



The Joint Initiative (JI) for Urban Zimbabwe

End of Program Report



1.0 EXECUTIVE SUMMARY

The consortium of 5 international NGOs that constitute the Joint Initiative implemented an OFDA funded, eighteen month long Water, Sanitation and Hygiene (WASH), Disaster Risk Reduction (DRR), and agriculture project in five cities in Zimbabwe. The overall goal of the project was to promote, improve, and protect the sustainable livelihoods of vulnerable urban communities through effective response and information coordination by urban actors. The JI made significant progress towards achieving project targets in WASH, DRR, and agriculture interventions during the life of the project. To ensure sustainability, the organization maintained close ties with the beneficiary communities, Ministry of Local Government, Ministry of Education, Agritex, and the City Councils' Health Promotion, Environmental Health, Sewer, and Parks and Amenities Departments. These stakeholders were leading the implementation of the program while the implementing partners' role was facilitatory and assisting with resources where necessary. The major accomplishments for the life of the JI project are summarized in the table below:

The Joint Initiative Overview, July 2013 – December 2014

Table 1 below gives a summary of the project overview, by summarizing the indicators, targets, achievements, and remarks on the status of each indicator.

Table 1: Overview of the Joint Initiative Program

Indicator	Unit	Overall Targets	Cumulative Achievements by End of project	% Achieved	Comment
Number of City Health Promoters (CHPs) trained in PHHE (c)	Individual	208	227	109%	These were very key in the formation of health clubs in the communities
Number of functional Community Health Clubs (c)	Club	74	108	146%	The clubs acted as conduits for health and hygiene information flows which improved community's reactions towards health hazards
Number of households participating in community health clubs (c)	Households	5400	5575	108%	The club members held their weekly health and hygiene sessions and attracted a number of households.
Number of School Health Masters (SHM) trained in PHHE (c)	Individual	96	115	120%	The SHMs spearheaded health clubs in schools and facilitated the weekly sessions.
Number of school children participating in the school health clubs (c)	Students	2400	2794	116%	There was an overwhelming response by the kids to join the clubs, hence the target was surpassed.

Number of people trained on waste management	Individual	958	2218	231%	The community members were reached through some community based trainings and door to door campaigns.
Number of debris/solid waste clean-up campaigns carried out (c)	Campaign	20	179	896%	There was great participation of club and non-club members in ensuring a safe environment through clean-ups. The local authorities also played a critical role in the campaigns.
No. of people participating in clean up campaigns	Households	5500	11305	206%	Community members took responsibility in maintaining clean and safe environments by initiating clean-up campaigns and implementing them on their own within their areas of residence.
Number of people trained on DRR		1007	2 518	250%	More community members than planned showed interest in DRR issues.
Number of stakeholders trained in ZimCATS		40	40	100%	
Number of households receiving Water guard vouchers and bottles	Household	11000	11000	100%	The voucher system was utilized by 1871 households and the balance was reached through a mop up distribution exercise by City Health Promoters.
Number of youth trained in waste related income generation activities.	Group	94	94	100%	
Number of illegal dump sites reclaimed	Site	15	24	160%	Reclamation was done at all the identified sites and future dumping has been discouraged on these sites.
Number of people trained in seed multiplication	Households	500	667	133%	Prime Seeds and Agritex played a pivotal role in training the farmers
Number of farmers receiving Nutrition, Marketing & Business Skills training	Households	500	667	133%	The training targeted seed multiplication and composting farmers. All the households interested in the agricultural interventions were trained in all agriculture related training.
Number of people trained in compost (c)	Households	500	667	133%	All the household interested in the agricultural interventions were trained in all agriculture related training

No. of people engaging in compost production	Households	500	667	133%	All the household interested in the agricultural interventions were trained in all agriculture related training
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SECTOR 1: WATER, SANITATION & HYGIENE

Objective: To increase communities’ resiliency to WASH-related shocks, such as disease outbreaks

PARTICIPATORY HEALTH & HYGIENE PROMOTION

Community Health Clubs

A total of 227 community health facilitators (25 males and 202 females) were trained by the program across the 5 targeted cities. Thirty (30) facilitators (22 females and 8 males) were trained in Mbare, 41 in Chitungwiza (6 males and 35 females), 60 in Masvingo (3 males and 57 females), 36 in Mutare (35 females and 1 male) and 60 facilitators in Bulawayo (7 males and 53 females). The trainings were facilitated by the respective City Councils with support from the JI implementing partners in the respective cities. Other relevant Government Departments like the Environmental Management Agency and the Ministry of Women Affairs, Gender and Community Development were brought in to be part of the facilitators for the Community Health Club facilitator.

Topics covered during the training of facilitators included: an overview of community health clubs, SARAR approaches, (Self Esteem, Associative strength, Resourcefulness, Action planning and Responsibility) which spell out the five characteristics and abilities that have a direct bearing on the quality of participation and involvement of community members. The participants were introduced to the urban Participatory Health and Hygiene Education (PHHE) toolkits, which was comprised of sections in planning, analytical, investigative, attitudinal, informative, monitoring and evaluation tools, identification and blocking the route, and PHHE indicators. These participatory approaches enabled them to cascade the health and hygiene education to other club members and eventually to the bigger community. Each respective city was giving special emphasis to what would potentially address the critical challenges in their jurisdictional areas. For example the training in Mbare and Masvingo gave special emphasis on solid waste management, elimination of open defecation (OD) and safe household water treatment, storage and handling (in keeping with high prevalence of open defecation) littering and typhoid in Mbare. Other important topics that were covered emphasized sound hygiene practices, i.e. hand washing with soap, use of toilets/latrines, solid waste disposal, personal hygiene, HIV & AIDS, worms, bilharzia, malaria and vector control techniques.

After the training, the Community Health Club (CHC) facilitators helped with the setting up of community health clubs, setting up club committees, and assisted the clubs in drafting their constitutions. They cascaded the PHHE training to the Community Health Clubs and monitor the clubs’ performance in collaboration with the City Health Department officials. Community health clubs throughout the program target areas were distributed as follows; 14 Masvingo, 30 Mbare, 16 Chitungwiza, 23 Mutare and 25 in Bulawayo to give a cumulative total of 108 CHC established by the program. The total membership for the established CHC was 1550 in Masvingo, 644 (127 males and 517 females) in Bulawayo, 756 (75 males and 681 females) active members in Chitungwiza, 1500 in Mbare, 1125 in Mutare. Cumulatively, a total of 5575 members (558 males and 5017 females) were active members of the established health clubs by program end.

The project facilitated household health and hygiene competitions, targeting all households with members participating in CHC. The competitions, which involved some prize giving ceremonies, were well attended by a number of stakeholders in the respective cities. The process culminating in these

competitions involved the engagement of technical adjudicators (EMA, AGRITEX, Min of Women's Affairs and City Health Department) to assess and choose the best club demonstration site. This was based on health and hygiene sessions conducted and the best nutrition garden that clubs were involved in contributing to hygiene promotion and a healthy environment. The adjudication was ward based and helped to reinforce the PHHE practices taught in health clubs. The CHC competitions were also platforms to raise awareness in the community on the activities being done by the CHCs and how the ordinary members should feed into the efforts by club members to ensure cleanliness of their environment. The stakeholders also leveraged on the gathering to educate the residents on the need to be responsible for their waste by ensuring that the residents reduce waste generation, reuse some of their waste or recycle. During some CHC competitions in Chitungwiza, Mbare and Mutare, the CHC members who were collecting different waste materials for selling to recyclers had the opportunity to share their experiences with ordinary residents and emphasized on the need to separate waste to facilitate its reuse or recycling. Health clubs members also had the opportunity to educate other members on pertinent public health issues and the role of the general public in reporting issues of burst sewer pipes to council and cooperate with the litter monitor and during clean up campaigns.

In order to control burn out and enhance the relevance of community health clubs for members, the club members were also encouraged to diversify their activities and to use the clubs a spring board for other interventions, leveraging on the already existing group cohesion. Consequently, 95% of the club members were practicing Internal Savings and Lending Schemes (ISALs). The ISALs were done in different forms and the most popular way of saving across the 5 targeted cities was the buying and sharing of groceries and kitchen utensils. Some were saving and lending money which they used to start small businesses and to meet other key needs at a household level. By the end of the program, ISAL groups of 10 club members had saved an average of US\$2500 and members were borrowing from these savings to help them in different ways. Some CHC members across the five cities started poultry projects and the proceeds were shared amongst the members. Some club members in Chitungwiza embarked on cake baking for selling, while others organised themselves and formed housing cooperatives where they were assisting members in the construction of houses as well as extending other houses using proceeds from ISALs. The diverse activities the CHC members were engaged in assisted members in addressing changing needs for urban residents as well as helping to continue to bring members together even in the absence of public health threats. Health messages continued to be reinforced in these clubs and remained a medium for relaying health information, and an important part of the disaster risk reduction hub for the high density residential suburbs.

The end of program evaluation conducted for the program revealed that PHHE sessions improved socialisation among community members. This improved socialization and networking allowed sharing of ideas among members especially the women. The clubs were cross cutting in terms of ages of its members and thus the interaction between the young and older women was improved in the society. *"The clubs have helped me to network with people I would otherwise never talk to"* remarked one club member in Mbare. The sharing platforms created were also important for discussing other social problems, which brought up psychological burdens among the community members. The creation of interactive communities created feelings of collaboration which may greatly assist in the prevention of tensions, even during political unrest, which at times affected some of these areas during elections.

In all the cities, health club members were quick to point out that despite known different political persuasions (mainly known to be a divisive factor in communities), people worked together and were getting along very well. Mbare is known for being highly politically polarized, but the idea of cleaning their environment has helped mitigate the impact of such differences. In Bulawayo also, the program has had the impact of uniting people despite their tribal differences through ISALs and CHC led clean-up campaigns. In Chitungwiza, through ISALs and health clubs, members managed to get together and join

group funeral policies, which were a unifier in communities and helped prevent families from facing high economic shocks and burdens from funeral costs. Health Fellows group with 36 members managed to join Nyaradzo Funeral Services, one of the country's largest funeral service provider. Thus the program enabled members to break all barriers that divide people to plan their future together and apply for group membership.

CHCs stimulated community ownership of environmental health, hygiene and sanitation. This was evidenced by community participation in ward based initiated clean-up campaigns and the land reclamation of sites. The community led clean-up campaigns had to involve the refuse collection in the target cities to ensure that collected garbage was transported to the dumping sites by the City Council. Therefore, the program activities ensured that community members were always in touch with their respective council authorities. Local authority staff from the Health Promotion and Environmental Health Departments were very instrumental in supporting and monitoring CHCs activities. Their involvement ensured improved relationships and communication between councils and residents as the club members were able to communicate the challenges they were facing, like water rationing and irregular refuse collection. The council officials were taking up issues raised to the high offices, which have ensured that community voices were heard. These strong links ensured the sustainability of CHCs as local structures were established which will help to continue with the monitoring and support roles and sustain project activities. During the evaluation, club members expressed that CHCs were becoming a recognized force to the local authorities as they had gained the boldness and confidence to demand better services from their respective city councils, while at the same time helping the ordinary citizens to take responsibility of their waste as well as complementing the council efforts by participating in clean-up campaigns, reducing waste generation. These community roles of the CHCs helped them to have an appeal and to be more acceptable as a pressure group to be listen to, in their respective municipalities and local residential areas. Therefore one of the biggest impacts of the JI program was the creation of dialogue and interactive platforms between the residents and relevant city council departments.

The dialogue and interactive platform was good for both the residents and those in council. It was often difficult for residents to raise voices as individuals, but as an entity such as clubs, residents were able to get their views heard by council authorities. The residents, through their hygiene facilitators, had the contact numbers of the relevant people within the council and they would phone them to request refuse trucks to move accumulated refuse if necessary and report incidences of water supply pipe bursts and sewer blockages. Although the council officials were failing to respond promptly to all of these requests due to capacity issues, the dialogue and interactive platforms created by the CHCs helped to ensure that the channels of getting issues known by the council were activated and working. The council found it easier to pass their relevant information to the communities. For example, in the city of Masvingo, the Mayor used the clubs as conduits to advocate against improper disposal of diapers and also to campaign for good land conservation within residential areas. One city health official in Bulawayo admitted that *"it has become evident that the council cannot handle the issues of service delivery without supportive community participation."* Therefore, this level of interdependence and mutualism between the council and the CHC guaranteed the continued existence of the CHC beyond the JI program.

In Mutare, the public was now so aware of the anti-littering laws that at one time a local business man in Chikanga was fined by the Environmental Management Agency (EMA) when he dumped his waste at an undesignated dumping area, following a tip-off by one club member. Furthermore, in the same city, when members observed incidences of pipe bursts, then they were reporting to EMA whom they knew had the capacity to direct council to carry out repairs. Before the JI program, EMA never used to receive reports on pipe bursts from residents, but now they are reportedly receiving up to 4 reports a month from residents.

The areas previously known for being filthy and dirty and endemic to water borne diseases were made better by the activities of the CHCs. One District Administrator for Mbare said; “*The clubs have changed the face of Mbare*”. It was also shown that the CHC clubs members registered improved knowledge, attitudes and practices in health and hygiene. Consequently, there was also a significant reduction in water borne diseases (e.g. typhoid/ cholera), in part contributed to by the access to improved knowledge and change in behaviour and attitude brought through the community health clubs.

School Health Clubs

A total of 115 school health coordinators (66 females and 49 males) were trained by the program across the 5 urban centers. Thirty were trained in Chitungwiza, 15 in Mbare, 30 in Masvingo, 22 in Mutare and 18 in Bulawayo. A total of 2,794 pupils (1526 females and 1268 males) joined and participated in the school health clubs across the five cities targeted (450 in Mutare, 518 in Chitungwiza, 604 in Masvingo, 622 in Bulawayo and 600 in Mbare). The training placed special emphasis on the adoption of better practices related to the collection, handling and use of water; hand washing; promotion of safe disposal of excreta and waste; good personal hygiene habits; environmental sanitation; proper use of sanitary latrines; incorporation of physically challenged children; and by making pupils aware that the health of a person contributes to the health and wealth of the family and society. A particular emphasis was put on ensuring that the school health clubs advocate for a healthy school environment by promoting and maintaining behavioral change towards good hygiene practices and proper use and maintenance of hygiene and sanitation facilities in schools. The clubs were assisting in keeping the school environments clean, educating other school children and the community about the importance personal hygiene. They were also platforms for spearheading hygiene awareness in schools and educating pupils and students on sexual reproductive health, HIV and AIDS issues. Club members performed dramas, songs, and poems on hygiene awareness during assemblies and gatherings.

An important activity on the school health club calendar for year 2014 was the inter-school health and hygiene club quiz competitions. The school quiz involved a broad range of questions on health hygiene and sanitation issues, reinforcing the PHHE methodology and testing pupils’ knowledge and practices. Winners walked away with health and hygiene enabling prizes. Competitions helped to cultivate interests amongst the school pupils in health and hygiene issues. Once informed, it was assumed that the pupil would take the health and hygiene education to their respective homes and complement the CHC efforts.

Disaster Risk Reduction

A total of 116 stakeholders from the City council’s Departments of Health, Works, Water and Waste Water, Fire and Ambulances, Civil Aviation Authority, ZRP, Government and Private Hospitals, EMA, Mayor and Town Clerks offices, District Administrators, Local Government and other government line ministries, the Ministry of Local Government, ward councilors, Ministry of Youth and Ministry of Gender were trained in DRR across the 5 urban centers. This was later cascaded to 1967 youth group members, community health club facilitators, and ordinary CHC members. The DRR training was aimed at capacitating the stakeholders to identify the threatening hazards in the district and to come up with plans to address them. Facilitators were drawn from the DA’s office, the Civil Protection Unit, Zimbabwe Red Cross Society, Harare City Departments (Fire and Ambulances, Solid Waste Management, Health, Works), EMA and the implementing partner officials. Different stakeholders were drawn in to identify and map the hazards in their areas and their possible prevention or mitigation measures.

The stakeholder DRR trainings were followed by setting up community based Disaster Risk Reduction (CBDRR) Committees and Early Warning System Trainings where CHC members and other non CHC members were trained in DRR. The high density urban residents were helped to identify hazards and risks in their respective areas. The mushrooming of illegal dumpsites were noted to be one of the major hazards

posing a health threat to residents in most high density suburbs in Bulawayo, Masvingo, Chitungwiza, Mbare and the Dangamvura area in Mutare.

Most of the urban hazards were prevalent in new urban settlements where residents were allowed to settle before piped water and public sewage systems were provided. People in these areas were using shallow wells and Blair toilets in a less than 200 square meters housing stands, which made the residents vulnerable to water borne disease as their shallow wells could easily be contaminated with coliform bacteria from the Blair toilets. All the wards came up with DRR ward committees to collaborate with the solid waste committees in conducting clean up campaigns to clear all the illegal dumpsites.

Community based Disaster Risk Reduction and Early Warning System Training Workshop

The objectives of the CBEWS workshop were;

- i. To impart and share knowledge on disaster risk reduction policy and registration.
- ii. To have a shared understanding of disaster risks and profiles in high density suburb communities.
- iii. To strengthen disaster risk reduction initiatives and emergency preparedness and response planning for urban communities.
- iv. To come up with a Disaster/ Hazard Profile for the targeted areas and recommended remedies.
- v. The CBEWS training culminated into the formation of Community Based Early Warning systems Management Committees.
- vi. To engage the residents to come up with hazard maps for their respective wards.

A total of 2518, (755 males and 1763 females) people were trained in CBDRR. As a result, CBDRR action plans were developed across the 5 cities wards. Some of the hazards, which were identified in the wards, include: diseases, poverty, theft, soil erosion, and many others. As a way of addressing the hazards, some of the action plans include conducting clean up campaigns, awareness campaigns, engaging in income generating activities, clearing of drains, repair of street lights and many others. Drug abuse is one of the hazards identified across all the wards. Some of the areas identified other hazards, such as disused quarry pits, so illegal dump sites were targeted for reclamation by the program which made the identification of program intervention participatory.

Promotion of Point of use water treatment

The JI partnered with PSI Zimbabwe in the promotion of point of use water treatment using water-guard. This was necessitated by the fact that due to water shortages in most of the targeted cities, some households had to rely on water from open and unprotected sources like shallow wells and rivers, due to water rationing, and some households were only accessing piped water once a week and would store the water in containers. The storing of water for long periods results in contamination during handling and storage. Lack of safe water storage practices were identified as one of the high risk behaviors that could predispose the urban community to water borne disease outbreaks. Some of the targeted suburbs receive tap water once or twice a week; hence residents store water in containers to cater for the days when the taps are dry.

Follow up was made to retail outlets to ascertain whether people were still purchasing water-guards after JI's voucherized distribution. Also CHPs during the quarterly ideal home assessments checked on the availability of the product in the households. Evidence from the assessments has shown that 85% of the sampled households had water-guards available for water treatment. Some who shared that they would not be able to afford them would access aqua-tablets from the clinic. The beneficiaries attributed their uptake of water-guard to the PHHE and DRR education they received at the clubs, hence they now appreciate that

their health is their responsibility. Stella Chikanya had this to say, “It is better to sacrifice few cents for the purchase of water-guard than to fork out a lot of money to pay hospital fees after falling ill”.

A total 11,300 households received water-guard from the program distributed as follows: 2000 Mutare, 3000 Bulawayo, 2200 Masvingo, 2100 Chitungwiza and 2000 Mbare. The retailers were receiving the water-guard bottle at a price of 36.5 cents and selling it to consumers at 50 cents per bottle, giving a profit margin of 13.5 cents per water-guard bottle. By the end of the distribution and redemption of vouchers, the retail shops realised USD270 for the batch of 2000 water-guard bottles for the 2000 targeted households. This prompted the shop owners to demand regular supplies from PSI Zimbabwe for restocking and selling to other community members demanding the water-guard. In this regard, the community was linked to a retailer shop within their locality that continued to get regular water-guard supply from PSI Zimbabwe.

The City of Mutare conducted training for new health staff on water quality testing. A total of 10 EHTs and trainees attended the training. The objectives of the training were to equip the new staff with water quality testing principles, which encompassed both chemical and bacteriological assessments. This was viewed as the corner-stone upon which the city could assure that the water reaching the residents was portable. Mercy Corps assisted the city with water quality testing consumables, which were in short supply for that training to be conducted. With the capacity of the City Health department to conduct water testing enhanced, it is believed that the council will, after the end of the program use its revenue to procure water testing consumables.

ENVIRONMENTAL HEALTH

Clean-up campaigns

Clean-up campaigns were conducted by the community members as part of the disaster risk reduction community initiatives and the revelation that at baseline, 47% had their backyard dirty and that during the DRR training, illegal dump sites were reported as major health hazards. They were all undertaken in a participatory manner with the community members through the CHC taking the lead. Support was sought from the City Health Departments of the different cities as the activity required collective effort of the residents and the relevant city council department. A total of 179 clean-up campaigns were conducted across the 5 cities distributed as follows: Chitungwiza 21, Mbare 30, Masvingo 68, Bulawayo 52 and Mutare 8, with a cumulative total of 1,905 people participating in Chitungwiza, 3,400 in Masvingo, 2,200 in Mbare, 2,600 in Bulawayo and 1,200 in Mutare. A cumulative total of 11,305 people (2,826 males and 8,479 females) participated in clean-up campaigns. The community health clubs played a pivotal role in initiating clean-up campaigns by mobilizing other community members to identify and clear illegal dumping sites in their respective wards. In most instances clean-up campaigns were driven by the communities, this developed a sense of community ownership for both the process and on-going maintenance of the areas after the clean-ups. Clean-up campaigns were done as part of the communities’ Disaster Risk Reduction (DRR) initiatives to address hazards such as diseases (such as diarrheal diseases and malaria).

TOT for CHPs on Solid Waste Management

A total of 2,518 participants were trained in solid waste management across the 5 urban centers. The types of facilitators and people who were targeted by the training differed from city to city as the implementing partner was largely informed by the contextual conditions and critical needs of their respective jurisdictional areas. The training covered the following topics:

- Integrated solid waste,
- Solid waste management overview,

- Defining solid waste management,
- Classification of solid waste,
- Reduce, reuse, recover & recycle,
- Waste management at household level,
- Waste generation at home,
- Waste storage,
- Composting,
- Challenges of solid waste,
- Community awareness,
- Methods of outreach activities,
- Conducting clean-up activities,
- Poor waste management practices,
- Plastic waste identification for recycling,
- Proper disposal of diapers and,
- Human and Social perspectives on solid waste management.

However, emphasis given to these topics differed from place to place depending on the pressing waste problem in the area and the targeted audience for the training.

Mercy Corps conducted Waste Management training targeting 36 health promoters in Mutare City. The training was conducted by officials from the Environmental Management Agency. The objective of the training was to equip the health promoters with skills on solid waste separation and recycling. The promoters were expected to spearhead solid waste management activities in their respective wards. The communities were provided with push carts to help them deposit waste in designated areas rather than allowing it to accumulate. Some 30 CHC members from Hobhouse suburb in Mutare were trained in glass cutting as a way of sustainably managing glass waste by recycling it. The cut glasses were polished and sold as water glasses to give some little cash to the participating households. In Bulawayo, the solid waste management training targeted 45 (5 males and 40 females) Community Health Promoters so that they would in turn train CHC members. The training was facilitated by a consultant and an Environmental Health Technician from Bulawayo City Council. The community Health Promoters cascaded the training down to 1,266 (365 males and 901 females) health club members during their weekly meetings. The communities have responded well to the intervention, since they are now practicing waste separation at the household level and collecting plastic waste for recycling.

In Masvingo City, the market places were the dirtiest environments predisposing the public to communicable diseases like typhoid and cholera. It was, therefore, critical that the market places were kept in a clean, safe and useable state. As a result, the solid waste management trainings in Masvingo targeted market place committees. A total of 70 people (56 females and 14 males) were trained. The training facilitators were EMA, City Health Department, Ministry of Small and Medium Enterprises, and Masvingo Urban Residents Association (MURRA). The main goal of the training was to mobilize the market place committees to take responsibility for their roles and support council by reducing the burden of waste production, hence aiding waste management in the city. It was also noted that open defecation was prevalent near these market places and the training helped the members to be responsible with their public toilets and reduce open defecation.

Two (2) stakeholder waste management conferences were conducted in Masvingo with the support of the JI project. It was well attended by major waste management stakeholders and consultants. The objectives of the conference were to address and discuss challenges and strategies for waste reduction, collection and disposal techniques, waste treatment and recycling methods. Various organisations presented their

methods of plastic recycling and value addition. Community health clubs from Masvingo project areas exhibited their innovative recycling and value addition products such as shopping baskets made from waste plastic packets.

In Mbare, a total of 40 (32 females, 8 males) CHC facilitators were trained in Solid Waste Management by facilitators from the City of Harare Waste Collection and Health Departments, Green Africa and Oxfam. The participants mobilized and established Solid Waste Management Committees in their areas under the support of the Waste Collection Department. Ten (10) solid waste management committees were subsequently established in all the flats. The committees have a total membership of 481 (29 males and 452 females) people. Ten (10) push carts, brooms, rakes and protective wear were procured and distributed to the committees for use during their clean-up campaigns. The committees were accountable to the Waste Collection Department for the donated equipment who audits them from time to time. The solid waste management committees were working hand in hand with the City Waste Collection Department in clean-up campaigns. The committees were doing various waste management activities ranging from conducting clean up campaigns in their areas, cleaning communal washing areas and bathrooms, and reclaiming illegal dumpsites. Some were facilitating the use of the waste to make handbags, belts, baskets, and hats, providing income for the participating members.

In Mbare, 250 (73 males, 177 females) anti-litter monitors were trained. Their main role was to work hand in hand with the solid waste management committees in organising clean-up campaigns and also discouraging and reporting illegal dumping and littering. Participants were drawn from all the wards of Mbare, with particular emphasis being placed in ward 3 and 4 (Flats/ Hostel area) where there are high levels of dumping due to high concentration of people in flats. The group was equipped with protective wear (heavy duty gloves, pokers, dusk musk/ respirators) and disposable liners to carry out clean up campaigns. In addition, bibs were printed and given to enhance their visibility when carrying out the work. They were all reporting to the City Council's Waste Collection Department. The number of anti-litter monitors continued to increase in Mbare and by the end of the program the numbers had increased to 400 people from the original 250 that were trained. This was attributed to community participation and the demand for a cleaner environment that was created by the PHHE education of community health clubs.

SANITATION INFRASTRUCTURE

Reclamation of illegal dumpsites & open spaces

Twenty four (24) open spaces were reclaimed by the program and put to productive use. Three sites were reclaimed in Chitungwiza, 1 in Mbare, 3 in Bulawayo, 7 in Masvingo and 7 in Mutare. The reclaimed sites were identified by the respective community members as hazardous areas during the hazard mapping exercises of the DRR training done in the 5 urban centers. The Parks and Amenities from the Housing Departments of the cities were involved in the approval of the sites. All the work was done in consultation and support from the Parks and Amenities section under the council Housing Department. The Parks and Amenities section provided expertise in the landscaping of the targeted sites as well as providing some of the flowers and trees available at their nurseries. The community members, through the CHCs, provided labour for clearing some of the identified sites, while the JI partner provided all the required materials for reclamation such as additional flowers to those supplied by the council and paint, bins, bricks, cement and swings for the play center.

In Chitungwiza, the program rehabilitated a well at the upgraded park to avail water for the planted trees, flowers and lawns. The active involvement of the local communities and council was a strong indicator of the fact that both parties had mutual interests in having the sites cleaned off and were pledging whatever they could offer to have the sites reclaimed back. This strong buy-in and participation of the council and community members ensured that the reclaimed areas would be maintained and sustained beyond the JI

intervention. Visits to the sites at the program end showed that the reclaimed sites were being maintained well by the Council officials and other volunteer community members. Five of the reclaimed sites were converted into child play centers and the program equipped such sites with swings, seesaws and benches. Dilapidated sporting facilities for football, basketball and volleyball pitches were also rehabilitated to promote the use of recreational facilities by youth and other interested residents and discouraging the dumping of waste and open defecation at such facilities. In order to circumvent the bureaucracies of the city council and government processes of approving such reclamation activities, the community members were assisted to write request letters to the City Council, while the Housing Department would approach relevant departments for approval and certifications of the work done. The involvement of the local councilor also ensured that the activities that required full council meetings for authorization were done in time. This approach quickened the open space reclamation process.

Mbare and Sakubva high density suburbs never had any children play centers and the conversion of some of the open spaces into children's play centers attracted a lot of attention and these play centers were over-subscribed to the extent that in Sakubva the contractor ended up pledging to put much stronger materials for seesaws and swings for them to last longer. Before the establishment of these public play centers for children, the children used to play on the illegal dump sites and on the roads, exposing them to diseases and traffic accidents. Some residents in Mutare pledged to fix the equipment at children play centers if they break as they were playing a very crucial role for children. The Community Health Club members closer-by were entrusted with the responsibility of coordinating the activities at these play centers in collaboration with the Parks and Amenities Department, which would involve, but not be limited to, ensuring that users contribute towards repairs and cleaning of the amenities.

The reclaimed sites regained their aesthetic value that was lost to the illegal dumping of solid waste. The idea behind reclamations was to productively use these sites and totally eliminate dumping of all types of waste on these areas. This productive use of the open sites would, thus, contribute directly to the enhancement of the health wellbeing of the respective urban residents by reducing the prevalence of communicable diseases.

The city councils had problems in giving out lease agreements to the reclaimed land used for different purposes by the youth due to the long history of politicians manipulating similar groups and converting the land to personal use. In Masvingo, the Housing Department argued that historically, it was difficult for the departments to take back the areas when they wanted to utilize them for originally intended purposes because of such politically challenges. Similar sentiments were received from Mutare where the youth had a hard time trying to secure a free space where they could do their plastic recycling. The City Health Department indicated that the official council position was that they were no longer issuing temporal rights to land use to any group of people as some groups had a history of developing into political groups which would give the council a headache to uproot. The recycling center in Mutare was later sited as a commercial stand where the youth were paying \$110 per month.

Sewage de-clogging

The program supported the training of fifteen youth on Sewage de-clogging in Chitungwiza. These were trained by Council Sewer Section staff and managed to form three groups, with five members per group to assist each other in the de-clogging work. The youth were also trained on group dynamics, business, and marketing skills. As part of marketing themselves in the community, the youth advertised at the Community Health Club sessions. By the end of the project all the three groups had managed to render their services for a fee in their respective communities. On average, a group would secure two jobs per month, charging an average of \$7 per household. Processes were under way to integrate the trained youth into the council staff as the Council's Sewer section was short staffed. They were responding promptly to sewage bursts and even if they were not allowed to attend to bursts of the main pipes, their presence

helped to communicate accurate information about the nature of the burst sewer pipe. In the other 4 cities, the training of the youth in sewage de-clogging was resisted by the city councils citing safety issues on the youth as sewerage works involved a lot of dangerous gases. The Engineering Department for the city of Mutare had reservations in entrusting the youth to work on the sewerage system as there were chances that they could cause irremediable damages on the system that would make the cost of engaging the youth outweigh the benefits. There was also concern amongst the youth that, considering the changes that had taken place in the 6 months preceding the program inception, the frequency of sewage bursts had significantly reduced that they felt could not make any business case from the sewage de-clogging intervention. Instead, the city council recommended that the program focus on waste recycling. A plastic recycling plant was subsequently established for the 8 youth to pilot plastic recycling in Manicaland province. In Bulawayo, it was recommended that the youth be trained in the upgrading of gully traps after the realization that the major cause of sewage burst in Bulawayo was the sand that is trapped into the sewer pipes due to poorly designed gully traps. In Mbare the engineers expressed that the sewer system in the area was too complicated to be entrusted to the ill-trained youth. In Masvingo, priority was given to the development of a community plastic sorting and grading center for the community health club members.

Plastic recycling

The program helped some CHC members to form a CBO in Masvingo to engage in solid waste management through plastic collection, sorting and selling for income generation of its members and enhance the cleanliness of the town. The CBO entered into a MoU with a local plastic recycling company called Fispack (Pvt) Ltd for plastic selling and buying with the local authority (Masvingo City Council) and EMA committing themselves as guarantors to the MOU. Fispack also committed itself to supply the CBO with a granulator to process the plastic upon the completion and electrification of their operational premises. Fispack provided training on plastic sorting, grading and types required for recycling to the CHC members. The plastic recycling training also included waste types, discussions, and reviewing of the environmental management planning, plastic waste collection, transportation, storage and handling of plastic for recycling. Health and safety issues were also discussed by the City Health Department. Roles of leadership, constitution and other group dynamic issues were discussed during this training. A total of 70 people (64 females and 6 males) were trained by the end of the project in plastic recycling. The CBO had not started selling plastic to Fispack by the end of the project. This was mainly due to the delays in the development of the site allocated to them by the Municipality caused by the bureaucratic processes needed to have the transaction approved. It is noteworthy to point out that EMA, with facilitation from CARE, conducted an Environmental Impact Assessment of the project and the site and the enterprise was found to be environmentally compliant.

Thirty youths (30) 14 females and 16 males were training in waste recycling in Mutare. The training covered waste management, project implementation in general, waste management projects, Community Based Organization (CBO) operations, management, and registration; and plastic recycling. The workshop was facilitated by EMA and M & M Boston. M & M Boston was a Community Based Organization registered with EMA and was implementing a plastic recycling project in Chitungwiza. The following were the training objectives of the Plastic Recycling Training:

- To capacitate the CBO on solid waste management.
- To outline the provisions of the law in waste management.
- To discuss possible projects for livelihood improvement in waste management.
- To capacitate the CBO on project management
- To capacitate the CBO on plastic recycling
- Setting of the plastic center

After the training, Mercy Corps facilitated the establishment of a plastic recycling center which was piloted by 8 youth (7 male, 1 female). Although the program was interested in having an equal number of females in the pilot group, most women were not interested. The center was fully equipped with plastic processing machinery, such as a plastic chipper and plastic pelletizer that produced plastic chips and pellets. These plastic products had a fair price on the market compared with the prices for raw plastic. The price for pellets was \$1.20 per kg and the prices for chips was \$0.85 per kg, while the price for raw plastic was less than \$0.20 per kg. This low price for raw plastic has been discouraging people from collecting plastics for sale, and the value addition and better price for the processed plastic was expected to create demand for the waste plastic, which would result in the improvement in the cleanliness of the environment while improving the income levels of the youth. EMA managed to link the youths doing the plastic recycling to the market. By January 2015, they had managed to sell a total of 1,900 kg of plastic grommets valued at \$1,620. The current melt down of the Zimbabwean economy, liquidity crunch and the closure of companies was also affecting the plastic recycling industry and the youth were facing marketing challenges ranging from delayed payments, low prices and unscrupulous buyers who wanted to disadvantage the youth group in the process. They were however advised to confine their transactions to those buyers known and approved by EMA. Mercy Corps managed to procure five cages and four push carts for waste separation and these were fixed at premises where there was a high generation of waste plastic paper such as Mega pack, and supermarkets like OK, TM, Spar and Metro Peach. The waste collected was transported to the plastic recycling using the push carts donated by the program.

In Bulawayo, a total of 49 (33 males and 16 females) youths, were trained in gully refurbishment. The main aim of this activity was to address the issue of siltation in the sewer system (major cause of sewage blockages) by installing new gullies above ground level as well as equip the local youth with building and plumbing skills. The training was done by the officials from the Bulawayo City Council Engineering Department. The participants were encouraged to use the skills they acquired to continue with gully refurbishment activities in their respective wards as an income generating activity (IGA). The youth were set to get a lot of business from the year 2015 onwards, as the Bulawayo City council was planning to make it mandatory for every household to have an upgraded gully trap to prevent further blockages. A total of 60 (20 from each of the 3 wards) households benefited from the trial gully upgrading activity.

Support to Youth friendly Centers

It was noted from the DRR trainings that were conducted across the 5 urban centers that urban youth were vulnerable to a lot of hazards when compared to their rural counterparts. In high density areas, entertainment was concentrated in sports bars or beer halls with less available for the youth as these were adult areas. The high prevalence of gender based violence cases amongst the youth which the Ministry of Youth and Gender attributed to a lack of or limited entertainment space for the youth. It was out of such concerns that the project supported the establishment or strengthening of 4 Youth Friendly Centers. In Masvingo, two centers, Mucheke and Rujeko Youth Friendly Centers, were supported with edutainment and sporting equipment. The idea was to enable youth to access edutainment and sporting equipment in environments favourable for them with limited exposure to potential abuse, or exposure to, drugs, beer and tobacco.

In Mbare, the program, through the Works Department, refurbished two Youth Friendly Centers other in Matapi. The program provided the materials for repairs and the Works Department provided the artisans and technicians to carry out the repairs. These two centers were equipped with television sets, desktop computers, desks and chairs and other edutainment materials and resources. The materials were handed over to Harare City Housing and Corporate Services Department. A MoU was signed between Harare City, Harare Central DA's office, Ministry of Youth and the Ward Youth Committees detailing how the YFCs were going to be operated and run. A list of the equipment donated was also provided to all the stakeholders to ensure transparency and accountability in their use.

SECTOR 2: IMPROVING AGRICULTURE PRODUCTION/FOOD SECURITY

Objective: To improve urban populations' reliable access to nutritious food through improved incomes and production.

Six hundred and sixty seven (667) households were trained in seed multiplication across the 5 cities. One hundred and twenty (120) beneficiaries were trained in Chitungwiza, 220 in Bulawayo, 79 in Masvingo, 213 in Mutare, and 35 in Mbare. The training was facilitated by AGRITEX Officers in collaboration with some private seed companies. The topics covered were isolation distance for seed production, planting depth and spacing, roguing, planting time, weeds, pest and disease control, fertilizer application, harvesting, grading, and storage. The areas covered during the training were assessed and further extension support was given during the post planting monitoring to ensure that the beneficiaries produced good crops.

In Chitungwiza, sugar beans were promoted for seed multiplication. Unfortunately, the crops did not perform according to expectations. On average, the farmers harvested 25kg, with the most harvesting 100kg and 5kg for the least on a 2000m² plot. The poor yields were attributed to the heavy rains received in December/January 2013 whilst the crop was at flowering stage and the mid-season drought experienced towards the end of February 2014.

In Masvingo, it was discovered that due to the low agricultural potential of the area for crop production, the fruit tree value chain was more viable than other value chains. Therefore, the farmers were trained in fruit tree seedling multiplication. Four (4) AGRITEX Extension Workers and one Forestry Extension Officer were trained together with 79 farmers. Officials from the Chiredzi Agricultural Research Station were responsible for the training. Chiredzi Research Station provided the capacity development requirements needed by the farmers as well as the germ-plasm for fruit tree seedlings production and quality control or guarantee for the fruit tree seedlings before they were supplied to the retail outlets. Farm & City Center was the retail outlet for the fruit tree seedlings produced by the farmers. Two separate MoUs were signed between Masvingo Farmers and Chiredzi Research Station and between the Masvingo Farmers and Farm & City Center. The MoUs were meant to 'level' the value chain governance issues that usually affect members on the bottom of the economic pyramid by those on the upper section of the economic pyramid. Because of the short term nature of the intervention, no sales were registered for the fruit tree seedlings by the end of the project as some of the stages and procedures for fruit tree seed multiplication are season specific. The plant materials (scion and buds) for grafting and budding root stocks were only available at the onset of the rainy season. However, the binding MoUs ensured that farmers would follow the agreed arrangements of marketing with Farm & City Center with the Chiredzi Research Station giving a quality guarantee.

In Mbare, Mutare, and Bulawayo, farmers were interested in seed multiplication and seedling productions for vegetables such as cabbage, onion and tomato as these vegetables were in high demand and compatible with the little space the residents had for agriculture in their backyards. Trainings in the 3 urban centers were conducted by Agritex with support from other private seed house companies like Prime Seeds, Farmers Choice, and Starke Ayres. In Mutare, four demonstration sites for seed multiplication were established at strategic places, one from each of the targeted high density suburb Hobhouse, Dangamvura, Sakubva and Chikanga. These centers acted as learning centers for community seedling production, where community members had practical lessons and had the seedlings to plant at their respective homes. The farmers that were engaged in farming activities in Mutare were trained in business skills and marketing by Africa University. The objective of the training was to equip the farmers with skills in marketing and financial management.

In Mbare, a seed multiplication demo site was established at Chitsere Primary School where farmers had access to reliable sources of water and all the 35 farmers were working together in the production of vegetable seedlings for sale. In Bulawayo, farmers were doing the seed multiplication on an individual basis in their respective backyards and the majority of those who were doing seed multiplication had developed their own shallow wells at their yards as the municipal water was highly unreliable.

The 667 farmers in the 5 cities were also trained in nutrition with the objective of building the capacity of urban farmers' knowledge in nutrition and encouraging the production and consumption of nutritious foods. The topics that were covered during the training included, definition of nutrition terms, nutrition and malnutrition, food security and balanced diet, intercropping, healthy diet, healthy handling and food preparation, nutrition for special groups at households, and practical cooking of mixed family menus. The facilitators also had the opportunity to orient the farmers on health and safety in food handling, infant feeding, feeding different age groups, pregnant mothers and the sick. Agritex presented on intercropping and demonstrated an ideal nutrition garden.

Household Composting IGAs Training /Training on Biodegradable and Compost pits - Training of Trainers

Six hundred and sixty seven (667) households were trained in compost making across the 5 urban centers. Agritex was the major trainer although it was working in collaboration with local agro-dealers who were prospective buyers for the compost. Compost making helped to reduce farmers' reliance on synthetic fertilizers, which were not only expensive but also not healthy for human consumption. Compost production entailed sorting and separating waste and selection of biodegradable waste for composting, thereby reducing the volume of refuse that goes to public dumping sites or accumulating in neighborhoods.

The following significant changes were noted from the establishment of the seedling demo plot, household gardens and composts:

- Farmers demonstrated improved knowledge and skills to do quality seedling and compost production.
- The farmers acknowledged an improvement in their social relations as they spent most of the time together at the gardens, discussing other issues that affect their lives. Community unity has also been enhanced through continuously working together and collaboratively for the success of the demonstration plot and household gardens. The project has managed to bring together people from different political divides.
- Improvement in the availability of fresh vegetables was noted. The farmers were utilising some of the produce from the demo plot for household consumption, in addition to selling out the excess.
- Also, the trained farmers dispersed their knowledge to other households that had space for backyard gardening and composting. The households purchased the seedlings from the established demo plot, thereby creating a network and synergies amongst the community members.
- This led to improvements in household nutrition through the growing of a variety of vegetables such as leaf vegetables, carrots, beetroot, herbs, tomatoes and onions.

EFFECTIVENESS, IMPACT AND SUSTAINABILITY OF THE JI PROGRAM

This section summarizes the findings from the evaluations undertaken to show the effectiveness, impact and sustainability of the JI program.

EFFECTIVENESS

The program has two specific objectives which were: to improve communities' responses to WASH shocks and diseases and, to improve urban populations' reliable access to nutrition.

Information Flow

One of the requirements for responding to WASH disasters is information and the program established platforms for sharing information with all members in the community. The program managed to establish health clubs in schools where school children could be reached with health and hygiene messages. The club membership included both girls and boys. The enrolment into the clubs was based on a voluntary basis, so in theory, all children could join. The Health Masters and school club members interviewed during the mid-term and end of program evaluation in Harare, Bulawayo, Masvingo and Mutare indicated that the clubs were effective in transmitting information on hygienic education to children. At one school in Mbare, 60% of pupils were able to respond to questions on hygiene, whilst in Masvingo, the inter schools competition proved that pupils understood what was being taught. In a PHHE schools competition held in Masvingo, an event which was supposed to last until 1pm was extended to 3pm because judges were finding it difficult to separate schools as all pupils were getting all the answers correct. According to the Health Master in Chitungwiza, transmission of hygienic education from child to child was more effective than having teachers instruct the pupils because the pupils spend a lot of time together and could give advice that was targeted at inappropriate peer behaviour.

The community health clubs in the targeted urban centers were also good vehicles for information flow to the general public. The clubs were generally not discriminatory and any member could join. The club meetings were conducted within the residential areas of all the club members such that no one could be excluded from sessions by virtue of no transport money. The tools used for the sessions were also illustrative so that those who are illiterate could understand what was being done. The facilitator was also one of the community members who spoke to members in their own language, and therefore, members understood the language well and no-one expressed fear in approaching their facilitators. The use of the promoters was gaining acceptance among the residents who were now giving respect to the hygiene promoters. The respect was also because the promoters have for a long time been part of the volunteers in programs such as Home Based Care facilitators and in some cases, like Bulawayo, they were not getting paid, so community members understood that the promoter's interest was more for community improvement than money. The clubs were also effective in communicating the information to members polluting the environment. Being residents of the same areas, their information and education was targeted at households who either usually pollute the streets or open areas close to their areas of residence, or whose homes were often unhygienic. Furthermore, hosting of the training in the areas where the problems were being experienced increased the effectiveness of what was being learned by both the promoters and club members since the examples of the issues under discussion were in their local area.

The trained farmers were also effective in transmitting information to other farmers. Some farmers, especially in Masvingo, remarked on how they now farm from an informed position and now regard farming as a business. The farmers interviewed during the mid-term evaluation were able to articulate some of the key issues in farming, ranging from planning, financing options, fertilizer use, seed choice, spacing, and marketing. However, farming was not open to all members of society because some could not join the clubs due to a lack of land. In Chitungwiza and Mbare especially, this shortage of land was a major barrier for farmers to practice seed multiplication.

Income Flow

The farmers clubs and the practice of saving and lending money within clubs were effective in improving nutrition. The farmers were given information which allowed them to grow a variety of vegetables, thus improving their nutrition. The factors contributing towards the effectiveness of this intervention was that

the gardens were completely under the control of the households and use of the vegetables was dependent on need.

IMPACT OF THE PROGRAM

Significant positive impacts were realized from the program intervention in terms of social networking, communication between council and its residents, economic, hygiene and health improvements. Table 2 below summarizes the activities by percentage changes brought by the program.

Table 2: Activities by percentage change brought by the program from baseline to end line

Activity	Baseline percentage	End of program percentage
Households practicing hand washing at critical times	58%	81%
Households with members who suffered from diarrheal diseases in the preceding 6 months	15%	8%
Households practicing point of use water treatment	63%	77%
Average Income realized from those who grew vegetables (per beneficiary)	\$20	\$30
Households using private flush toilets	90%	98%
Households with hand washing facilities in their sanitation facilities	55%	70%
Households using water and soap for hand washing	18%	76%
Households using drip drying for drying hands after hand washing	26%	69%
Households with clean backyards	65%	85%
Households reporting open defecation in their neighborhood	9%	3%
Households storing their water, for cooking and drinking, inside their houses	85%	100%
Schools with clean sanitation facilities	17%	90%

Positive Impacts

Social Networking

The existence of initiatives such as the hygiene clubs, farmers, and solid waste recycling groups has brought the residents in the same locality together. This togetherness improved socialization among community members. This improved socialization and networking allowed the sharing of ideas among members, especially the women. The clubs were cross cutting in terms of the ages of its members and thus, interaction between the young and aged women was improved in the society. *“The clubs have helped me to network with people I would otherwise never talk to”* remarked one club member in Mbare. The sharing platforms created were also important for discussing other social problems which brought to the forefront, psychological burden among the community members. The creation of interactive communities

enhanced togetherness, which was critical in preventing tensions even during political unrests which epitomized these areas during national election times.

Among the school children, socialization was improved. In some schools like Lotshe, Shingai and Sakubva, the club members were responsible for monitoring litter and thus encouraging interaction across grades. In most schools membership was across grades and the networking within the school was improved. The clubs provide a platform where children could present their issues and concerns. For example, in Frances A Phiri, one of the school health club members was able to share her problem of using a communal towel at home, and other members were able to help her troubleshoot ideas on how to avoid this. .

Dialogue between Residents and Council

Perhaps the biggest impact the JI program made was the creation of dialogue and interactive platforms between the residents and the councils and other government workers. The platform was good for both the residents and those in council. It was often difficult for residents to raise voices as individuals, but as an entity through the clubs, residents were able to get their views heard by the council authorities. The residents, through their hygiene facilitators, had the contact numbers of the relevant people within the council and they could phone to request refuse trucks to move accumulated refuse after community-led clean up campaigns. In the areas of Mbare, residents also phoned to report incidences of pipe bursts and blockages. The council was also finding it easier to pass their relevant information to the communities. In the City of Masvingo, the Mayor used the clubs as conduits to advocate against the improper disposal of diapers and also to campaign for good land conservation. The clubs within the program have been used by councils to communicate issues and roles which the community can play to improve service delivery since *“it has become evident that council cannot handle the issues of service delivery without supportive community participation”* said Mr. Ndhlovu of Bulawayo City. Government extension workers from Agritex and Ministry of Youth have also improved their dialogue with the farmers in the urban areas. Due to poor resourcing of the government extension programs, it was often difficult for Extension Officers to get the attention of urban communities who often require financial returns from their activities. Officials from EMA testified that the JI program accorded them a rare opportunity to draw closure from the community they were serving as they were actively involved in the program.

Economic Improvements

Benefits derived from solid waste recovery and agriculture interventions of the project provided much needed income for the families as well as for the local authority. Use of waste paper to make baskets and hats provided income for women. One disabled women (64 year old Mrs. Mudzingwa) in Mbare reported that she could sell up to 4 hats and 2 bags a month at a cost of \$3.00 each while another woman in Masvingo indicated that she could sell up to 6 baskets a month, which can be sold for \$6.00 each. In Mutare the Shingisanai club members, who are engaged in making glasses from recycled bottles, were selling as many as 120 sets per month at an average of \$3.00 per set. Others in Masvingo were making up to \$50.00 from selling Cobra/floor polish made from recycled plastics. For local authorities, economic gains were in the fuel saved in running refuse trucks. In Mutare, the collection of waste for recycling by club members coupled with composting practices has reduced the number of council refuse trucks from 8 to 5 per week which is a reduction of about 20%. The reduction in trips was inevitable since the vendors collected the waste before it was transported to the dump site. The collection of waste before the dump site was beneficiary to the waste recyclers because they would not pay a monthly scavenging fee ranging from \$3.00 -\$20.00 if they collected the waste direct from the producers.

Both men and women engaged in farming were already deriving incomes from the project. The production of seedlings was giving families an income after periods of about 2 weeks. One group of 10 CHC members in Mutare received an average of \$60.00 per week profit from their sales of tomatoes and

rapeseed translating to \$12.00 per member within 2 weeks. In Chitungwiza the sugar bean seeds brought \$350.00 for some farmers. In Masvingo, one resident who never used to sell any of her vegetables was getting an average of \$20.00 from selling tsunga, rapeseed and spinach per month. The money generated was enough to attract her son into gardening as a means of earning an income. One woman in Mutare's ZIMTA area used her funds to establish a tuck-shop from which she was getting profit of about \$12.00 a day. In Mbare, members of the Noble Ideas Farmers' club had each realized \$74.00 from the sale of their seedlings.

Economic empowerment has also been derived from participation in sanitation related programs. In Chitungwiza, one of the three youth groups has managed to do 3 de-clogging assignments for a total of \$24.00 shared among the 5 members. All the community health clubs had diversified into money saving and lending schemes. Members were contributing \$4 to \$100.00 a month and the money was used to lend out to club members and was shared in cash or as groceries after defined periods of time, ranging from 3-12 months. The money borrowed was charged an average interest of 20% per month. These schemes enabled some members to buy kitchen utensils, personal phones, and in highly successful cases of Masvingo's Rujeko suburb (Tasimukira Club), even houses.

Improved Hygiene

The JI project has also brought hygienic improvements within the homes and the general environment. *"We feel that the program should also be taken to Gweru where solid waste is all over in public places"* remarked one woman at a meeting at Mucheke Hall in Masvingo. The valuing of good hygiene with the homes of club members has increased and in Rujeko nearly 25 of the 60 of the club members have fitted hand washing basins into their toilets in order to encourage hand washing for family members. The clubs have managed to provide the labor required to keep clean environs and this impact in Harare has caused the city elders to demand 15 more clubs instead of the original number, so that the "flats areas" with high concentrations of both people and solid waste can be improved. *"The clubs have changed the face of Mbare"* said an official from the DA's office in Mbare. The clubs that organized several clean-up campaigns outside the project, have been an instrumental force behind the clean-up campaigns in all cities including reclaiming some spots that have been used as dump sites for years. The reclaimed areas have been turned into recreational areas for the public. In Chitungwiza, reclamation of the area near St Mary's Clinic has restored the once neglected park whilst in Mbare, close to Mupedzanhamo Market, a vegetable garden has been established at a former dumping site. The improved hygiene within cities like Bulawayo was evidenced by the fact that the number of clean-up campaigns have decreased from once a week to once a month due to increased cleanliness. The involvement of communities has assisted in maintaining clean environments. In the urban areas of Masvingo, Bulawayo and Mutare, the club members have become monitors ensuring that their streets were clean. Members of the community now recognized the roles of Health Promoters and were reporting cases of illegal dumping to them who will in turn report to the relevant council officials. The improved hygiene has also come about as a result of knowledge of what can and cannot be done. In Mutare, the public is now aware of the anti-littering by-laws that at one time, a local businessman was fined by EMA after a member of the public caught him dumping waste in a non-designated place. Furthermore, in the same city, when members observe incidents of pipe bursts, they were reporting to EMA whom they knew had the capacity to direct council to carry out repairs. Before the program, EMA used not to receive reports on pipe bursts. By the end of the program, they were receiving up to 4 reports per month from the residents.

Within schools, health masters also reported improved hygiene, though absence of hygiene enabling facilities such as water to wash hands after toilet use and tools to do clean-ups in the schools limited this impact in areas such as Mbare.

Improved Health

The project has also improved the health of the people because people now live in cleaner environments through the clean-ups and hygiene lessons. The nurses from the clinics in Chitungwiza remarked that the patients were more informed than before the JI program. Furthermore, the handling of food and water, which were usually pathways for disease transmission, have been partially blocked because women responsible for providing these to the families are now knowledgeable. Some of the targeted women also run backyard food outlets and their improved hygienic practices are passed on to these businesses. “Our vending sites are distinctly cleaner than those of non-club members” said one club member from Mbare. Furthermore the gardens have also improved food availability and diet within the homes which all contribute towards improved health.

SUSTAINABILITY

The program across the five cities has put in measures to ensure that the benefits currently being enjoyed by the communities will continue after the program phase-out. These measures fall into three broad categories, namely ownership, capacity building and felt value from participation.

Ownership

The JI program across the five cities has ensured that the local authorities were in the driving seat of the program. The supportive local authority departments (Health, Engineering, Public Works, Social Services) were actively involved in the planning and delivery processes. This was done to ensure that all involved would continue with the processes after the end of the program. However, lack of capacity to respond to sewage blockages was making all cleaning efforts by community members futile. Some of the long term plans, such as the DRR plans developed by the towns, had long term plans going beyond the life of the project. This was a strong pointer to the seriousness of the municipalities to advance the interests of the JI intervention beyond the program. In Chitungwiza, a staff from the council has already been assigned to take care of the reclaimed park on a daily basis, and hence, the park benefits will continue to be enjoyed beyond the project. In addition, some towns like Bulawayo, launched a program termed Bulawayo Solid Waste Improvement Plan (BSWIP), whose focus was to build on the achievements of the JI program and ensure that the basic tenet of the JI intervention in the city, sustainable solid waste management, will continue to take center stage even after the JI program. In Masvingo, the Mayor felt that war against solid waste was “*a Masvingo City issue and the program was to continue with or without JI.*” The communities also felt that it was their own responsibility to keep their cities clean and all clean-up campaigns were organised independent of implementing partners.

The school health clubs have been in existence since 2006 and these have been a constant as NGOs changed. This is an indication that the clubs will likely continue beyond the project. The practice of closely involving the district officials from the Ministry of Education, Sport, Arts and Culture was done in all the towns and will lead to better sustainability since the district level is keen on monitoring the continuity of the clubs. The district has pledged to ensure that all school inspectors report on the progress made by the clubs. The clubs have shown better signs of sustainability in the schools such as Njube (Bulawayo) and Shingai Primary School (Chitungwiza) where the school heads have also been called for sensitization workshops.

The hygiene promoters and club executive leadership ran the community health clubs based on the agreed constitutions, and members felt that they owned the clubs and it was unlikely that they would collapse due to ownership crises. The community clubs have been supervised, together with the environmental related departments, within council. In Masvingo, Chitungwiza, Mutare and Bulawayo the facilitators have long periods of linkages with the respective city councils and it is likely that these links will enable

continuation of the clubs through providing the support required. In Mbare, the children also participated in the activities, like gardening which will help them to continue these practices in their adulthood

The farmers club were also been closely linked to Agritex in Harare, Chitungwiza, Mutare and Masvingo, as these have participated in the training and monitoring of the farmers. Since the Agritex extension staff were permanent government staff members in these areas, they are likely going to continue interacting with the farmers even in the absence of the development agencies. In Bulawayo, the training was done by Farm and City and the interaction is likely to last for as long as mutual benefits are accruing to both community members and the company.

The residents own the responsibility of keeping their city clean. In cities such as Masvingo, Bulawayo, and Mutare, the club members' responsibilities are backed by council who respond with cautions, fines or penalties on the offenders reported by the club members. In these cities, the council respond by closing water and asking the offender pays a fine of between \$20 and \$50 depending on the city. These fees have been deterrent enough that households have generally not dumped solid waste at the cleaned-up open spaces. Those who continue to do so in cities such as Bulawayo are doing it during the night. If caught, they will be forced to remove the solid waste or pay a fine. In Mbare and Chitungwiza, the enforcement of their council reports on offenders have not been common. The non-dumping activities have been a result more of voluntary actions than of fear of enforcement as Chitungwiza has scrapped all fines for offenders. Such a system is unlikely to be sustainable in the long run.

BEST PRACTICES

The following are regarded as best practices drawn from the implementation of the project over the 18 months by the JI partners.

Table 3: Best Practices Recorded by Partners

Practice	Partners best Exhibiting them
Reclamation of previous dumping area into productive areas guarded by those deriving benefit from them- The solid waste recycling groups who were also taught about farming cleared dumps which had accumulated in open spaces. However, the public still continued to dump waste onto these spaces, forcing the solid recycling clubs to be involved in a cycle of cleaning the same spaces. The clubs decided to use the cleared areas as gardens in the case of Mbare and a Parks in the case of Chitungwiza after that dumping stopped.	Oxfam and Africare
Restoring areas into their previous use- Councils were reluctant to designate new land for recreational activities. Partners then decided to identify areas which had been designated as parks before, but for one reason or the other, had become neglected. The councils then became forthcoming in the reclamation of the area. This totally eliminated illegal dumping of solid waste in these disused facilities.	Oxfam, Africare and CRS
Working through Existing Initiatives- The program made use of the structures such as Health and School clubs which were already on the ground as functional entities. The clubs were generally for hygiene lessons, but after some time, monotony was affecting functionality. The program then provided members with new skills such as farming, compost making and business management. This made the clubs more relevant and more responsive to the dynamics of the urban environment.	All Partners
Giving Graded Work to Pupils- It was difficult for teachers to assess whether or not pupils were mastering the PHHE lessons. Giving written tests and quiz competitions during the club times helped the club coordinators to determine the effectiveness of their lessons. It also generated interests amongst the pupils.	All Partners
Supporting Council priority areas- The supported municipalities already had some plans on the ground regarding improving WASH services, but these were lacking effective strategies and financing. Identifying and supporting these plans got an automatic buy-in from the council officials making the subsequent implementation fast.	All Partners
Gully Trap Raising- Sand and foreign particles contributed the most towards sewer blockages. The councils could not do much since the low gully traps were on privately owned houses. Development of a private youth group to provide gully raising expertise was a good initiative.	CRS

Practice	Partners best Exhibiting them
Formalizing Private Sector Engagement- Most small enterprises fail because of lack of capital equipment and market. In addition, some community groups have to deal with markets that change rules as and when they feel like making it difficult for small players in business. In Masvingo, a private company was engaged and agreed to buy recycled waste from the community groups. Besides providing the market, the private company also promised to donate equipment to use in the project. All these agreements were officiated by an MOU to ensure that relationships will continue even after the project.	CARE
Family Involvement in Clubs- The club members were involving their families in activities such as compost making and gardening. The members were coming to do the parent's duty in the absence of the club members ensuring that the club's projects would not suffer. In other settings the family members started their own projects such as compost making and sack potatoes copying from the family members who were in the project. In other settings involving long term projects, a family member was allowed to take over in case of the death of the participating relative	Oxfam and CARE
Community Financing of Projects- The targeted members were vulnerable and often did not contribute cash to the projects they ran. However in one situation in Mutare, the members of one club started the farming project with their own resources. The members have a strong commitment to the success of the project since they committed their own funds.	Mercy Corps
Giving Communities Quick Wins- People in urban areas are not sure of the benefits to be derived from programs. Activities which give quick and visible benefits such as clean up campaigns, plastic recycling initiatives made the communities to develop faith in the JI partners and the program and elicited the community commitment needed for program sustainability.	All Partners
Making Councils Identify Resources Persons- Programs generally stop after the partners pull out because the supported local authorities would not be sure about how to do it. Making the local authorities lead the process or making them resource people would promote their continuation with the capacity building activities after project comes to an end.	Mercy Corps
Collecting Waste at Generation Point- General waste was collected at the dump site where waste pickers pay a fee to access the waste. Transportation of the waste to the dump site also increased the volume of waste carried by local authorities. Thus collection of recycled waste at the point of generation saved money to both the communities and the council through savings from license fees and transport cost respectively.	Mercy Corps
Getting Buy-In from Headmasters- School health clubs suffer from lack of support by school decision makers. The engagement of the headmasters prior to the initiation of school health club activities made it easier for health coordinators to run the clubs within the schools.	Africare and CRS

LESSONS LEARNED

The program has provided the following lessons learned:

- Effective coordination among multiple stakeholders in urban areas helps to ensure transparency in program objectives and implementation modalities at all levels.
- Clean-up campaigns have the greatest potential for lasting impact when local authorities are proactively engaged to work alongside communities in the process.
- Private sector engagement requires involvement from project inception, needs identification, planning, prioritisation, and implementation and evaluation to positively impact community clean-ups. Local businesses also need to be engaged as they and their customers can be significant contributors to sustainable urban waste management.
- CHCs identified that clean-up campaigns that only targeted local residents have limited impact. CHCs are more sustainable if club members diversify or complement their PHHE activities with income generating activities such as ISALs as this helps to retain motivation and incentives for the groups to continue.
- The engagement with school heads and the local offices of the Ministry of Education has been seen to have a positive impact on addressing WASH related issues through use of SHCs.
- The peer monitoring approach employed by CHCs was very instrumental in behaviour change.

- Policy issues need to be addressed around handling of solid waste so that the sector can be opened up to more players to ensure a healthy and hygienic environment for the communities.

RECOMMENDATIONS

- There is a need to look for alternative markets for the recovered products from waste as the available markets offer low and unattractive prices to sustain micro-enterprises.
- There is a need for a hardware component or rehabilitation of the water supply and sewerage infrastructure and solid waste collection machinery to complement the learned hygiene behaviors under PHHE.
- There is need to deliberately promote Public Private Partnerships to address WASH challenges in urban areas.
- It is recommended that the local authorities should explore incentives that they may put on offer to attract the private sector players to take an active role in WASH related activities in the cities they are operating.
- There is need for the local authorities to look into ways of incentivizing the CHC, so that they do not die of after project phase-out as these proved critical for the maintenance of a clean environment.
- The information sharing forums in urban centers that were once sponsored by the program need to be revived by the local authorities as they provide a platform for continuous interaction between the local authorities, residents and business community.