

URBAN AGRICULTURE PROGRAM FOR  
HIV/AIDS AFFECTED WOMEN

(UAPHAW)

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BASELINE SURVEY REPORT

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DAYSTAR CONSULT INTERNATIONAL

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ADDIS ABABA

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**ACRONYMS**

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AIDS	<i>Acquired Immunodeficiency Syndrome</i>
ART	<i>Anti-Retroviral Therapy</i>
E/HSDP	<i>Education and Health Sector Development Programmes</i>
HAPCO	<i>HIV/AIDS Prevention and Control Office</i>
HIV	<i>Human Immunodeficiency Virus</i>
IEC	<i>Information, Education and Communication</i>
HAPCSO	<i>Hiwot HIV/AIDS Prevention, Care and Support Organization e</i>
ISAPSO	<i>Integrated Service for AIDS Prevention and Support Organization</i>
MOH	<i>Ministry of Health</i>
PICDO	<i>Progress Integrated Community Development Organization</i>
PLWHA	<i>People/Person Living With HIV/AIDS</i>
SPSS	<i>Statistical Package for Social Sciences</i>
STI	<i>Sexually Transmitted Infection</i>
TB	<i>Tuberculosis</i>
UN	<i>United Nations</i>
UNDP	<i>United Nations Development Programme</i>
UNAIDS	<i>Joint United Nations Programme on HIV/AIDS</i>
WeMSCO	<i>Welfare for the Street Mothers and Children Organization</i>

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## EXECUTIVE SUMMARY

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Ethiopia is one of the least developed countries in the world with a population of over 72 million, making it one of the largest countries in the African continent. The annual per capita income is estimated to be around 100 US dollars. Ethiopia also has a population growing much faster than what the economy can produce and sustain at any point in time. In addition, the population pyramid is characterized by having a large base resulting in a relatively high dependency ratio. With very small per capita income, the economy can not save enough to generate investment and as a result employment opportunities.

The adult prevalence rate is about 4.4 percent with a relatively high urban rate than rural. According to information from Ministry of Health, at the moment there are close to 1.4 million people living with HIV/AIDS in Ethiopia. The sex composition of this rather staggering figure shows that more than half i.e. 56 percent are women. The fact that the economy generates very few job opportunities for women completes the vicious cycle which forces women to participate in high-risk jobs like commercial sex. Hence, the Urban Agriculture Program for HIV/AIDS Affected Women (UAPHAW) is introduced to support these low-income women and their households. The program will aim HIV/AIDS affected household to introduce household nutrition gardens with the objective of improving the nutritional status of the household and increasing household income. The program is expected to reach 4500 households in urban areas of Addis Ababa and Bahir Dar.

The survey involved a total of 492 individuals that were selected based on the criteria identified in the methodology section. From this total number of respondents close to 88 percent pointed out that they participate in the HNG project. On average 82 percent of the respondents are involved in the project as individuals while 16 percent from the total respondents claim that they are involved as a group. About 1.6 percent claimed that they are involved with an institution. Regarding sex of the person who is responsible for the garden we note that, on average, 84 percent of those responsible for garden are females. By the time of the interview, 83 percent of the respondents have already started the HNG project. Most of the participants of the project seem to have done well by themselves. As such, only 30.5 percent of the respondents, from the total sample, have received training in one form or another from a particular NGO. However, there is significant variation between the different Kifle Ketema in Addis Ababa.

The overall plan of the household garden project is to provide different technological options to support participants. The first technology to be introduced is the drip kit system. In this system water from a specific container is supposed to be filtered and pulled down by force of gravity and through drips will be taken to the plants. The size of the a garden is either 30 or 100 square meters. On average, only 24 percent of the respondents have received drip irrigation kit at the time of the interview. Those living in Bahir Dare seem to be doing worse than their counterparts in Addis Ababa. Close to 63 percent of the participants in the project have pointed out that they have already have planted the garden.

Notwithstanding regional and kifle ketema variation, close to 60 percent of, from the total number of participants, has attended some sort of formal education. From the total sample 48 percent of the participants' household female aged between 24 and 55 are heads of the household. About 31 percent of the participants identified a man between the ages of 24 and 55 to be head of the household.

The top five most important sources of income for households in the sample are; casual non-agricultural labor, private service investment/trade, employment in the private sector, employment in the public sector, and pension or other social security benefits received. What is called casual non-agricultural sector provides income for close to 46 percent of the households in the entire sample. The private sector, in its entirety, provides income for about 27 percent of the total households in the sample. Only 10 percent of the households claim that they earn their labor by working for the public sector. About 4.3 percent of the respondents pointed out that the nutrition garden is their main source of income. Despite differences in shares and percentages, the over all picture is similar when we disaggregate the data in to its sub constituencies. The average monthly income of households in the sample range between 145 Birr in Bahir Dar to 482 Birr in Gulele. Food items dominate the composition of monthly expenditure of households. Within the food item category, we find a relatively higher share for Teff.

Participants of the HNG program seem to believe that the Drip Irrigation kit had no impact what so ever on their garden. The sample average of those who said so is about 82.3 percent i.e. more this percentage or respondents do not think that the use of the kit had any visible impact on the nutrition garden. However, Arada kifle ketema has the lowest percentage of respondents who argue that the kit had no use at all. In fact in this specific kifle ketema, 40 percent of the respondents have claimed that the kit uses relatively less water. Only about 5 percent of the respondents of Arada think that the kit saves the amount of labor they used in the garden. None of the respondents in the sample think that the kit helps to produce better quality crops neither do they think that the kit improves the yield of the nutrition garden. At this stage, it seems that it is too early for the beneficiaries to realize the advantages of the drip irrigation system as compared to the traditional gardening they used to do

Access to markets and finding worthy buyers is important if the HNG project is to succeed. Most of the products of the nutrition garden do not go to neither to local markets nor to commercial buyers. On average, only 8 percent of the total respondents claim that nutrition garden products go to the local market. Commercial buyers are only marginally visible, about 1 percent of the respondents taking their product to commercial buyers. Home consumption is also very marginal. Only 1 percent of the total respondents in the sample claim that they used products from the garden for home consumption. Most of the respondents did not specifically point out where the most of the products of the garden end up going.

Access to market is the most prohibitive factor for selling the vegetables from the garden. Most of those who participate in the HNG program claim that it is not at all easy to find markets. Transportation costs tend to be prohibitive when produces want to sell out side their immediate community. Sometimes the surrounding community was not able to afford

the products of the nutrition garden. Sometimes, the producers of the vegetables claim that they do not always know what price to charge for the product and as a result end up with not selling what they have produced. However, low prices and too much competition seem not to have that much influence on the marketability of the products from the nutrition garden. It then comes as no surprise if participants in the HNG program claim that more often than not they are not able to sell all the produce from the nutrition garden.

Regarding health condition of the households in the sample, we find the following picture worth noting. First, most of the causes of illness was caused by Malaria followed by Coughing and Tuberculosis. Second, 8.4 and 7.8 percent of the total 347 cases of illness were caused by stomach pain and headache. Finally, HIV/AIDS has caused only 7.5 percent of the total causes of illness over the last two months. The picture is completely different if we take out Bahir Dar, known for its high prevalence of Malaria. ( indicate the exact situation here ) Within Addis Ababa area the most important causes of sickness are Tuberculosis and HIV/AIDS, with Malaria having a relatively small impact compared with the national average. Government hospitals, health centers, and clinics provided the bulk of the treatment for the respondents. Accordingly, more than 66 percent of those who were ill went to the government sector in search of treatment. The private and Mission/NGOs served about close to 21 percent of the patients. Most of the patients, about 56 percent, paid for their own bills. About 33 percent of the patients got free service while the remaining 10 percent of the patients were luck enough to find someone to pay for their medical bills. There appears to be not much difference among the different areas in the sample.

Almost all, about 97 percent, of the respondents have one way or another, heard of HIV/AIDS. In Bahir Dar, however, 6 percent of the respondents have claimed not to had heard about HIV/AIDS. In addition most of the interviewees know the major route of HIV/AIDS transmission. Most have pointed out unprotected sex as the most important factor for the prevalence of HIV/AIDS. However, most respondents tend to mention only two transmission mechanisms. Again the most common ones are unprotected sex and use of contaminated and sharp instruments. Respondents seem not to know much about other transmission mechanism, for example, due to blood transfusion and from mother to child transmission during birth of the child.

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## BACKGROUND

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According to information from Ministry of Health, at the moment there are close to 1.4 million people living with HIV/AIDS in Ethiopia. The sex composition of this rather staggering figure shows that more than half i.e. 56 percent are women. The 15 to 24-age group by far constitute the highest number affected by the virus.

The disproportionate high number of female infection can be explained by a number of factors. First, it is argued that there is a cultural bias when it comes to choosing to have or not to have sex. In countries like Ethiopia, women are usually forced to have sex even without their consent. Second, in Ethiopia the economy does not generate enough jobs to satisfy the growing number those who join the labor force. What is worse, the gender bias towards women makes it difficult to obtain jobs and earn a decent living. This limited income generating capacity of women has serious consequences on the effort to combat the spread of HIV/AIDS. All these factors put pressure on women to participate in what are called high-risk jobs by becoming commercial sex workers.

Hence, The Urban Agriculture Program for HIV/AIDS Affected Women (UAPHAW) is introduced to support these low-income women and their households. The program aims HIV/AIDS affected household to introduce household nutrition gardens with the objective of improving the nutritional status of the household and increasing household income. The program is expected to reach 4500 households in urban areas of Addis Ababa and Bahir Dar. These urban gardening systems are expected to generate food for the household and above all a surplus, which will be later, sold to generate income.

This particular report documents the results from the baseline survey. The baseline survey covers about 492 households from the total of 4500 program beneficiaries. The baseline survey included Akaki Kaliti, Arada, Kolfe Keranyo, Gulele, and Yeka kifle ketemas (subcities) from Addis Ababa and Bahir Dar town from Amhara regional state government.

The report is organized as follows. Following this introduction there will be discussion on household characteristics. Issues included in this section, among other issues, are; participation in the HNG program, level of education, and household demographics. The third section will talk about household income and expenditure patterns. The fourth section deals with HNG production. Here issues like labor contribution, impact of Drip Kit, availability of market for garden products and per day meal consumption will be discussed. Section five and six are devoted to discussing general health conditions and HIV/AIDS behavior, respectively. Section seven concludes the report.

## PARTICIPATION IN HNG AND HOUSEHOLD CHARACTERISTICS

This section of the report documents the profile of households account, in the participation of the household nutrition gardens (HNG). The issues like sex of person responsible for the garden, organizations that are currently working with respondents, the availability of NGO training for the respondents, Irrigation kit, and finally will also account for the basic demographics of the respondents.

### HOUSEHOLD INVOLVEMENT IN HNG

The survey involved a total of 492 individuals that were selected based on the criteria identified in the methodology section. The following Table shows the geographical distribution of the respondents by kifle ketema. From this total number of respondents close to 88 percent pointed out that they participate in the HNG project. The total number of those who do not participate in the HNG program are, thus, only 61 in number. Total participation can be further subdivided in to the different kifle ketema in Addis Ababa. Accordingly, all the respondents in Kolfe Keranyo kifle ketema participate in the project while those non-participants in Akaki Kaliti, Gulele, Arada and Yeka were about 10 percent, 11 percent, 14 percent, and 12 percent of the total sample in each respective Kifle Ketema, respectively. In Bahir Dar, 87 percent of the respondents participate in the nutrition garden project. Table 2.1 elaborates these points.

As pointed out above, about 12 percent of the interviewed do not participate in the nutrition garden project. Those who do not participate in the HNG project were asked if they own any household garden and most of them (82 percent) do not have household garden. Area disaggregation shows that most of those who do not own gardens are found in Bahir Dar. Within Addis Ababa, Arada has the highest number of respondents without gardens followed by Yeka, Gulele, and Akaki Kaliti. All the sampled households in Kolfe Keranyo are participants of the nutrition garden and, thus, own a garden already.

*Table 1 Household involvement in HNG*

Area	Household involvement in HNG		Total number of Respondents
	<i>Yes</i>	<i>No</i>	
Arada	66	11	77
Akaki Kaliti	45	5	50
Gulele	49	6	55
Kolfe Keranyo	10	0	10
Yeka	114	16	130
Bahir	147	23	170

Dar			
Total	431	61	492

On average 82 percent of the respondents are involved in the project are involved as individuals while 16 percent from the total respondents claim that they are involved as a group. About 1.6 percent claimed that they are involved with an institution. In Arada kifle ketema all the participants are involved as individuals. In Akaki Kaliti, the majority of the respondents (51%) claim to be involved as group while 47 percent are involved as individuals.

### SEX OF PERSON RESPONSIBLE FOR THE GARDEN

Regarding sex of the person who is responsible for the garden we note that, on average, 84 percent of those responsible for garden are females. The lowest female participants were from the Kolfe Keranyo kifle ketema where only 60 percent of those responsible were females. The highest female participation, within Addis Ababa, was registered in Yeka kifle ketema where 87 percent of the respondents were females. In Bahir Dar, 87 percent of those responsible for the nutrition garden were females.

*Table 2 Sex of person Responsible for the garden*

Area		Male	Female	Total
Arada	Count	17	49	66
	% Of Respondents	25.8	74.2	100
Akaki Kaliti	Count	12	35	47
	% Of Respondents	25.5	74.5	100
Gulele	Count	7	42	49
	% Of Respondents	14.3	85.7	100
Kolfe Keranyo	Count	4	6	10
	% Of Respondents	40.0	60	100
Yeka	Count	16	105	121
	% Of Respondents	13.2	86.8	100
Bahir Dar	Count	16	133	149
	% Of Respondents	10.7	89.3	100.

### ORGANIZATIONS WORKING WITH HOUSEHOLDS

Different organizations as implementing partners of ECIAfrica are known to support the participants on the nutrition garden project. So far Dawn of Hope supports a relatively higher number of participants. Accordingly, close to 20 percent of them are working with this particular organization. About 12.7 percent of the respondents were working with BioEconomy Association while more or less similar percentages of the respondents were working with WeSMCO.

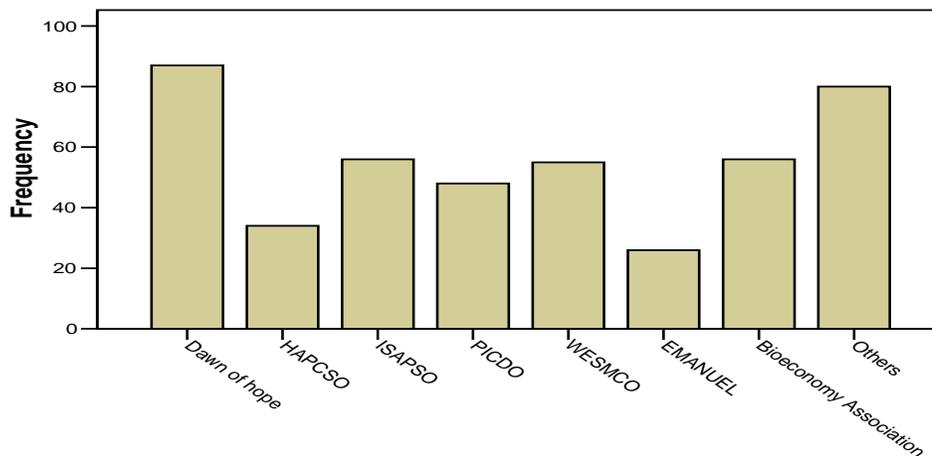


Figure 1 Name of the Organization working with beneficiaries

In Arada kifle ketema, 83 percent of the respondents are working with WESMCO while about 14 percent are working ISAPSO. A mere 3 percent are working with Bioeconomy Association. The picture in Akaki Kaliti is a very different. In this area we find most of the respondents, 55 percent, working with EMMANUEL. About 21 percent of the respondents work with Dawn of Hope and the same percentage of households get help from HAPCSO. In Gulele, the majority of the respondents i.e. about 96 percent work with ISAPSO. The other 4 percent of the respondents of the area work with Bioeconomy Association. In Kolfe Keranyo kifle ketema all the respondents get help exclusively with HAPCSO. The participation of NGO's in Yeka area is more diverse compared with the other areas in Addis Ababa. As such, close to 40 percent of the respondents get help from PICDO while another 43 percent are currently working with Bioeconomy Association. About 12 percent manage to get help from HAPCSO. Most respondents, about 52 percent, in Bahir Dar claim to get assistance from Dawn of hope while other unnamed organizations help the remaining 48 percent of the respondents.

All beneficiaries from ISAPSO are involved in the HNG project as a group. Since the project is too new. No one received the Drip Kit. Seven persons from the two groups got training how to cultivate vegetables but not all members of the groups. Besides they do not get income from the project yet. The HNG site is not yet fenced and may be liable to thief, external intruders, etc. Moreover beneficiaries need to be trained vegetable gardening. In addition to this, market center should be arranged. The respondents also said that HIV/AIDS is transmitted through unsafe sex, sharing sharp instruments, etc. On the other hand HIV/AIDS can be prevented by having sex with faithful partner, abstinence and using Condoms. They also suggested any concerned body to arrange them other income generating activities and teaching us on HIV/AIDS related issues and other health related topics.

All EDA beneficiaries are involved in the HNG project as an individual. The project is at the first stage of implementation. On account of this no income gained till now from the project. Though they got training how to layout the drip sytem, agronomy of vegetables and how to prepare compost, however, beneficiaries are aspiring further training. Water tank and dripers (Drip Kit) are supplied to them. All participants have knowledge about the nutritional values of vegetables. Vegetables are important to health by protecting our body from diseases, acting as an appetizer etc...On the contrary; still the project is too new; they ever not consumed vegetables from the HNG Garden. All participants have awareness about HIV-AIDS. They said that HIV-AIDS is

transmitted from person to person from unsafe sex. Furthermore sharing sharp instruments can transmit the virus. Finally they said that abstinence, faithful partner and using Condoms are the main preventive mechanisms from HIV-AIDS.

All beneficiaries from PICDO are participating in the HNG project individually. Some of the beneficiaries have got training how to cultivate vegetables. However, all of them are not provided with Drip Kits. They also said that spade, "Doma", etc which are vital instruments to vegetable gardening are not supplied to them yet. All of them said they have consumed vegetables and they have knowledge about the nutritional values of vegetables. Participants in the FGD (define) forwarded that vegetables act as appetizer, protect our body from diseases and give energy to our body. Moreover, most of the participants in the FGD have awareness about HIV-AIDS. Unsafe sex, having sex to unfaithful partner and sharing sharp instruments are the major transmittive mechanisms to HIV/AIDS. On the other hand abstinence, faithful sexual partner and using Condom are the major preventive mechanisms to HIV/AIDS. The HNG project has been supporting us in our daily food intake especially in the summer season. We eat fresh vegetable like Cabbage,"Swith chard","Beat root", Carrot, Potato etc... And some times they have sold vegetables from their garden and supported their home consumption.

#### LAUNCHING OF THE PROJECT, NGO TRAINING AND IRRIGATION KIT

By the time of the interview, 83 percent of the respondents have already started the HNG project. In Arada and Kolfe Keranyo kifle ketema all of the participants of the project have already started the home nutrition garden project. However, there are non-starters in Akaki Kaliti, Gulele, and Yeka. The respective numbers of non-starters in these areas are 28 percent, 10 percent, and 28 percent of the total number of respondents in those particular areas. The total number of those who have not started the project at the time of the interview in Bahr Dar was 25 out of a total of 149 project participants.

Most of the participants of the project seem to have done well by themselves. As such, only 30.5 percent of the respondents, from the total sample, have received training in one form or another from a particular NGO. However, there is significant variation between the different Kifle Ketema in Addis Ababa. As such, Akaki Kaliti kifle ketema has close to 52 percent of the respondents having already received training from an NGO while in Yeka it was 46 percent. The percentage of respondents that have received training in Arada is only 31 percent while the figure is only 20 percent in Gulele. In Kolfe Keranyo kifle ketema, about 80 percent of the respondents have not received any form of training at all. Close to 14 percent of the respondents in Bahir Dar have received training from an NGO.

The overall plan of the household garden project is to provide different technological options to support participants. The first technology to be introduced is the drip kit system. In this system water from a specific container is supposed to be filtered and pulled down by force of gravity and through drips will be taken to the plants. This is expected to cover garden plots of size 30 and 100 square meters. On average, only 24 percent of the respondents have received drip irrigation kit at the time of the interview. Those living in Bahir Dare seem to be doing worse than their counterparts in Addis Ababa. As such, only 1.3 percent of the respondents in Bahir Dar have received the drip irrigation kit while in Arada Kifle ketema the percentage of those who have received the irrigation kit is as high as 56 percent of the respondents. The percentage of respondents, who have received the drip kit in Akaki Kaliti, Kolfe Keranyo, Yeka, and Gulele, is about 30 percent, 20 percent, 22 percent, and 47 percent, respectively. Figure 2.2 tries to portray this point.

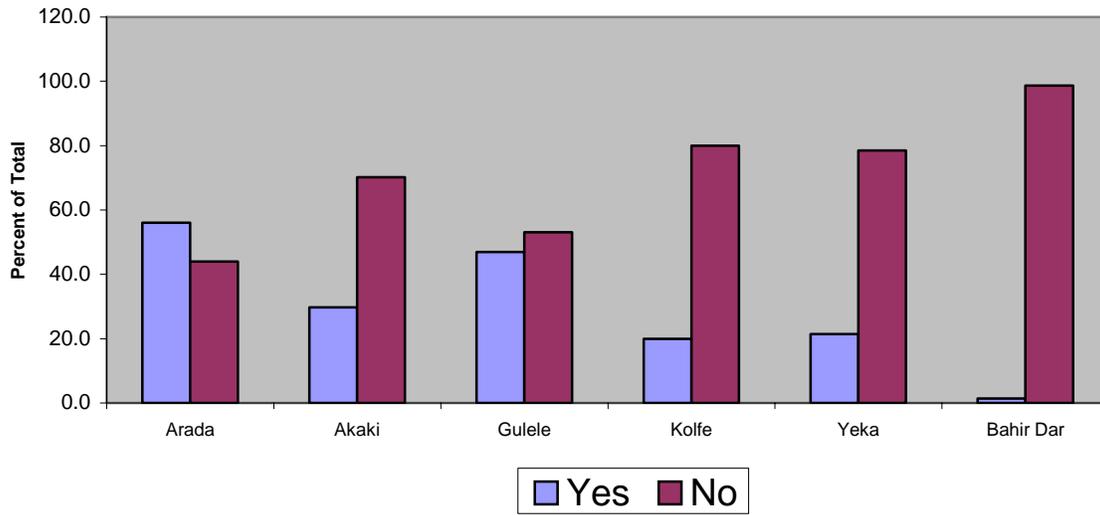


Figure 2 Have you received the drip kit?

PLANTING OF THE GARDEN

Close to 63 percent of the participants in the project have pointed out that they have already have planted the garden. The percentage of those who have planted their garden is higher in Bahir Dar with a ratio of 72.5 percent of the respondents. Within Addis Ababa the ratio ranges from a high of 74 percent in Arada to a low of 51 percent in Gulele. In Akaki Kaliti area, 53 percent of respondents have already planted their garden while in Kolfe Keranyo, the figure is about 70 percent.

According to the respondents, most of the gardens, on average, were planted during the months of March and April 2004. But there is a bit of area variation as regards planting of the gardens. In Bahir Dar, 62 percent of the respondents planted their garden in March 1997 Ethiopian Calendar. In Arada kifle ketema, the majority i.e. 60 percent of the households planted their garden in April 1997 E.C. About 17 percent of respondents of this area claimed to have planted their garden in March of the same year. In Akaki Kaliti area, 48 percent planted their garden in March 1997 while another 38 percent did so the next month in April of the same year. The majority of households in Kolfe Keranyo and Yeka planted in March 1997. Figure 2.3 below summarizes these points.

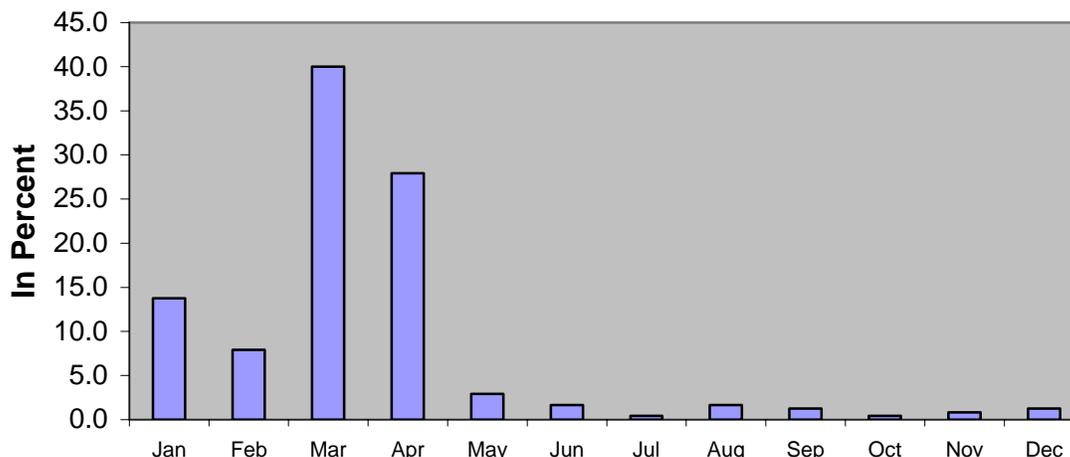


Figure 3 When was it first planted?

EDUCATION LEVEL OF HOUSEHOLDS

Notwithstanding regional and kifle ketema variation, close to 60 percent of, from the total number of participants, has attended some sort of formal education. In Kolfe Keranyo kifle ketema, all of the participants had some formal education while the figure is only about 67 percent for Gulele. The further one goes out of the capital city of the country the less the access to education will prove to be. For example, in Bahir Dar 69 percent of the respondents did not attend any kind of formal education.

Table 3: Formal Education Attendance

	Yes (In percent)	No (In percent)
Arada	71.4	28.6
Akaki Kaliti	80.0	20.0
Gulele	67.3	32.7
Kolfe Keranyo	100.0	0.0
Yeka	75.4	24.6
Bahir Dar	31.2	68.8
Total	59.6	40.4

A closer look at the level of formal education that the participants gained gives the following picture. First, only 1.8 percent of the project participants have either a certificate or a diploma. Second, close to 15 percent of the participants have completed grade four. Third, those who have reached up to the 8<sup>th</sup> grade are only 22 percent of the participants. Fourth, those who have gone as far as the 10<sup>th</sup> grade are only 10 percent of the participants. Fifth, those who managed to complete high school are only 6 percent of the total. Finally, those with only traditional education are about 11 percent of the project participants.

DEMOGRAPHICS OF HOUSEHOLDS

Going further into the demographics features of the household we find that more often than not the households are female headed. Accordingly, in 48 percent of the participants' household female aged between 24 and 55 are heads of the household. About 31 percent of the participants identified a man between the ages of 24 and 55 to be head of the household.

From the Addis Ababa and Bahir Dar, we can depict the following picture. In Arada area, the percentage of the female (between the ages of 24 and 55) headed households is higher than the sample average, being at about 60 percent. Gulele kifle ketema has a ratio less than the total sample average, standing at only about 42 percent of the participants being female-headed households, with the above age group. The highest percentage of male (between the ages of 24 and 55) is found in the Gulele kifle ketema i.e. about 46 percent of the project participants in this area are male headed households. Arada kifle ketema has by far the lowest share of male (between 24 and 55) from the general sample i.e. only 20 percent of the households.

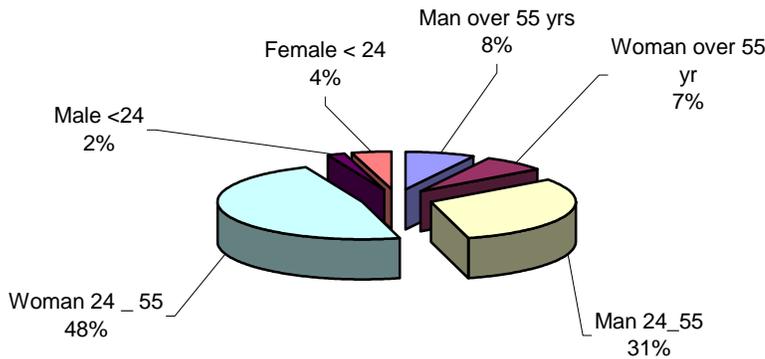


Figure 4 Household Head age composition

**HOUSEHOLD INCOME AND EXPENDITURE**

SOURCE AND MONTHLY INCOME OF HOUSEHOLDS

This section of the report focuses on source of income of households and on the expenditure pattern. The analysis divides income by some major activities. Expenditure is analyzed on three fronts; daily, weekly and annual expenditure patterns.

The top five most important sources of income for households in the sample are; casual non-agricultural labor, private service investment/trade, employment in the private sector, employment in the public sector, and pension or other social security benefits received. What is called casual non-agricultural sector provides income for close to 46 percent of the households in the entire sample. The private sector, in its entirety, provides income for about 27 percent of the total households in the sample. Only 10 percent of the households claim that they earn their labor by working for the public sector. About 4.3 percent of the respondents pointed out that the nutrition garden is their main source of income. Despite differences in shares and percentages, the over all general picture is similar when we disaggregate the data in to its sub constituencies.

Specifically, the role of agricultural income in urban centers of Addis Ababa is pretty small compared with the Bahir Dar area. Notwithstanding, there are differences within Addis Ababa but they tend to be marginal differences. Rather, non-agricultural income plays an important role in Addis Ababa.

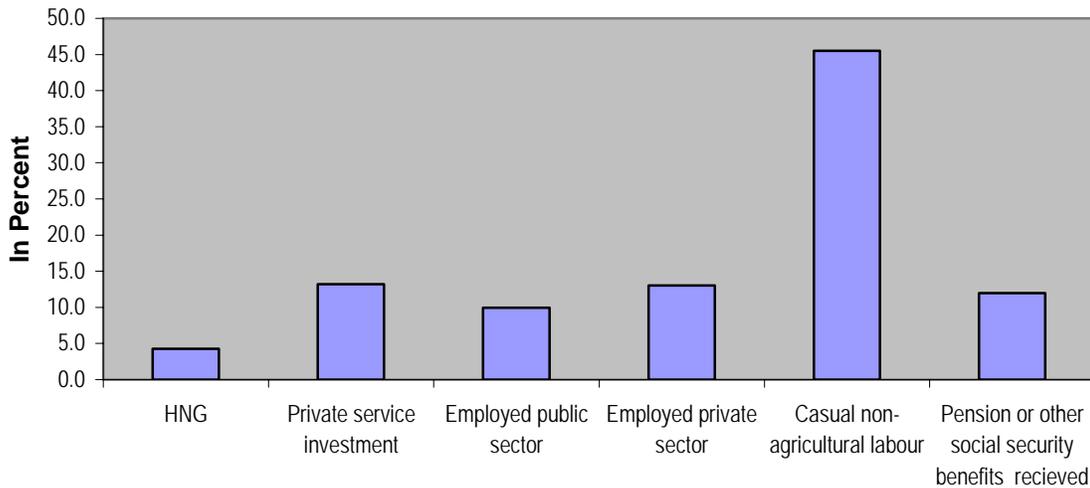


Figure 5 Source of household Income

Much of the income in the different areas of Addis Ababa has come from wages and salaries of the public sector. Wages and salaries of the public sector contribute the second most important source of income. Close to 74 percent of the households in the sample reported that their income has not changed at all during a year's time. About 80 percent of the respondents living in Arada claimed that their income has not changed at all for a yearlong. The percentage was smaller for the Gulele residents i.e. only 59 percent of respondents claimed no change in income.

The most important source of income for households from Arada kifle ketema is what we call casual non-agricultural labor income. About 43 percent of the households seem to depend on this casual work. Private and public sector employment come second and third, respectively, employing about 17 and 12 percent of the households. The household nutritional garden (HNG) is the source of income for only 2.4 percent of the respondents in this area. The role of private service employment or trade can not be undermined with 7 percent of the households claiming to depend on it as a source of monthly income. Remittances or benefits received have a modest contribution in the sample of households in Arada kifle ketema. As such, close to 7 percent of the respondents claim to depend on benefits received from outside household sources. The following paragraphs will further elaborate on these issues.

The average monthly income of households in Arada is about 164 Birr. All of this comes from non-agricultural income. Specifically, the money comes from employment in the public and private sector. As such, wages and salaries from both private and public sectors cover about 38 percent of income in Arada kifle ketema. Gifts and remittances provide close to 14 percent of the average income in this area while rent of house raises about 3 percent of the average income. About 80 percent of the respondents in Arada claim that their income has not changed at all over a 12-month period. A relatively minority of the respondents i.e. 6 percent claim a rise in their annual income while close to 13 percent pointed out a decrease in income compared with the previous period.

In Akaki Kaliti kifle ketema, the majority of the households get their income either from casual non-agricultural labor income or benefits received. Accordingly, 20 percent of the sampled households in this area claim to earn their income from casual non-agricultural labor work or from benefits received. The public and private sectors employ an equal, 14 percent, of the respondents. It should be pointed out that Akaki Kaliti is the location of a relatively large number of public and private manufacturing industries. Hence, the equal contribution of the two sectors. The role of HNG in Akaki Kaliti is higher than that we find in Arada. As such, HNG provides income for about 6 percent of the households in this area compared with only 2.4 percent in Arada kifle ketema. Private service or trade and donations from private households are sources of income for about 8 and 10 percent of the households, respectively. The role of subsistence agriculture is relatively important in Akaki Kaliti than other areas of Addis Ababa. In fact, it is only in Akaki Kaliti and Yeka that we find any role for subsistence agriculture as a source of income. In both areas about 2 percent of the respective samples of households get their income from this particular source.

The average monthly income in Akaki Kaliti kifle ketema is about 178.7 Birr. Wages and salaries from both public and private sectors are source of income for majority of the respondents in this area. Accordingly, wages and salaries from both sectors contribute about 65 percent of the monthly income while gifts/remittances provide another 22 percent. The sale of vegetables and grains provide about 5.4 percent of the average monthly income. The majority of the respondents in Akaki Kaliti argue that their income showed no change compared against the previous year. About 19 percent claim that their income has declined over the twelve-month period while the rest 14 percent point out a rise in their income.

Those living in Gulele kifle ketema earn their monthly income mainly from two sources. Again the dominant source of income is casual non-agricultural labor. This specific category is source of income for about 38 percent of the households in the sample. The other major source of income in the area is rural cottage industry, which employs about 33 percent of the respondents of this particular kifle ketema. Private service investment or trade has a relatively higher significance in this area than other parts of Addis Ababa. As such the percentage of households depending on this source is 16 percent compared with only about 8 percent in the other areas. Public sector

employment has only a modest 5.5 percent contribution for income in Gulele Kifle Ketema. Household nutritional garden has no contribution for monthly income for households in this specific area.

The average monthly income in Gulele is about 482 Birr(. This average monthly income mainly emanated from three sources. Gifts/remittances contributed 47 percent; rent of house and sale of assets contributed 23 and 22 percent, respectively. Wages and salaries on the other hand had a share of 17 percent. Again most of the respondents i.e. 68 percent of the respondents in this area claim that their income has shown no change compared with the previous year while 27 percent assert that their income has taken turn to the worst and declined compared with the previous year.

Casual non-agricultural labor again is the major source of income in Yeka kifle ketema. Close to 36 percent of the households claim to depend on this sector. Household nutritional garden is a source of income for 5.6 percent of the respondents while both public and private sector employment each proved income for 8 percent of the sample in this area. Some households depend on house rent i.e. about 5 percent. Subsistence agriculture is a source of monthly income for about 2 percent of the respondents.

The average income in Yeka kifle ketema is about 225 Birr. Wages and salaries from both public and private sectors are source of income for majority of the respondents. As such, wages and salaries from both sectors contribute about 52 percent of the monthly income while gifts/remittances provide another 18 percent. The majority of the respondents in Yeka argue that their income showed no change compared against the previous year. About 19 percent claim that their income has declined over the twelve-month period while the rest 14 percent point out a rise in their income.

In Kolfe Keranyo kifle ketema all the respondents are participants of the HNG program. As a result, we observe a higher role of HNG as a source of income than other areas of Addis Ababa. About 30 percent of the sampled households depend on HNG for their monthly income. Casual non-agricultural labor income provides income for another 30 percent while rural cottage industry, private sector employment, and house rent each proved income for about 10 percent of households in the sample. The average income in Kolfe Keranyo kifle ketema is about 213 Birr. Wages and salaries from both public and private sectors are source of income for majority of the respondents. As such, wages and salaries from both sectors contribute about 59 percent of the monthly income while gifts/remittances provide another 21 percent. The majority of the respondents (69%) in Kolfe Keranyo argue that their income showed no change compared against the previous year. About 23 percent claim that their income has declined over the twelve-month period while the rest 8 percent point out a rise in their income.

The situation in Bahir Dar is more or less similar with some differences. Casual non-agricultural income is the single most important source of monthly income as is the case in Addis Ababa. Private service investment/trade is the second most important source of income. Unlike Addis Ababa, subsistence agriculture has a relatively significant role to play in Bahir Dar. Household nutrition garden is a source of income for only 2.4 percent of the respondents in this area.

The average monthly income of households in Bahir Dar is about 145 Birr. About 14 percent of this comes from agricultural income like sale of vegetables, sale of grains, and fishing. The rest of the monthly income comes from non-agricultural sources. Specifically, wages and salaries from both private and public sectors cover about 64 percent of the non-agricultural income. Gifts and remittances provide close to 16 percent of the average income in this area while sale of assets raises about 3 percent of the average income. About 83 percent of the respondents in Bahir Dar claim that their income has not changed at all over a 12-month period. A relatively minority of the

respondents i.e. 3 percent claim a rise in their annual income while close to 14 percent pointed out a decrease in income compared with the previous period.

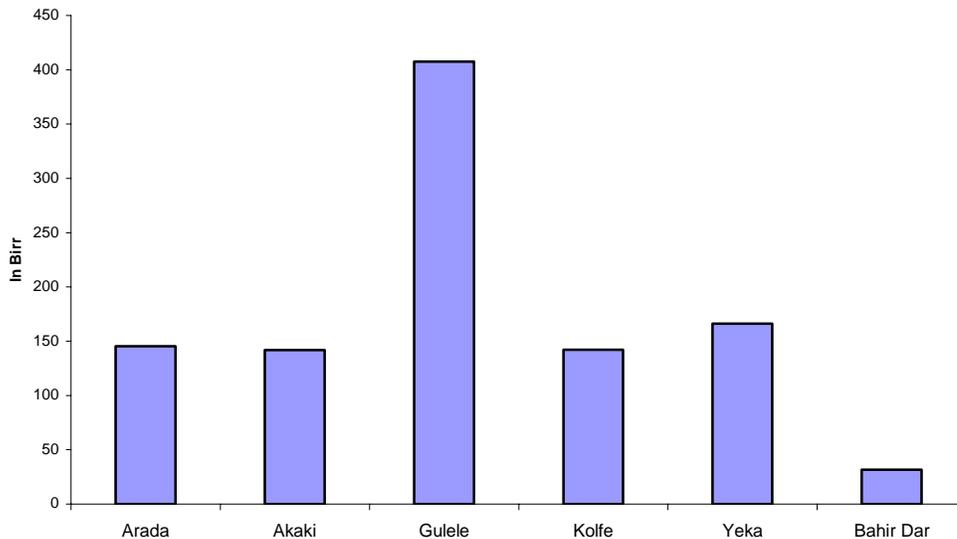


Figure 6 Household (last month) mean income

#### EXPENDITURE PATTERN OF HOUSEHOLDS

In Arada kifle ketema the total weekly expenditure, on all items, is about 1,703 Birr. From this weekly expenditure total the share of food items is 69 percent while that of other goods and services is only about 31 percent. In other words, households spend most of their income on food items compared with other non-food goods and services.

As pointed above, the total weekly expenditure on food items in general is about 1,175 Birr. From this total expenditure, Teff has the highest share by taking about 36 percent of the expenditure i.e. close to 419 Birr was spent on Teff only. Expenditure on coffee/tea took about another 30 percent of the expenditure i.e. about 375 Birr was spent on either coffee or tea by households living in Arada kifle ketema. The third important expenditure item for these households is Oil/butter, which is basically consumed on daily basis. As such, over a week's period, households spent about 98 Birr in total on oil/butter.

The weekly expenditure on other goods and services or what we call non-food items was only about 528 Birr. This can be further disaggregated in to the following items. Close to 64 percent of the non-food total expenditure was on the following five items; cooking fuel, medicine/medical care, transport and communication, school expenses, and house rent. Specifically, households in Arada spent about 24 percent of the non-food expenditure on purchase of cooking fuel. In addition, households spent about 15 percent of the weekly non-food expenditure on house rent. School expenses took about 14 percent while expenses on transport and communication, and medical care took about 4.5 and 4 percent of the non-food expenditure respectively.

The picture remains more or less similar if take the monthly expenditure pattern. Accordingly, the total expenditure on all items in Arada kifle ketema on monthly basis is about 17,915 Birr (Big figure as compared to the number of hh interwied: check). Of this sum, households in general spent about 10,742 Birr on food items and the remaining balance was spent on other goods and services. Thus, the share of food items is again the highest at 60 percent of the total expenditure.

With in the food sub category, Teff is still dominates the expenditure of households on monthly basis. Close to 48 percent of the total food expenditure is spent on Teff alone. Oil/butter take about 13 percent while the share of coffee/tea declines to only 10 percent of the monthly food expenditure. Sugar takes about 8.2 percent of the total while vegetables item take about 4.1 percent share from the total food expenditure of households. The share of high nutrition items like meat and fruits is very small at about 3.6 and 0.6 percent of the total monthly food expenditure, respectively.

The composition of monthly expenditure on other goods and services is as follows. House rent has the highest share in monthly expenditure compared with other items on the list. As such, this particular component takes about 30 percent of the non-food expenditure of households. Expenditure on cooking fuel comes next with a share 24 percent followed by school expenses. Households in Arada kifle ketema spend about 8.4 percent of their non-food budget on medicine/medical care.

The annual expenditure pattern of households in Arada kifle ketema still shows the dominance of food items compared with other goods and services. As such, the respondents claim that close to 54 percent of the annual expenditure went to buy food items. And with in food items expenditure, about 56 percent of the money went to buy only Teff. Items like fruits and meat have a very small share from the annual expenditure of households in Arada.

Households living in Gulele kifle ketema claim that most of their weekly expenditure goes to finance the purchase of food items than to buy other goods and services. This mimics the expenditure pattern found in other areas of Addis Ababa and in deed the country at large. Further disaggregation of the food items shows again the basic food habit of the population at large. As such, Teff dominates the total weekly, monthly, and yearly expenditure of households on food items in general. About 35 percent of the weekly expenditure and 60 percent of the monthly expenditure on food items solely goes to buy Teff. But only 27 percent of the annual expenditure on food items goes to finance Teff. The second important component of expenditure of households in Gulele is coffee/tea. Close to 11 percent of the weekly, and 21 percent of both the monthly and annual expenditure on food items goes to finance purchases of either coffee or tea. Weekly, monthly, and annual expenditures on meats and fruits had the lowest share in the total expenditure of households.

The share of non-food items, or expenditure on other goods and services had share of about 36 percent in the weekly household expenditure, 47 percent of the monthly expenditure and about 32 percent of the total annual expenditure of the respondents in this particular kifle ketema. The four most important expenditure items of the other goods and services category are basically expenditure on cooking fuel, house rent, school expenses, and expenditure on transport and communication.

Like the previous areas in Addis Ababa, the expenditure pattern of households in this kifle ketema is also dominated by outlays for food items against those of other goods and services. This is true weather we took the weekly, monthly or annual expenditure composition of households.

The monthly expenditure outlay of households in this kifle ketema portrays the following picture. First, 73 percent of the household expenditure goes to finance food items while the remaining goes to buy other goods and services. Second, within food items, Teff has about 51 percent of the total food expenditure outlay of all households which adds up to 25,816 Birr. The second important food item in this kifle ketema is that of Oil/butter which accounts for about 10 percent of the total food expenditure outlay. Third, the share of other goods and services in total monthly expenditure is only about 27 percent. Of the total non-food expenditure of Birr 9,406 outlays for cooking fuel has the highest share at 29 percent followed by school expenses at about 21 percent.

The overall picture remains the same if we decompose the annual expenditure pattern is more or less similar to the monthly pattern such that it is dominated by food items. Outlays for Teff dominate the overall expenditure followed by oil/butter. Expenditure on other goods and services is mainly shared by three components. Households spend close to 60 percent of the total non-food expenditure either on cooking fuel (21%), on school expenses (23%), or on house rent (16%).

In Akaki Kaliti kifle ketema the total weekly expenditure, on all items, is about 14,343 Birr. From this weekly expenditure total the share of food items is 60.4 percent while that of other goods and services is 39.6 percent. In other words, households spend most of their income on food items compared with other non-food goods and services.

From total weekly food expenditure, Teff has the highest share by taking about 37 percent of the expenditure i.e. close to 3,217 Birr was spent on Teff only. Expenditure on wheat took about another 25 percent from the expenditure i.e. about 2,154 Birr was spent on wheat by households living in Akaki Kaliti kifle ketema. The third important weekly expenditure item for these households is either coffee or tea. As such, over a week's period, households spent about 955 Birr in total on coffee/tea. Expenditure on vegetables, fruits, and meat had a share of 8.9 percent, 1.6 percent, and 1.3 percent of the total weekly food expenditure, respectively.

Total weekly expenditure on other goods and services in Akaki Kaliti kifle ketema was only about 5,681 Birr. This can be further disaggregated and will give us the following general picture. Close to 42 percent of the non-food total weekly expenditure was spent on as payment for house rent. Households in Akaki Kaliti spent about 38 percent of the non-food expenditure on payment of school expenses. In addition, households spent about 16 percent of the weekly non-food expenditure on purchase of cooking fuel. Expenses on transport and communication, and medical care took about 2.1 and 1.4 percent of the non-food weekly expenditure, respectively.

Turning to the monthly expenditure pattern, we observe the following pattern of expenditure. The total expenditure made on both food and other goods and services by households in Akaki Kaliti kifle ketema is 14,622 Birr. Of this sum, households in general spent about 70 percent of it on food items and the remaining balance was spent on other goods and services. Thus, the share of food items is again has the highest share from the total expenditure.

Within the food subcategory, Teff dominates the expenditure of households on monthly basis. Teff alone takes about 40 percent of the monthly expenditure on food items. Expenditure on items like potatoes, carrots, and cabbages take a relatively higher share of 18 percent of the monthly food expenditure in Akaki Kaliti. Oil/butter take 7.6 percent while the share of coffee/tea declines to only 7.5 percent of the monthly food expenditure. Sugar takes about 6 percent of the total while meat takes about 2 percent share from the total food expenditure of households. The share of high nutrition items like meat and fruits is again very small.

Two items dominate the composition of monthly expenditure on other goods and services. These are expenditure on cooking fuel and school expenses. Between these two we have about 55 percent of the total monthly non-food expenditure. House rent has a share of 13 percent. Expenditure on transport and communication had a share of 12 percent while households in Akaki Kaliti kifle ketema spend about 7.7 percent of their non-food monthly budget on medicine/medical care.

The annual expenditure pattern of households in Akaki Kaliti kifle ketema still shows the dominance of food items compared with other goods and services. As such, the respondents claim that close to 74 percent of the annual expenditure went to buy food items. And within food items expenditure, about 60 percent of the money went to buy only Teff.

Bahir Dar the total weekly expenditure, on all items, is about 4,934 Birr. From this weekly expenditure total the share of food items is 66 percent while that of other goods and services is only about 34 percent. As such, the share of food items is a bit higher compared with the average share in Addis Ababa. What this means is that households in Bahir Dar spend most of their income on food items compared with other non-food goods and services.

As pointed above, the total weekly expenditure on food items in general is about 3,244 Birr. From this, outlays for vegetables had the highest share i.e. close to 704 Birr were spent on vegetables only. Expenditure on Teff comes in second with about 18 percent share of food expenditure. Coffee/tea took about another 10 percent of the expenditure i.e. about 317 Birr was spent on either coffee or tea by households living in Bahir Dar. The fourth important expenditure item for these households is wheat, As such, over a week's period households spent about 296 Birr in total on wheat.

The weekly expenditure on other goods and services was only about 1,690 Birr. Given that there are 170 respondents in this area, the average weekly expenditure translates into about 10 Birr per household. Close to 60 percent of the non-food total expenditure was made on medical care/medicine (30%), cooking fuel (24%), or on transportation and communication (6%).

The average monthly expenditure of households in Bahir Dar is about 191 Birr. From this average expenditure, about 73 percent of it goes to finance food expenditure while the remaining balance is used for other goods and services. Within the food sub category, Teff dominates the expenditure of households on a monthly basis. Close to 54 percent of the total food expenditure is spent on this alone. Oil/butter take about another 7 percent while the share of coffee/tea declines to only 6.2 percent of the monthly food expenditure. Sugar takes 3.7 percent of the total while vegetables item take about 2 percent share from the total food expenditure of households. The share of high nutrition items like meat and fruits is very insignificant.

The average monthly expenditure of households on other goods and services or non-food items in Bahir Dar is only about 52 Birr. From this meager income, 20 percent of it is used to buy cooking fuel while another 18 percent is used for medicine or medical care. Other items like house rent, transportation, buying of animals add up to fill the balance.

The annual expenditure pattern of households in Bahir Dar still shows the dominance of food items compared with other goods and services. As such, the respondents claim that close to 59 percent of the annual expenditure went to buy food items. And within food items expenditure, about 30 percent of the money went to buy only Teff.

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## HNG PRODUCTION

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This section deals with the production process in the household nutrition garden. Issues like supply of labor; impact of drip irrigation, markets for products of the garden, and other related issues will be discussed

In Arada kifle ketema, 62 percent of the respondents pointed out that head of the household provide most of the labor that is used in the nutrition garden. More often than not, head of the household happens to be female. That is, 56 percent of the respondents in Arada kifle ketema said that the female provides most of the labor force in the nutrition garden. The second most important source of labor in the garden happens to be labor from sons. Close to 25 percent of the respondents concur with this conclusion. Daughters have very little contribution to labor used in the nutrition garden. As might be expected, hired labor has no role to play in the garden of the household.

In Akaki Kaliti kifle ketema, head of the household provides most of the labor used in the garden. As such, 33 percent of the respondents pointed that it is the female that is head of the household and thus which provides most of labor used in the garden. Male-headed households are only 13 percent of the respondents. Both sons and daughters have equal share of contribution, about 8.9 percent, to the labor in the nutrition garden. Again, there is no room for hired labor in this area. Other unspecified sources provide close to 33 percent of the labor force in this kifle ketema.

In Gulele kifle ketema, head of the household provides most of the labor force needed in the nutrition garden. Close to 63 percent of the respondents testify to this fact. Most of the time, the respondents pointed out, head of the household happens to be a female. As such, the bulk of labor is provided by the females i.e. 46 percent of the respondents in this area claim that it is the female that bears the burden of working in the garden. Daughters play no role in this area while the sons of households tend to have close to 9 percent role in labor on the garden. Unlike other areas, there is hired labor of sort in Gulele. That is, 6 percent of the respondents' claim that they have used hired labor in their nutrition garden.

The picture that comes out of Yeka kifle ketema is more or less similar to the above two kifle ketemas. Head of the household provides most of the labor. High percentage of the head of the household happens to be a female. Accordingly, 35 percent of the respondents in this area point out that female head of the household takes care of the household garden. Sons of the household provide more labor (7.9%) compared with daughters (2.6%). The contribution of higher labor is almost non-existent with only 1 percent of the respondents claiming they have used one.

Kolfe Keranyo kifle ketema provides a contrast with the other areas in Addis Ababa. This relates to the fact that, 40 percent of the respondents claim that it is their daughters who provide most of the labor force in the nutrition garden. Notwithstanding this important difference, again in Kolfe Keranyo kifle ketema, female-headed households dominate in terms of their contribution to labor in the garden of the household. As such, 50 percent of the respondents claim that it is the female that provides the chunk of the labor force in the family garden. Sons have no contribution in this area when it comes to labor used in the nutrition garden. There is no evidence of hired labor being used in Kolfe Keranyo kifle ketema.

The picture that comes out of Bahir Dar is not very dissimilar to that of Addis Ababa. Again, head of the household dominate the provision of labor force in the nutrition garden. Female-headed households provide most of the labor in the garden. Accordingly, 65 percent of the respondents

pointed that it is the female that provides the bulk of labor needed in the family garden. Next comes males followed by sons and daughters of the household, each providing about 13, 4, and 2 percent, respectively.

In summary, head of the household provides most of the labor used in the nutrition garden. More of the households in the sample are female-headed households. It therefore, follows that most the labor used in the nutrition garden is provided by the female sex. Next to head of the household, the next important contributor of labor happens to come from sons. The role of daughters in small compared with that of sons, except in Kolfe Keranyo Kifle ketema where daughters have a relatively higher contribution to labor force. The role of hired labor in the nutrition garden is marginal in not non-existent most of the time.

Most of the respondents had no garden before the HNG program was introduced. As such, about 82 percent of the respondents claim that they had no garden of sort before the nutrition garden was introduced to their area.

Participants of the HNG program seem to believe that the Drip Irrigation kit had no impact what so ever on their garden. The sample average of those who said so is about 82.3 percent i.e. more this percentage However, Arada kifle ketema has the lowest percentage of respondents who argue that the kit had no use at all. In fact in this specific kifle ketema, 40 percent of the respondents have claimed that the kit uses relatively less water. Only about 5 percent of the respondents of Arada think that the kit saves the amount of labor they used in the garden. None of the respondents in the sample think that the kit helps to produce better quality crops neither do they think that the kit improves the yield of the nutrition garden.

Table 4: Impact of the drip kit (% of respondents)

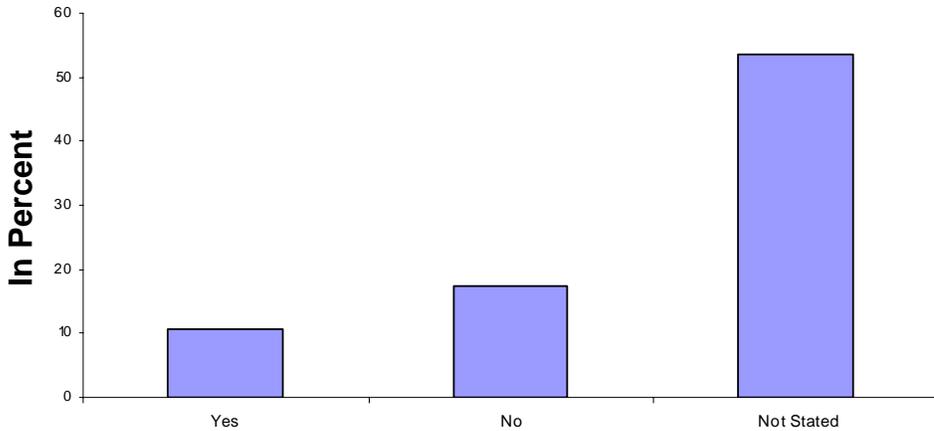
	Arada	Akaki Kaliti	Gulele	Kolfe Keranyo	Yeka	Bahir Dar
Uses less water	40.0	13.6	30	-	13.6	-
Saves labor	4.6	-	6	-	2.7	-
Increased yield	-	-	-	-	0.9	-
Better quality crop	1.5	-	-	-	-	-
Water goes deep	-	2.3	-	-	-	-
Other	-	2.3	-	-	-	-
No impact	53.8	81.8	62	100	82.7	100

Access to markets and finding worthy buyers is important if the HNG project is to succeed. Most of the products of the nutrition garden do not go to neither to local markets nor to commercial buyers. On average, only 8 percent of the total respondents claim that nutrition garden products go to the local market. Commercial buyers are only marginally visible, about 1 percent of the respondents taking their product to commercial buyers. Home consumption is also very marginal. Only 1 percent of the total respondents in the sample claim that they used products from the garden for home consumption. Most of the respondents did not specifically point out where the most of the products of the garden end up going.

Access to market is the most prohibitive factor for selling the vegetables from the garden. Most of those who participate in the HNG program claim that it is not at all easy to find markets. Transportation costs tend to be prohibitive when produces want to sell out side their immediate community. Sometimes the surrounding community was not able to afford the products of the nutrition garden. Sometimes, the produces of the vegetables claim that they do not always know

what price to charge for the product and as a result end of not selling what they have produced. However, low prices and too much competition seem not to have that much influence on the marketability of the products from the nutrition garden. It then comes as no surprise if participants in the HNG program claim that more often than not they are not able to sell all the produce from the nutrition garden.

**Figure 5: Is it easy to find markets?**



Notwithstanding area variations, most of the respondents (68%) claim that they had three meals per day over the previous week before the interview was conducted. In Bahir Dar, for example, 67 percent from the total sample had three meals per day. The variation in Addis Ababa is only marginal ranging from a high of 71% in Gulele kifle ketema to 65 percent in Arada kifle ketema. A family enjoying four meals or more per day is almost non-existent from the sample. And also very small part of the respondents had one meal per day i.e. only 1.8 percent from the total sample.

Households were also asked whether they have received food and if they do who benefited from the aid and the source of the aid. Close to 65 percent of those interviewed in Arada kifle ketema do not have received food aid over the last year. The similar figure for Akaki Kaliti, Gulele, Yeka, and Kolfe Keranyo is 74%, 96%, 84%, and 70%, respectively. For those who have received food aid, the donated food went mostly to children. Accordingly, 61 percent from the total sample testified to this conclusion. The second most important beneficiary from the food aid was everyone else in the family. That is the food aid was shared among family members. Most of the food aid was from locally distributed food by NGOs. The role of churches, government, friends, and family members from elsewhere is small compared with the NGO contribution. As such, 85 percent of the respondents pointed out that they got the food aid from NGOs.

A relatively higher percent of the participants claim that they are able to put food on the table but also point out that they are not able to keep the nutritional content of the food at acceptable level. As such, 46 percent of the respondents say that they have enough food but the food they eat is not highly nutritious, in the sense that the food they eat does not contain much of the likes of meat and eggs. Worryingly, 38 percent of the respondents claim that they are not able to provide enough food to the family and as a result face hunger. Another 13 percent point out the gloomy picture that they have no food at all and nor do they have reserves or cash to buy food. Only a mere 3 percent of the samples of households claim to have enough food and food with enough quality with the right ingredients.

Participants of the nutrition garden project point out that the Drip Kit project had no impact on food consumption of their respective households. The major reason given by the participants is that they have found the project to be still relatively new. The other factors like profits earned and quality of output do not seem to have a perceptible correlation with food consumption from the Drip Kit project. A relatively small proportion of the participants have claimed that the project had an impact on their food consumption. The effect seems to have come from eating the vegetables produced from the garden since households do not usually sell their garden products.

*Table 5: Reasons for low effect on food consumption*

	<b>Project still too new</b>	<b>Profits too low</b>	<b>Too few vegetables</b>	<b>Others</b>
	Count	Count	Count	Count
Arada	77	-	-	-
Akaki Kaliti	48	-	-	2
Gulele	52	-	-	3
Kolfe Keranyo	10	-	-	-
Yeka	105	16	3	6
Bahir Dar	165	4	1	-

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**GENERAL HEALTH**


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The purpose of this section of the report is to document the general health condition of households in the study. As such, the focus will be on issues like cause of illness and cause of death, if any.

The total number of households included in the survey is about 492 households. However, when we add each member of the household the total number reaches to 2137 individuals. This only means that each household has about 4.3 members. From the total sample of individuals only 16 percent has had health crisis during the last two months. There, however, are variations. With in Addis Ababa, Gulele kifle ketema reported the highest health crisis, about 19 percent of the sample, followed by Kolfe Keranyo and Akaki Kaliti. Bahir Dar has a higher reported health crisis, about 23 percent, than the total sample average.

*Table 6: Health crisis during the last two months*

	Yes	Percent	No	Percent	Total
Arada	29	8.7	304	91.3	333
Akaki Kaliti	34	14.3	203	85.7	237
Gulele	45	18.9	193	81.1	238
Kolfe Keranyo	7	17.1	34	82.9	41
Yeka	76	12.3	541	87.7	617
Bahir Dar	156	23.2	515	76.8	671
Total	347	16.2	1790	83.8	2137

From the total sample that had health crises during the last two months, we can derive the following implications regarding the cause of illness. First, most of the causes of illness was caused by Malaria followed by Coughing and Tuberculosis. Second, 8.4 and 7.8 percent of the total 347 cases of illness were caused by stomach pain and headache. Finally, HIV/AIDS has caused only 7.5 percent of the total causes of illness over the last two months. The picture is completely different if we take out Bahir Dar, known for its high prevalence of Malaria from the picture. With in Addis Ababa area the most important causes of sickness are Tuberculosis and HIV/AIDS, with Malaria having a relatively small impact compared with the national average. In Akaki Kaliti kifle ketema, HIV/AIDS has been cited as the most important cause of illness.

Figure 6: Cause of Illness

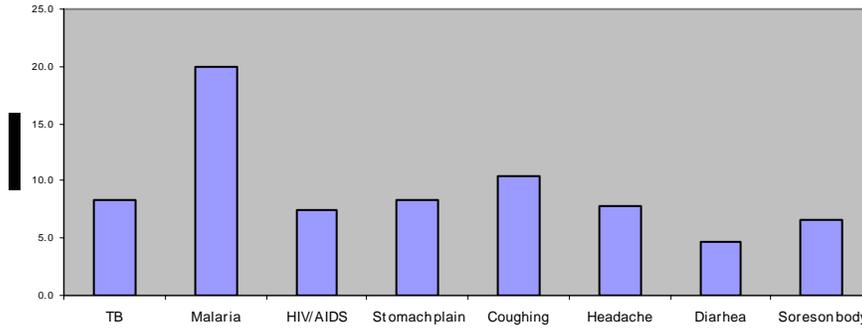
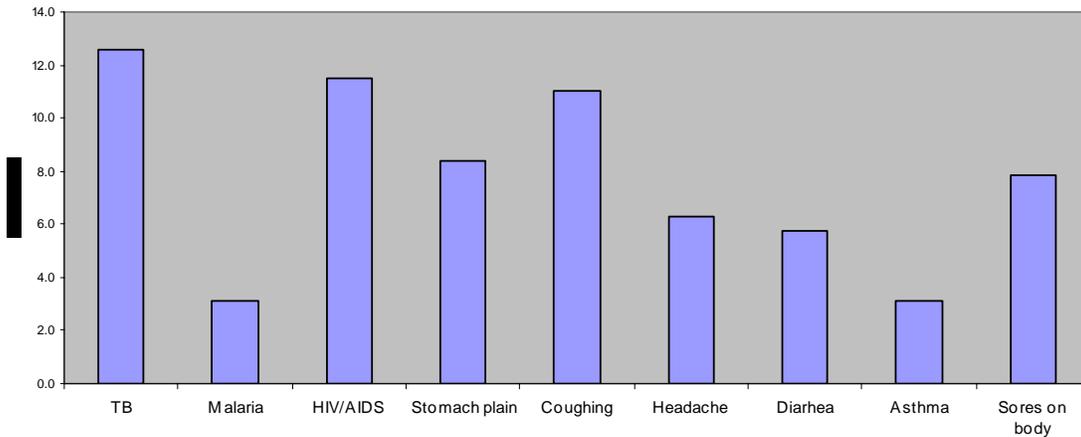


Figure 7: Casue of illness in Addis Ababa



Close to 74 percent of the respondents has sought treatment for their illness. The rest who have not sought for treatment claimed that the cost of the treatment was the prohibiting factor. Area comparisons show that in Arada kifle ketema, only 59 percent of the patients went to get treatment while the figure was 82 percent for the Akaki Kaliti area. In Bahir Dar, 74.5 percent of the patients sought some sort of treatment.

More often than not, the government hospitals, health centers, and clinics provided the bulk of the treatment for the respondents. Accordingly, more than 66 percent of those who were ill went to the government sector in search of treatment. The private and Mission/NGOs served about close to 21 percent of the patients. Most of the patients, about 56 percent, paid for their own bills. About 33 percent of the patients got free service while the remaining 10 percent of the patients were luck enough to find someone to pay for their medical bills. There appears to be not much difference among the different areas in the sample.

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**HIV/AIDS BEHAVIOR**


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Almost all, about 97 percent, of the respondents have one way or another, heard of HIV/AIDS. In Bahir Dar, however, 6 percent of the respondents have claimed not to have heard about HIV/AIDS. In addition most of the interviewees know the major route of HIV/AIDS transmission. Most have pointed out unprotected sex as the most important factor for the prevalence of HIV/AIDS. However, most respondents tend to mention only two transmission mechanisms. Again the most common ones being unprotected sex and use of contaminated and sharp instruments. Respondents seem not to know much about other transmission mechanism, for example, due to blood transfusion and from mother to child transmission during birth of the child.

*Table 7: Have you heard of HIV/AIDS?*

		Yes	No	Total
Arada	Count	76.0	1.0	77
	% of Respondents	98.7	1.3	100
Akaki Kaliti	Count	49.0	1.0	50
	% of Respondents	98.0	2.0	100
Gulele	Count	55.0	-	55
	% of Respondents	100.0	-	100
Kolfе Keranyo	Count	10.0	-	10
	% of Respondents	100.0	-	100
Yeka	Count	130.0	-	130
	% of Respondents	100.0	-	100
Bahir Dar	Count	159.0	11.0	170
	% of Respondents	93.5	6.5	100

Condoms are by far the most preferred method of prevention of transmission of HIV/AIDS. Respondents argue that being faithful to your partner is the second most important method of containing the spread of AIDS. Unsurprisingly, abstinence from sex is regarded by most of the respondents as being very ineffective. There is not much area difference as regards these sentiments.

The number one risk factor to HIV/AIDS, according to respondents, happens to be having multiple partners and having unprotected sex. The role of blood transfusion and the use of needles and sharp instruments seem to be thought of as rather marginally by the respondents. Most of the respondents have used condoms every time they had sexual intercourse.

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## CONCLUSIONS

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The overall objective of the Urban Agriculture Program for HIV affected Women is basically to introduce low cost, low labor, intensive urban gardening systems to support those women with low income and their households. The gardening project will generate food for household consumption as well as a surplus to generate income for the household.

The results from this survey tend to show that there is high participation in the nutrition garden project by all households in all the selected sample areas. As the results also show the females are the ones who are responsible for the gardening project. Most of the respondents have pointed out that they are involved as individuals as opposed to a group. Almost all the respondents have started the project. More worryingly, most claim that they have not yet received the drip irrigation kit.

Head of the household provides most of the labor used in the nutrition garden. More of the households in the sample are female-headed households. It therefore, follows that the female provides most the labor used in the nutrition garden. The role of hired labor in the nutrition garden is marginal if not non-existent most of the time. Most of the respondents had no garden before the HNG program was introduced. As such, about 82 percent of the respondents claim that they had no garden of sort before the nutrition garden was introduced to their area.

Participants of the HNG program seem to believe that the Drip Irrigation kit had no impact what so ever on their garden as the beneficiaries received the kit recently.

Access to markets and finding worthy buyers is important if the HNG project is to succeed. Most of the products of the nutrition garden do not go to neither to local markets nor to commercial buyers. Commercial buyers are only marginally visible. Most of the respondents did not specifically point out where the most of the products of the garden end up going. Access to market is the most prohibitive factor for selling the vegetables from the garden. Most of those who participate in the HNG program claim that it is not at all easy to find markets. Transportation costs tend to be prohibitive when produces want to sell out side their immediate community. Sometimes the surrounding community was not able to afford the products of the nutrition garden.

Participants of the nutrition garden project point out that the Drip Kit project had no impact on food consumption of their respective households. The major reason given by the participants is that they have found the project to being still relatively new. The other factors like profits earned and quality of output do not seem to have a perceptible correlation with food consumption from the Drip Kit project. A relatively small proportion of the participants have claimed that the project had an impact on their food consumption. The effect seems to have come from eating the vegetables produced from the garden since households do not usually sell their garden products.

However the HNG project has the following limitations and gaps as forwarded by the respondents:

- Shortage of land to widen our HNG garden.
- Termites and other insects spoiled and destroyed our vegetables in the dry season.

They suggested the following solutions to address the existing problems:

- Provision of improved seeds that can withstand termites and other insects.

- Forming union and providing sufficient land so that we can produce much more vegetables.

It is better to provide us land which has permanent access to water.

Regarding health conditions we observe the following issues. First, most of the causes of illness was caused by Malaria followed by Coughing and Tuberculosis. Second, 8.4 and 7.8 percent of the total 347 cases of illness were caused by stomach pain and headache. Finally, HIV/AIDS has caused only 7.5 percent of the total causes of illness over the last two months. The picture is completely different if we take out Bahir Dar, known for its high prevalence of Malaria from the picture. With in Addis Ababa area the most important causes of sickness are Tuberculosis and HIV/AIDS, with Malaria having a relatively small impact compared with the national average. The government hospitals, health centers, and clinics provided the bulk of the treatment for the respondents.

Almost all, about 97 percent, of the respondents have one way or another, heard of HIV/AIDS. In addition most of the interviewees know the major route of HIV/AIDS transmission. Most have pointed out unprotected sex as the most important factor for the prevalence of HIV/AIDS. However, most respondents tend to mention only two transmission mechanisms. Respondents seem not to know much about other transmission mechanism, for example, due to blood transfusion and from mother to child transmission during birth of the child.