of food preparation. “Before, nobody had any idea they could eat the leaves of the beetroot, now the children are showing their caretakers how to do it.”

There are currently over 1,000 school gardeners participating in USAID UGP tending vegetable gardens in 12 schools throughout Debre Markos. USAID UGP is in its third year in the small city.

“I should consume some of the vegetables I grow to stay healthy, and I can teach my family about what I learned in the classes,” says Webayo Alemu, 16 year old student at Negus Teklehaymanot High School.

4.1 IMPROVED CAPACITY OF IMPLEMENTING PARTNERS TO PLAN FOR LONG-TERM INSTITUTIONAL SUSTAINABILITY

FINDINGS

UGP approached working through local NGOs throughout Ethiopia with an open request for proposals. Program managers developed objective criteria and selected a panel of judges to review each proposal and, according to the criteria established, select organizations to help implement the program. In the request for proposals, UGP alerted each potential NGO that it would be required to meet target numbers of beneficiaries, creating a transparent access point for community engagement. Due to the nature of the program and its funding from PEPFAR, the majority of the local partners specialized in HIV/AIDS support services. Very few of the NGO heads and extension officers had real experience in agriculture.

Other NGOs were too small and, although they met the criteria in terms of capacity, they were poorly funded and could not stand alone without the UGP grant. In other cases, extension officers held loyalty to their NGO and ignored direction and guidance from UGP staff. This presented some administrative challenges and later resulted in a restructuring of the grants program from a cost-reimbursable grant structure to a deliverables-based fixed obligation granting mechanism. This was done in order to continue working with implementing partners while building their capacity to manage expected deliverables.

Changing the grants program during implementation was not an easy task and required program staff to work very closely with the 51 local implementing partners.

ACHIEVEMENTS

UGP adopted a multipronged approach to transfer knowledge and skills to its implementing partners. In addition to periodic training with wider scopes, UGP OACs met monthly with implementing partner extension officers for refresher training on urban agriculture and UGP training methodology. Together, the OACs and extension officers reviewed garden and training problems monthly.

UGP went beyond agriculture training and built capacity of all implementing partners through several training sessions on group discussion and facilitation, monitoring, evaluation, and reporting as well as referral services and beneficiary mapping.

In addition, each area of operation held biannual stakeholder meetings with implementing partners, government officials, and other key stakeholders. The meetings provided the implementing partners the opportunity to meet with influential community leaders while building linkages and synergy that ultimately would benefit UGP beneficiaries.

In the first two years, UGP trained 32 implementing partners in urban agriculture techniques to better assist beneficiaries working in newly established community and school gardens. To strengthen the HIV/AIDS component of the program, UGP trained 30 partners in technical assistance for PLWHA.

In addition, UGP held a one-day networking meeting with eight carefully selected local partners, local government officials, and other NGO representatives working in agriculture. The idea behind the training was to increase the confidence and capacity of local partners to work with government entities.

In Year 2, UGP provided the first of a series of training sessions related to grants and procurement under the assumption that implementing partners who continue to work with USAID-funded projects will benefit from skills to better prepare grant proposals and comply with grants.

In the third year, UGP expanded and partnered with 51 local NGOs, and added the position of community mobilizer to complement the two extension officers. UGP provided guidance and training in urban agriculture, garden management, and health, and began training on poultry husbandry. The same year, UGP rolled out the Urban Garden Dialogue tool, a horizontal learning tool designed to empower gardeners to first turn to each other for solutions and promote the use of local resources. UGP provided training on the new methodology to selected extension offices and implementing partners.

The same year, UGP provided training and support on the preparation, processing, and finalizing of EMMPs for every garden. Environmental training gave partners a stronger grasp on how to select sustainable land and water sources.

In the final year, UGP continued to emphasize its participatory approach to gardener training and produced new tools and publications to train extension officers. UGP introduced the positive behavior checklist as a tool to improve performance and efficacy of the urban garden dialogue methodology. UGP provided additional monitoring and evaluation training for all partners as well as grant and financial management, which targeted the implementing partner directors and finance managers.

In the same year, UGP trained 13 implementing partner extension officers in effective communications strategy and success story writing. The workshop led to the creation of several success stories by the

extension officers. Success stories give local partners the chance to promote their NGO while empowering beneficiaries.

RECOMMENDATIONS

- Working with local implementing partners presents many opportunities for institutional capacity building—all program planning must include a focus on capacity development so local and sometimes nascent NGOs will be sustainable service providers for the future.
- Because UGP’s goals based purely on the number of beneficiaries reached, many NGOs found themselves incapable of acquiring the necessary land to provide a garden plot for so many beneficiaries. As a result, local partners instead resorted to adding more beneficiaries to already existing community and school gardens. A high density of gardeners reduced the collective produce and profits thus setting hurdles for positive behavior change.
- Finally, coupling capacity building with clearly defined goals will encourage implementing partners to accomplish more and assure positive behavior change and higher output.

MONITORING, EVALUATION, AND LEARNING

Monitoring and evaluation are critical components to performance monitoring and learning, allowing program staff to focus on efficiency, effectiveness, and impact. Throughout the course of implementation, M&E staff monitored key PEPFAR indicators (table below) and then later introduced additional M&E indicators to measure progress against other key activities. All data collection occurred in the field through implementing partners and required the support and capacity building of UGP staff to assure quality data collection and reporting to USAID. The Urban Gardens Program routinely conducted randomized data quality audits to improve data collection and provide feedback to IPs tasked with collecting routine data. In some cases, IPs were put on an action plan with strict guidelines for improving data collection, storage, and reporting. Overall, 51 IPs received M&E training in the fourth year and data quality went from more routine output based to outcome-based analysis. During the third year of the program, senior managers began to observe emerging anecdotal social impacts occurring at the community level. In order to ground truth this phenomena, UGP commissioned Tufts University to conduct a participatory impact assessment to understand the social impacts of the program. As a result of this analysis, program managers modified their implementation strategy to include a focus on social capital and capacity building.

PEPFAR INDICATORS	Y1 Result	Y2 Result	Y3 Result	Y4 Result	Total	Target	Variance
Number of households participating in USAID UGP	4,712	9,287	19,749	2,014	35,762	25,368**	+10,394
Number of OVC served by OVC programs primarily or secondarily	15,563	29,928	69,167	8,115	122,773	95,875	+26,898
Number of providers / caregivers trained in caring for OVC	2,523	9,912	4,132	3,482	20,049	23,115	-3,066
Number of local organizations provided with technical assistance for HIV-related institutional capacity building*	50	32	51	33	51	50	+1
Number of individuals trained in HIV-related stigma and discrimination reduction	3,353	15,343	5,853	4,017	28,566	3,039**	+25,527
Number of individuals trained in HIV-related community mobilization for prevention, care, and/or treatment	3,353	15,343	5,853	4,017	28,566	3,039**	+25,527

*The Urban Gardens Program used a phased approach when working with local IPs. In the final year, we worked with fewer IPs with greater institutional capacity.

** Targets for these indicators are only for years 2-4 and do not include the first year. This is a result of changing PEPFAR definitions.

ANNEX A – TRAINING MANUALS

#	DATE	TITLE OF POSTER
1	2012	Economic Strengthening and VSL Guidelines
2	2012	Poultry Rearing Guidelines
3	2012	Discussion Group Facilitators Guidebook (Amharic)
4	2012	Discussion Group Facilitator Handbook
5	2012	Discussion Group Participant Handbook (English and Amharic)
6	2012	Child Friendly School Gardens – Handbook for OVC care in school garden settings
7	2011	Urban Garden Dialogue – Tools for sustainable urban agriculture
8	2011	Local Solutions in Ethiopia’s Urban Gardens -Tips & Tricks Handbook (English and Amharic)
9	2010	Weekly Urban Garden Dialogue – Tools for sustainable urban agriculture

ANNEX B –IMPLEMENTING PARTNERS

Cluster	No.	Implementing Partner	Town	Cluster	No.	Implementing Partner	Town
Central	1	PICDO – Progress Integrated Community Development Organization	Addis Ababa	South	35	DOH - Dawn of Hope Ethiopia National Association	Debre Zeit
	2	SWEDA – Social Welfare Development Association	Addis Ababa		36	MSDAO - Medico Socio Development Assistance Organization	Debre Zeit
	3	CVDA – Common Vision Development Association	Addis Ababa		37	Mekdem - Ethiopia National Association	Adama
	4	Selam Hiwot Community and Children Support Organization	Sebeta		38	Ethiopia Kale Hiwot Church Medan ACTS	Adama
	5	Addis Tesfa Ena Raey Lesetich Digaf Mahiber	Woliso		39	FGAE - Family Guidance Association of Ethiopia	Adama
	6	OSSA – Organization for Social Services for AIDS	Jimma		40	New Generation Aid Ethiopia National Associatio	Zeway
	7	Mekdem - Ethiopia National Association	Jimma		41	TLM - Tsinat Leleamat Maheber	Zeway
	8	Rahab Women's Association	Jimma		42	ICEDA Integrated Community Education and Development Association	Zeway
	9	NBGP+ - Network of Benishangul Gumuz HIV Postive Association	Asosa		43	Mulu Wongel Amagnoch Church Development Organization	Shashemene
	10	Won Integrated Development Association	Woliso		44	Mekdem - Ethiopia National Association	Shashemene
	11	Jimma Idirs Union & FHI CBPC Center for HIV/AIDS	Jimma		45	PICDO - Progress Integrated Community Development Organization	Shashemene

Cluster	No.	Implementing Partner	Town	Cluster	No.	Implementing Partner	Town
North	12	Anti- Malaria Association	Debre Markos		46	Ethiopia Kale Hiwot Church Medan ACTS	Hawasa
	13	DFT - Developing Families Together	Debre Markos		47	PICDO - Progress Integrated Community Development Organization	Hawasa
	14	Migibare Senay Children and Family Support Organization	Debre Markos		48	South Region Fiker Behiwot Orphan Children and Youth Association	Hawasa
	15	Ransom Relief & Development Association	Debre Markos		49	CVDA - Common Vision Development Association	Hawasa
	16	Addis Hiwot	Finote Selam		50	Ethiopia Kale Hiwot Church Medan ACTS	Wonji
	17	Mirror Professionals Organization	Finote Selam		51	SWDA - Social Welfare Development Association	Mojo
	18	Kale Hiwot Church Development	Bahir Dar				
	19	Wogagen Charity Association	Bahir Dar				
	20	TMIDA - Tana Medhanealem Integrated Development Association	Bahir Dar				
	21	Nigat Development Charity Organization	Bahir Dar				
	22	Wogen Charity Association	Gondar				
	23	FHA - Fire Hiwot Association	Gondar				
	24	BOH – Bridge of Hope Gondar Children's Village	Gondar				
	25	Biru Tesfa People Living with HIV/AIDS Association	Mersa				
	26	Tesfa Hiwot Developmental Association	Kombolcha				
	27	Nigat Development Charity Organization	Kombolcha				
	28	Mekdem - Ethiopia National	Dessie				

Cluster	No.	Implementing Partner	Town	Cluster	No.	Implementing Partner	Town
		Association					
	29	Addis Hiwot Rehabilitation and Reintegration Association	Dessie				
	30	Netsebrak Reproductive Health and Social Development Organization	Dessie				
	31	OSSA - Organization for Social Services for AIDS	Gondar				
	32	Selam Hiwot Community and Children Support Organization	Maksegnit				
	33	Wide Horizon	Adwa				
	34	Professional Allianec for Development in PADet	Woldiya				

ANNEX C – SUCCESS STORIES

#	DATE PUBLISHED	SUCCESS STORY TITLE	LOCATION
	March 2012	School Garden Allows Student to Cover Fees and Help Feed his Family	Woliso
	December 2011	From Sex Worker to Farmer	Kombolcha
	October 2011	Orphaned Student Gardener Maintains Vegetable Garden and Perfect Grades	Addis Ababa
	July 2011	Home for Street Children Embraces Urban Gardens	Addis Ababa
	July 2011	USAID Urban Gardens Program Renews Focus on Water Sustainability	Sebeta
	June 2011	Nutrition Classes Bring Young Gardeners Healthier Habits in Debre Markos	Debre Markos
	May 2011	Group Garden Wins Support from City and Community by Promoting Gardening	Tikel Dingay
	April 2011	Young Gardener Raises Chickens to Help his Family	Bahir Dar
	April 2011	Ethiopian Gardeners Prove Disability is Not Inability	Mersa
	April 2011	Garden Leader Running Toward Success	Finote Selam
	March 2011	From Scraps to Seedlings	Dessie
	March 2011	Urban Gardens gives Woman Access to her own Business	Gondar
	March 2011	Global Health is a Global Good: Making a Difference for Women	Debre Zeit
	February 2011	Emaweyesh: You Share My Feelings	Gondar
	February 2011	Urban Gardeners Defy the Desert in Northern Ethiopia)	Adwa
	February 2011	Urban Gardening Changes the Face of Post-War Adwa	Adwa
	November 2010	Feeding Our Children and Our Gardens	Gondar
	November 2010	Urban Gardens Program Gives Caretakers the Means to Support their Families	Adama
	November 2010	Rural to Urban: Gardening Improves Nutrition in Overcrowding Cities	Assosa
	November 2010	Urban Garden Helps HIV-Affected Women Grow out of Poverty	Addis Ababa
	September 2010	Urban Gardens gives Mentor keys to Assist Orphans in Ethiopia	Adama
	September 2010	Urban Garden Fills Social Void for Woman living with HIV/AIDS	Bahir Dar
	September 2010	Group Garden Chairman Provides Gardeners with a New Vocation, Hope and a Better Life	Bahir Dar
	September 2010	From Urban Garden to Integrated Farm	Bahir Dar
	August 2010	Orphan Mentor Inspires Children Gardeners to Get Ahead	Hawassa
	August 2010	Stadium Middle School Garden Empowers Children through Savings & Loan	Hawassa
	August 2010	Urban Garden Ignores Religious Differences and Assists Families	Shashemene
	June 2010	School Garden Teaches At-Risk Children about Nutrition & Hard Work	Addis Ababa
Written by local implementing partners			
	April 2012	USAID Urban Gardens Program Opens Doors for Widow and Children	Adama
	April 2012	Clever Student Successfully Expands Gardening Business	Adama

#	DATE PUBLISHED	SUCCESS STORY TITLE	LOCATION
	April 2012	Urban Garden Revives Widow	Adama
	March 2012	School Garden Plays Role in Improving Orphan's Life	Kombolcha
	March 2012	A Life Changed through Urban Gardening	Meki
	March 2012	Urban Gardening Brings Hope to Underprivileged Women	Meki

ANNEX D – SCIENTIFIC POSTERS

#	DATE	TITLE OF POSTER	PRESENTER	CONFERENCE/ VENUE
1	July 2012	Micro-gardening as an effective technique to address the nutrition and income needs of urban poor affected by HIV/AIDS	R. Salerno	International AIDS Conference, 2012
2	December 2011	Mitigating the Impacts of Gender Violence	T. Teferi	ICASA 2011
3	December 2011	Innovation in Small Spaces: Empowering OVC through School Contests	B. Habtewolde	ICASA 2011
4	June 8 2011	Urban Gardening in the context of HIV/AIDS: USAID UGP (Dialogue tool)	C. Layton	Global Health Council 38th Annual Conference
5	October 2010	UGP Links Ethiopia's Health & Agriculture Strategies for a cohesive approach to Urban Agriculture and Empowers Local Project Champions in shift towards Sustainability (October 2010)	C. Layton	HIV and Livelihoods Technical Exchange (Bangkok, Thailand)
6	July 2010	UGP Links Ethiopia's Health & Agriculture Strategies for a cohesive approach to Urban Agriculture and Empowers Local Project Champions in shift towards Sustainability	C. Green	AIDS 2010: International Conference
7	June 2010	Measuring Results in Integrated Health and Agriculture Programs: Urban Gardens and PEPFAR Programming in Ethiopia	C. Green	Global Health Council 37th Annual Conference

ANNEX E – MEDIA EXPOSURE

#	DATE OF PUBLICATION	TITLE	MEDIA OUTLET/WEBSITE
	March 2012	“Addis Ababa, Ethiopia - Urban Gardens for Health, Solidarity, and Sustainability”	GoodFoodWorld.com
	March 2012	“Addis Ababa, Ethiopia - Urban Gardens for Health, Solidarity, and Sustainability”	Ethiosun.com
	Dec. 08, 2011	“AIDS still carries a stigma in Africa”	Deutsche Presse Agentur (DPA) note syndicated in Daily Telegraph.com.au
	Dec. 07, 2011	“AIDS still carries a strong stigma in Africa”	DPA note syndicated in Daily Camera.com
	Dec. 07, 2011	“AIDS still carries a strong stigma in Africa”	DPA note syndicated in Monsters and Critics.com
	Dec. 06, 2011	“«Ich habe nur noch geweint» - Tödliches Aids-Stigma in Afrika”	DPA note syndicated in Green Peace Magazine Germany
	Oct. 23, 2011	Addis Ababa - A project in Ethiopia is harnessing a healthy diet as part of the battle against AIDS in the East African country.	DPA note syndicated in Monster and Critics.com
	Oct.15, 2011	“Ethiopia”	Blog: Plant This Movie.com
	October 2011	“Vegetable garden project helps Ethiopian women live with HIV”	DPA note syndicated in the online version of the Kuwait Times
	October 2011	“Vitamine gegen das Virus”	DPA note syndicated in the Pharmazeutische Zeitung Germany
	Oct. 14, 2011	“Vitamine gegen das Virus: Äthiopisches Gemüse für HIV-Patientinnen”	DPA note syndicated in the Greenpeace Magazine German
	September 2011	“Urban Agriculture for People Affected by HIV/Aids”	RUAF: Urban Agriculture Magazine
	June 15, 2011	“Urban Micro Gardening for Health, Social Well Being”	The Ethiopian Herald
	April 01, 2011	“USAID URBAN GARDENS PROGRAM MICROGARDEN CONTEST: Innovation in Small Spaces	Daily Ethiopian
	July 18, 2010	“Urban Gardens improve nutritional, income status of impoverished women in Addis”	The Ethiopian Herald
	December 2009	“Urban Agriculture and the Planning and Design of Resilient Cities: Risks, Benefits and Policy Implications”	United Nations Environment Programme: Addis Ababa Highlights
	Nov. 17, 2009	“Beyond Urban Gardens: Meeting the Growing Needs of Ethiopia’s Urban Population”	Urban Health Updates
	Nov. 16, 2009	“Beyond Urban Gardens: Meeting the Growing Needs of Ethiopia’s Urban Population”	RMportal.net
	Nov. 16, 2009	“Beyond Urban Gardens: Meeting the Growing Needs of Ethiopia’s Urban Population”	Ethiopian US Embassy

ANNEX F – VIDEO CLIPS

#	Date	Title / Description	Media Outlet	Link
1	Feb. 06, 2012	<p>“Addis Ababa’da Yerel Kiyafet Pazarı” Between 1:11 – 4:43 in the Newscast. Addis Ababa based TRT journalist Gozde Demirel focused this reportage on a community garden in Bahir Dar, broadcast on TRT’s international news program.</p>	Turkish Radio & Television	http://www.gumushilal.com/2012/02/17-subat-2012-saat11-45/
2	Dec. 09, 2011	<p>“Urban Gardens Improve Life for Ethiopians Living with HIV” Length: 2:35 minutes VOA Addis Ababa based reporter Peter created this reportage about the Urban Gardens Program focusing on a community garden located in Addis Ababa.</p>	Voanews.com	http://www.youtube.com/watch?v=0in8ys--4Bs
3	Dec. 09, 2011	<p>“Urban Gardens Improve Life for Ethiopians Living with HIV” Length: 2:35 minutes Syndicated VOA piece.</p>	Firstpost.com	
4	Dec. 04, 2011	<p>“The Green Dream” Length: 5:32 minutes This film as created by Ethiopian filmmakers as part of a series of short films about HIV/AIDS and screened at the ICASA 2011 conference.</p>	Ethiopian Film Initiative.org	http://ethiopianfilminitiative.org/component/content/article/34-rotator/401-hiv-aids-stories
5	Nov. 23, 2011	<p>“Mishrak – slummin selvityjä” Length: 2:46 minutes Is a micro documentary and part of the Invisible Entrepreneurs multimedia project commissioned by the Finnish Foreign Ministry’s global development site and created by London based filmmaker Paulina Tervo. Misrak is a UGP beneficiary living with HIV whose income comes from many sources including gardening.</p>	Global Finalnd.fi	http://vimeo.com/26844910
6	Mar. 22, 2011	<p>“Gardens for Life: Urban Gardens in Ethiopia Help HIV-Affected Women” Length: 3:15 minutes This short film was commissioned by USAID Ethiopia and created by Ethiopian filmmaker Tsion Kiros.</p>	USAID Africa	http://www.youtube.com/watch?v=OYHbgFYxEJQ