Empowering New Generations to Improve Nutrition and Economic opportunities (ENGINE)
Livelihood & Economic Strengthening Component

Findings of Rapid Assessment on the Status of Households, Farmer Training Centres (FTCs) and Schools Supported in Year I Implementation Period

October 2013

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Acronyms

ENGINE Empowering New Generations to Improve Nutrition and Economic Opportunities

ETB Ethiopian birr

FTC Farmers Training Centre

SNNP Southern Nations Nationalities and People

Sq.m (m^2) Square Meter

Introduction

The livelihood and economic strengthening component of ENGINE aims at improving the dietary diversity and income of targeted most vulnerable smallholder farmers and the wider community in the project woredas. The project provides vegetable and fruits planting materials based on their nutrition facts, basic farm hand tools and productive livestock to the targeted most vulnerable households and uses FTCs and schools as a demonstration sites on the agronomic and cooking practices of vegetables and fruits to reach the wider community. Accordingly the livelihood component of the program has supported selected schools and farmer training centres with nutrient dense vegetable and fruits planting materials for agronomic and cooking practice demonstrations in the program woredas since 2011 cropping season. In order to review the status of activities and draw lessons that can be considered to address challenges for future interventions, this rapid assessment was conducted in randomly selected MVHHs supported for homestead vegetable and fruit production, schools and farmer training centres in year one intervention woredas of the four program regions namely, SNNP, Oromia and Amhara and Tigray..

Objectives

The objectives of the assessment were to:

- Understand the performance and status of the support to homestead, FTCs and schools implemented in year one (2011/12).
- Identify key result areas and major implementation gaps encountered, and
- Come up with a sort of evidence that would help and guide informed decisions.

Method of data collection and analysis

The assessment was conducted in 11 woredas (four each in SNNP and Oromia, two Amhara and one in Tigray). As much as possible Woredas that consist MVHHs, FTCs and schools were selected, accordingly a total of 29 MVHHs engaged in homestead vegetable production, 11 FTCs and 10 schools, were selected for data collection *(list of woredas and kebeles where the data collection were conducted are indicated in Annex I).*

Data was collected from randomly selected MVHHs, focal persons of FTCs and schools using structured questionnaire developed separately for each target group.

Following editing and coding, data was entered into a computer for analysis. Computer software called Statistical Package for Social Scientists (SPSS) was used for the purpose of analysis. Some internal

consistency checks were used to assess the data quality before the actual analysis work started. Descriptive statistics: tables, graphs and charts were used to present the findings.

Findings of the Assessment

Homestead Vegetable Production (MVHHs)

As shown in table 1 below, a total of 29 MVHHs out of which 6 each from Amhara, East Oromia, and West Oromia and 11 from SNNP Regions were included in the assessment. Since support for homestead production of vegetables were not performed in year one, as the result the data on homestead was not collected from Tigray Region.

Table 1: Distribution of MVHHs interviewed by Region

Region	Number of MVHHs	Percent
Amhara	6	21
East Oromia	6	21
SNNP	11	38
West Oromia	6	21
Total	**29**	**100**

Of the total 29 MVHHs selected, all were provided with vegetable seeds and of the total eight MVHHs were provided with sheep, five with goats and five with farm tools (Figure 1).

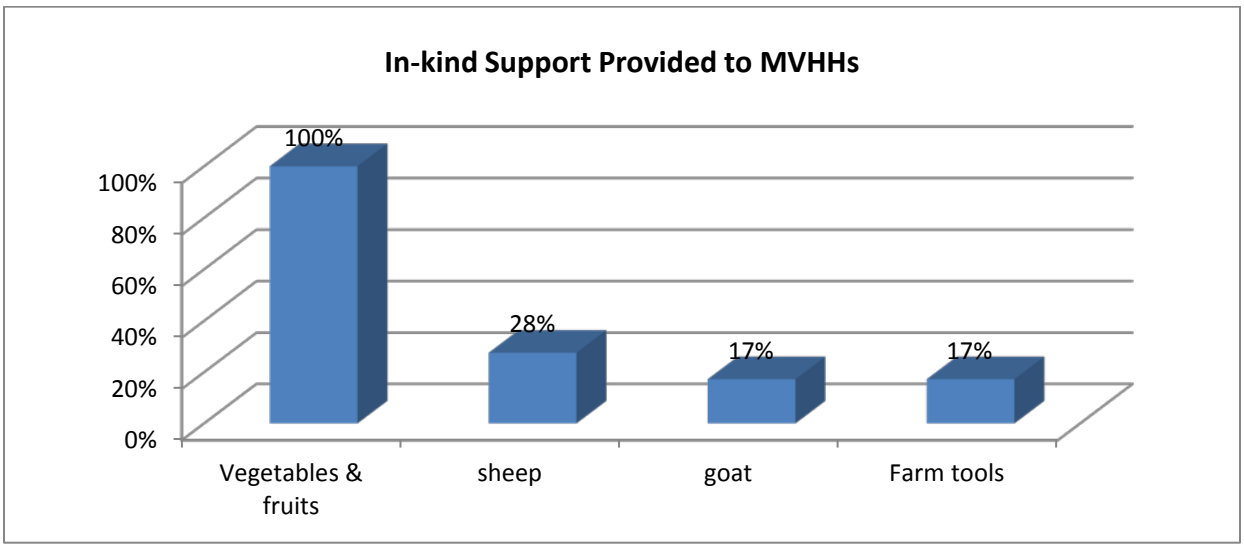

Figure 1: Support provided to MVHHs by ENGINE

The study team had tried to measure the backyard of MVHHs where vegetables and fruits crops were produced. Accordingly, 48% of MVHHs (n=14) cultivated on an area less than 50 sq. meter, 14% (n=4) on an area 51-100 sq. meter, 34% (n=4) on 101-500 sq. meter while only one HH (3%) cultivated on an area of greater than 500 sq. meter. (Table 2)

Though the guideline for vegetables and fruit production at homestead was developed based on the field observation of year one homestead cultivation, the plot of land allocated for the same varies among the targeted MVHHS. Around 62% of the targeted MVHHs had allocated less than or equal to 100 m^2 of land for homestead cultivation of vegetables while around 37% had allocated in the range of 101 – 500 m^2 of land for home consumption, whereby the later could entail proactive actions to market the would be surplus produce.

Table 2: Total Area of Land Allocated for Vegetable Production by MVHHs

Area of cultivated land (square meter)	Frequency	Percent
< 50	14	48
51 - 100	4	14
101 - 500	10	34
>500	1	3
Total	**29**	**100**

The analysis of the data has also revealed the quantity of vegetable produce which MVHHs was able to harvest by type of vegetables. As shown in Table 3 below, beetroot was produced by large number of MVHHs followed by carrot, Swiss chard, cabbage, onion and potato while tomato was produced by two MVHHs. The diversity of the crop types (green leafy vegetables, root and bulb crops) are in line with the aim of dietary diversity but requires due emphasis on the nutritional facts so as to impact on nutrition. Accordingly the vegetables and fruit production guideline was developed based on the nutritional value and crops familiar to the targeted farmers and became operational in year two (2012/13).

In terms of the quantity of produce per targeted MVHHs the majority of them (56-93%) have harvested 10- 200 kilo grams of produce per the crop type while 14-25% and 7-25% harvested less than 10 kg (with the exception of 2 households who harvested < 10 kg of tomato) and > 200 kg. respectively. The adequacy of the harvest for home consumption in terms of quantity and quality needs further considerations.

Table 3: Quantity of produced by crop type and targeted MVHHs

	Carrot		Head Cabbage		Swiss Chard		Onion		Lettuce		Beet Root		Tomato		Irish Potato	
Quantity	**# of HHs**	**%**	**# of HHs**	**%**	**# of HHs**	**%**	**# of HHs**	**%**	**# of HHs**	**%**	**# of HHs**	**%**	**# of HHs**	**%**	**# of HHs**	**%**
less than 10 kg	3	19	2	14	4	25	2	14			3	18	2	100		
10-50kg	4	25	8	57	3	19	8	57	7	50	7	41			2	40
51-200kg	5	31	4	29	7	44	4	29	6	43	7	41			2	40
201-500kg	3	19			1	6			1	7					1	20
greater than 500kg	1	6			1	6										
Total	**16**	**100**	**14**	**100**	**16**	**100**	**14**	**100**	**14**	**100**	**17**	**100**	**2**	**100**	**5**	**100**
% out of 29	**55**		**48**		**55**		**48**		**48**		**58**		**7**		**17**	

Data gathered on consumption of vegetables by households was analysed. As shown in figure 2 below 90% of the MVHHs interviewed indicated that they had started consuming vegetables from their harvest while 10 % of MVHHs who were targeted in year I but supported with vegetable seeds in year II responded that they hadn't started consuming from their produce since the vegetables they were growing were not mature at the time of data collection for harvesting and consumption.

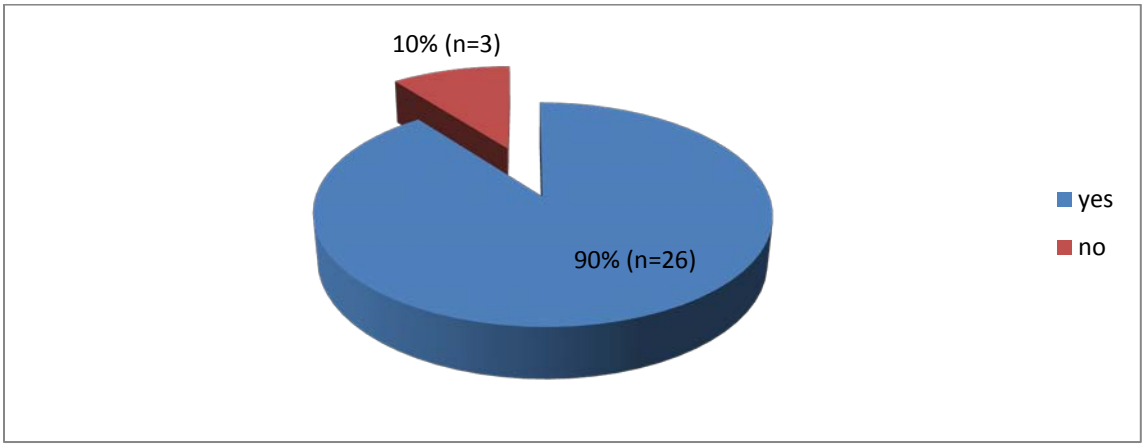

Figure 2: Percentage of MVHHs who started consuming vegetable products

Data on the proportion of consumption to marketing of vegetables produced by MVHHs was analysed. Of the 26 MVHHs who started consuming, 42% of the MVHHs had reported that they consumed three fourth of the produces, 23% all the produces, 19% half of the produces and 15% one fourth of the produces (Figure 3). From this analysis, it can be concluded that MVHHs who were supplied with vegetable seeds to produce had all started consuming and diversify their diets. In fact, 65% of the 26 respondents, who reported that they started consuming vegetables from their production, had consumed more than 75 % of their production in the 1st year of the program. This result is very encouraging for a program that promotes nutrition to the malnourished communities.

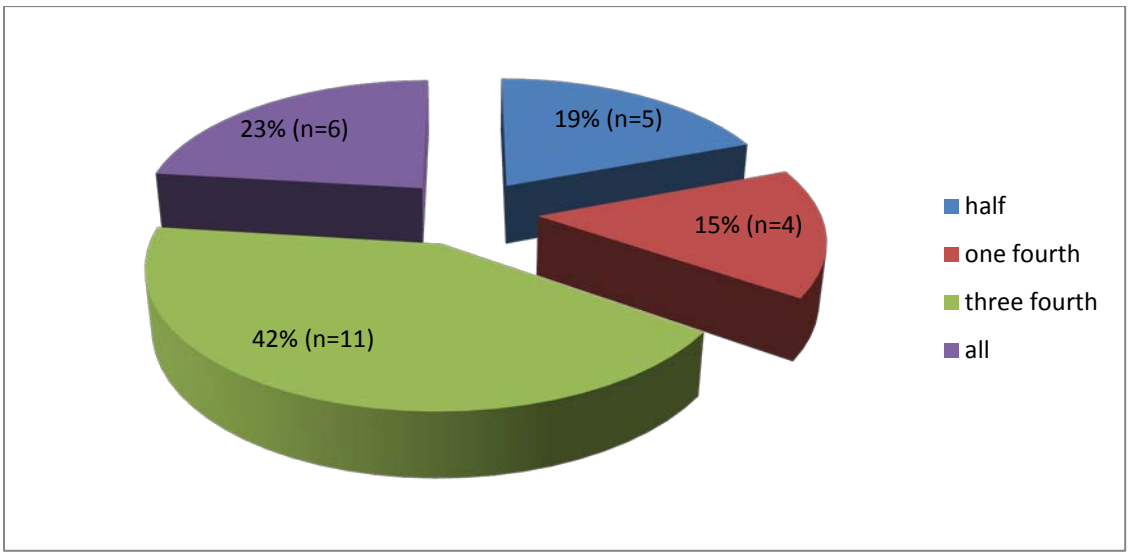

Figure 3: Percentage share of vegetable products consumed in the household out of the produced

Data was gathered on the number of MVHHs who sold part of their produce, the amount of money earned and the disbursement of the money earned. . As shown in figure 4 below out of the total 29 MVHHs interviewed, 18 MVHHs or 64% of them have sold part of their produces to the local markets.

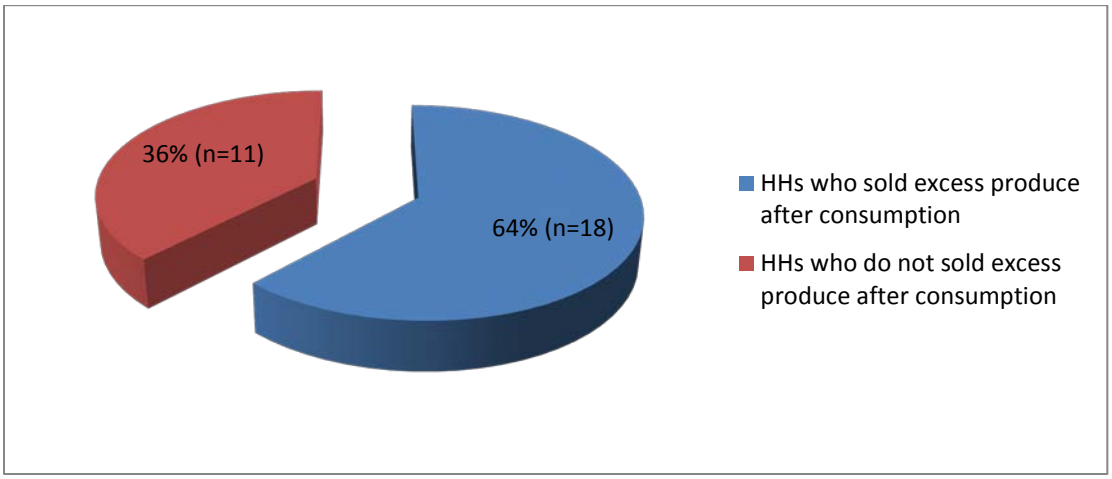

Figure 4: Percentage of MVHHs who sold their Excess Produces

As indicated in figure 5 below, out of the 18 MVHHs who sold their excess produce after consumption, 10 MVHHs or 56% had sold one fourth of their produce, five MVHHs or 28% had sold half of their produce and three MVHHs or 17% had sold three fourth of what they produced. From this analysis, it is clear that around 84% of the respondents had sold less than or equal to 50% of their vegetable produce. This is promising as most households consumed more of their produce than marketing. It is only 17% of the respondents who reported that they sold 75% of their produce. Marketing of 75% of produce is unacceptable even though the number (percent) of respondents who reported is small or insignificant. This actually reminds us to advise households to consume more of their produce and sale only in excess of their consumptions.

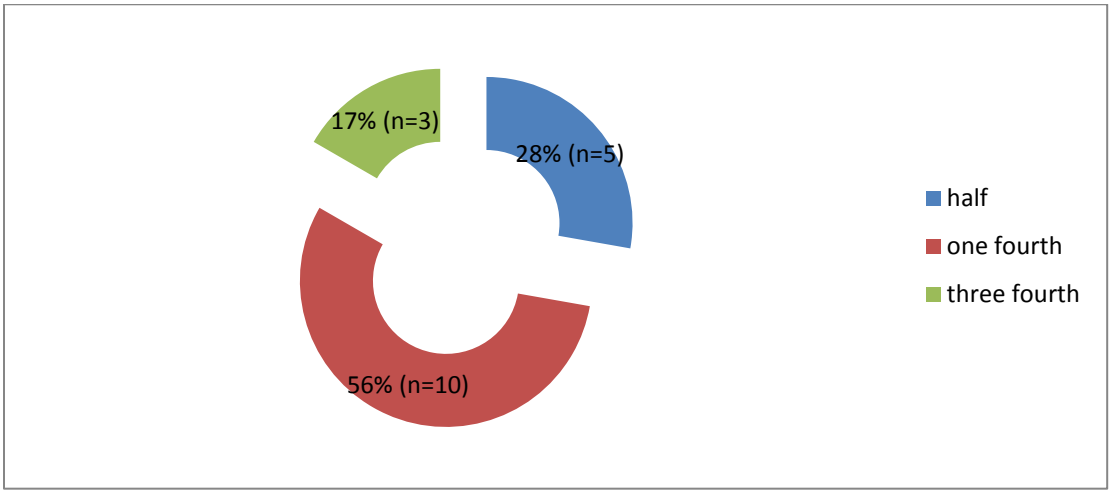

Figure 5: Percentage share of vegetable products sold after consumption

As indicated in figure 6 below, of the 18 MVHHs who sold their excess produces, 39% of MVHHs (n=7) earned 15-150 ETB, 39% (n=7) earned 151-500 ETB, 11% (n=2) earned 501-1000 ETB and the remaining 11% (n=2) earned greater than 1001-1700 ETB from the sale of their vegetable produces.

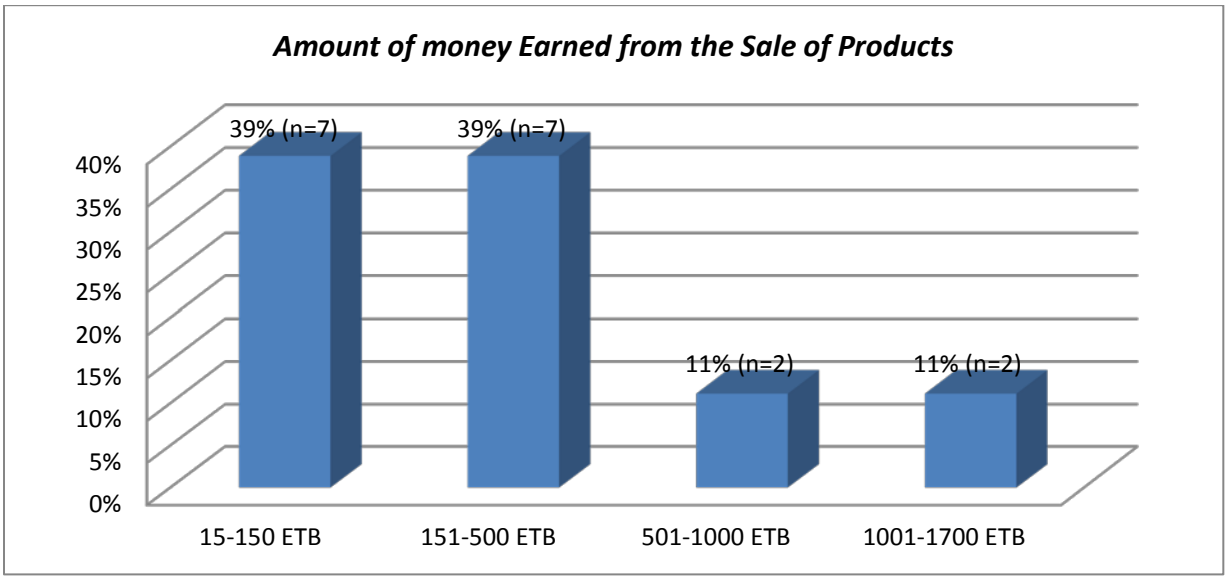

Figure 6: Total Amount of Income Obtained by MVHHs after selling their Excess Produces

The utilization of Incomes generated from the sale of excess vegetable production of MVHHs was also assessed. Interviewed MVHHs have reported that from the money they received from the sale of excess vegetable produce, they have saved some and purchased different kinds of livestock (sheep, goats, calf, chicken), educational materials and clothes for children, additional food items and fertilizer (the detail is indicated in figure 7). The significant portion of the income was said to have been used for food purchase (63%) followed by livestock purchase (chicken, 53%).

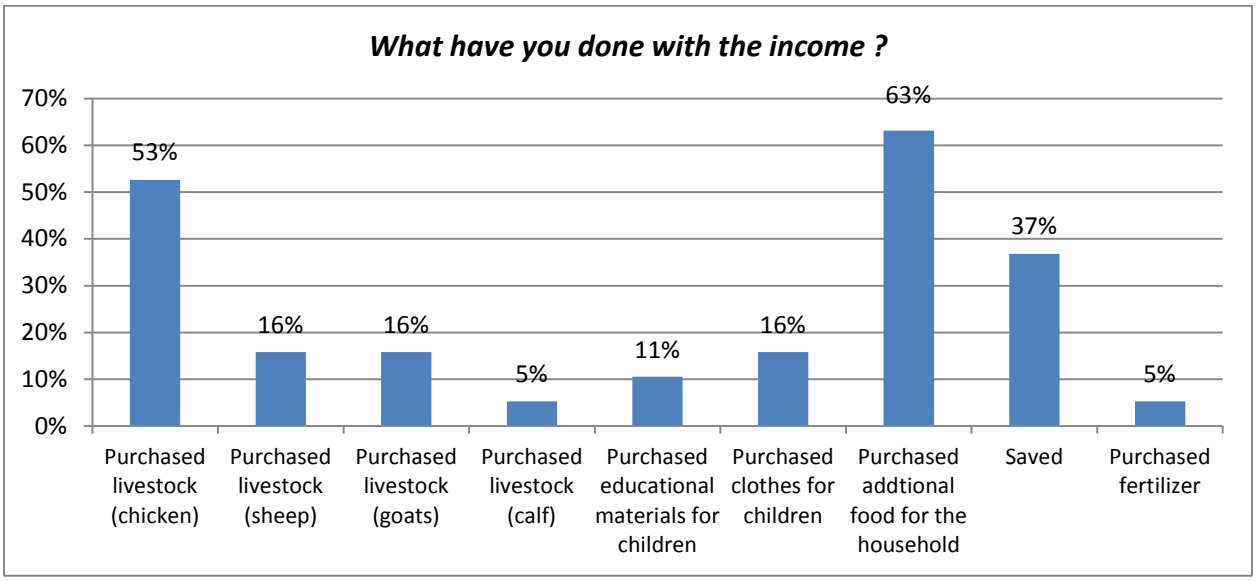

Figure 7: Income Utilization of MVHHs who sold their Excess Produces

Information on whether or not challenges were encountered by MVHHs in marketing their excess vegetables produce were gathered and analyzed.

Accordingly, of the total 18 respondents who sold their produces, eight MVHHs (42%) have reported that they did encounter challenges when they were selling their produces (figure 8).

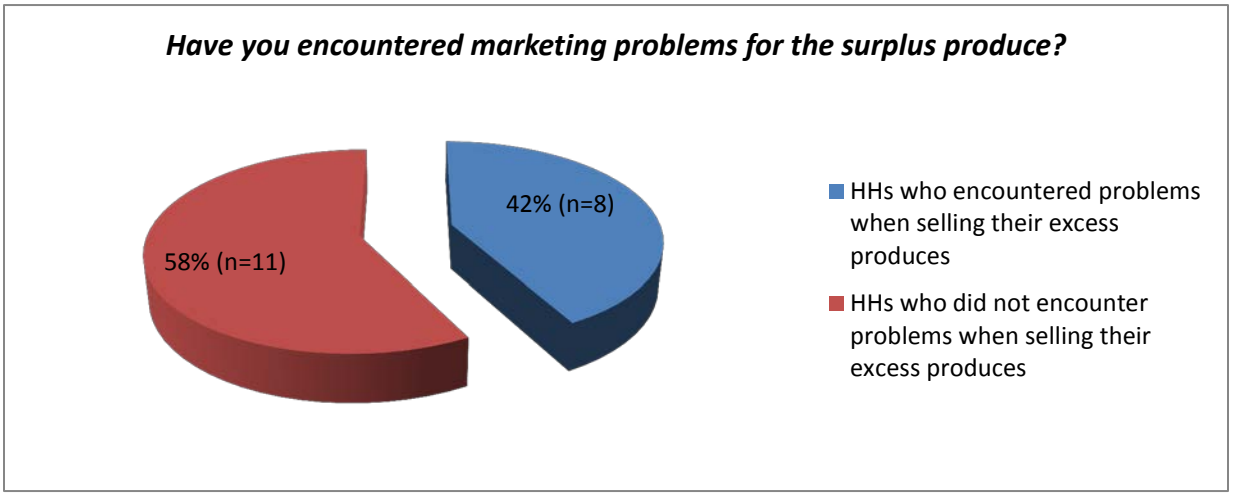

Figure 8: Percentage of HHs who faced Challenges When Selling Excess Produces

As indicated in Figure 9 below, the problems which MVHHs faced when selling their excess products were reported to be: unfamiliar of some products to the area (88%) mainly Swiss chard and lettuce, high supply of similar products to the markets (13 %), very low prices of some products (50%) and very far distance of market places from their residence (25%).

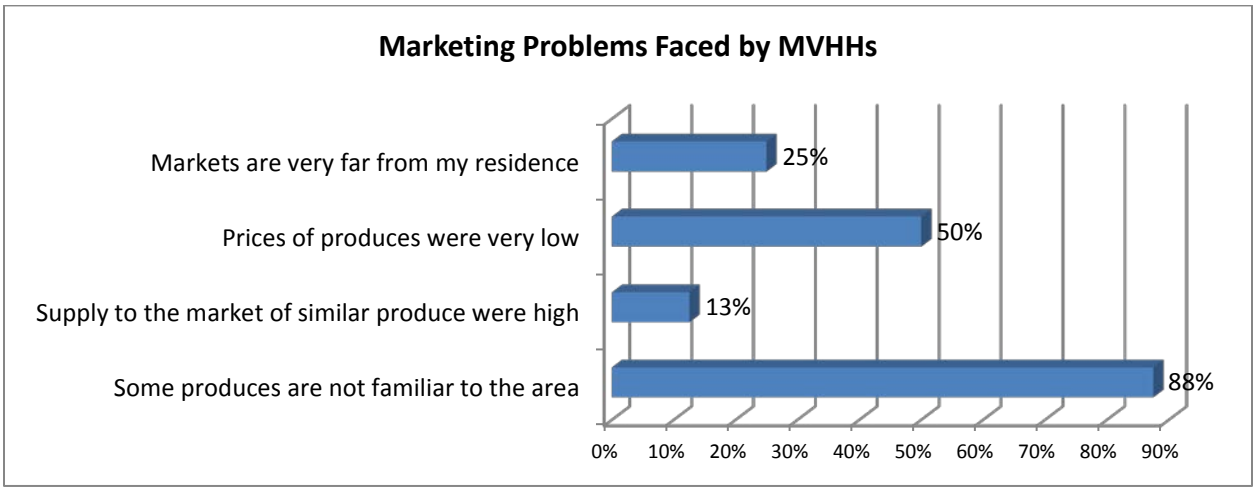

Figure 9: Marketing Problems Faced by MVHHs when Selling Vegetable Products

To learn MVHHs' self-oriented solutions against the marketing problems encountered, they were asked what measures they took to solve marketing problems. Figure 10 shows some of the measures taken in order to solve marketing problems. Accordingly 38% of the respondents indicated that they resorted to sell their produce at very low price, 25% of the respondents said that they gave out the products to

neighbours, friends and relatives, 25% of them said that they contacted ENGINE staff in the area which linked them with traders to be able to sell their products, 13% of them said that they fed the products to their animals and 13% said that they used it for HH consumption.

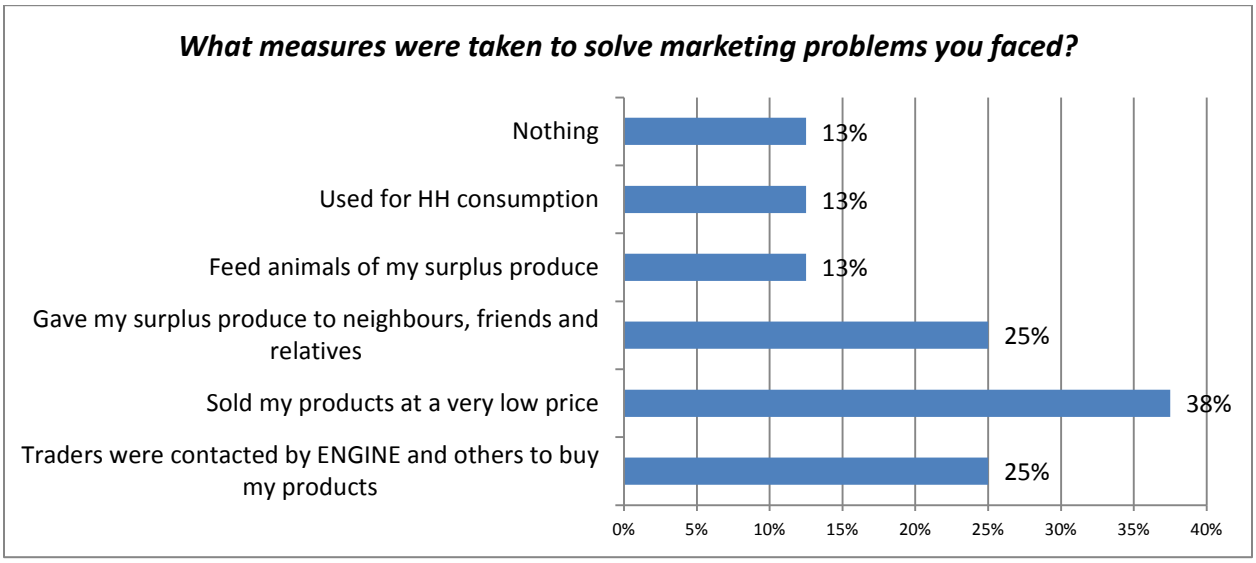

Figure 10: Marketing Problems Faced by MVHHs when Selling Vegetable Products

Respondents were also asked to find out overall problems faced during the previous year production season. As indicated in figure 11 below, respondents were able to enumerate general challenges encountered as follows. Shortage of water during the long dry season (31%), delay of seed supply during planting season (21%), market to sell surplus produces (21%), frost damage (7%), and inadequate provision of farm tools (7%).

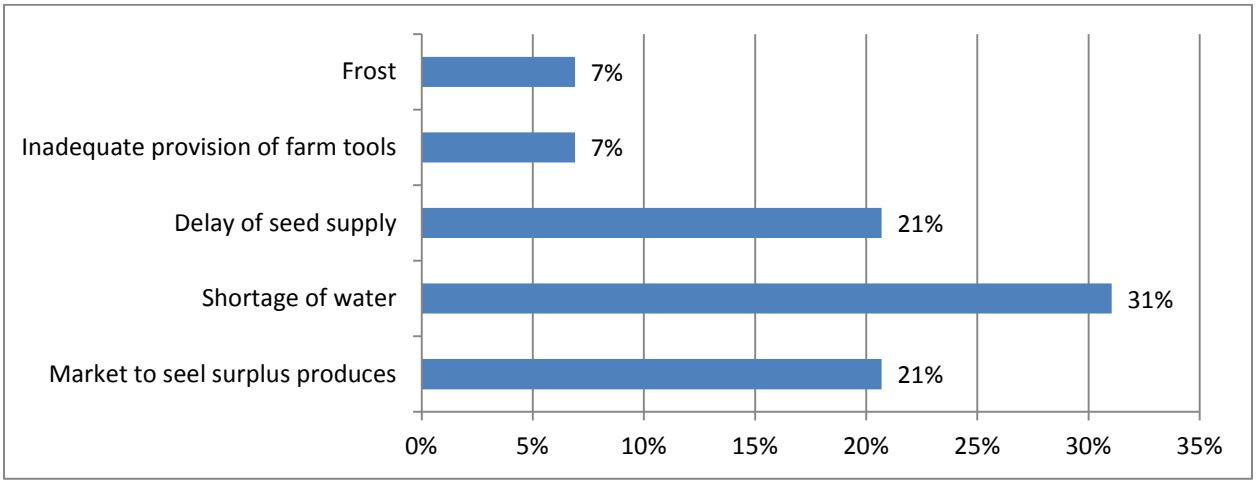

Figure 11: Major Challenges Faced During Previous Year Production

FTCs

A total of 11 FTCs found in the four regions were included in the assessment (table 4).

Table 4: Number of FTCs Included in the Assessment by Regions

Region	Frequency	Percent
Amhara	2	18
Oromia	4	36
SNNP	4	36
Tigray	1	9
Total	**11**	**100**

Of the total 11 FTCs included in the assessment, focal persons reported that all FTCs were provided with vegetable seeds, five FTCs with basic farm tools and seven FTCs with in nutrition sensitive agriculture training. (Figure12).

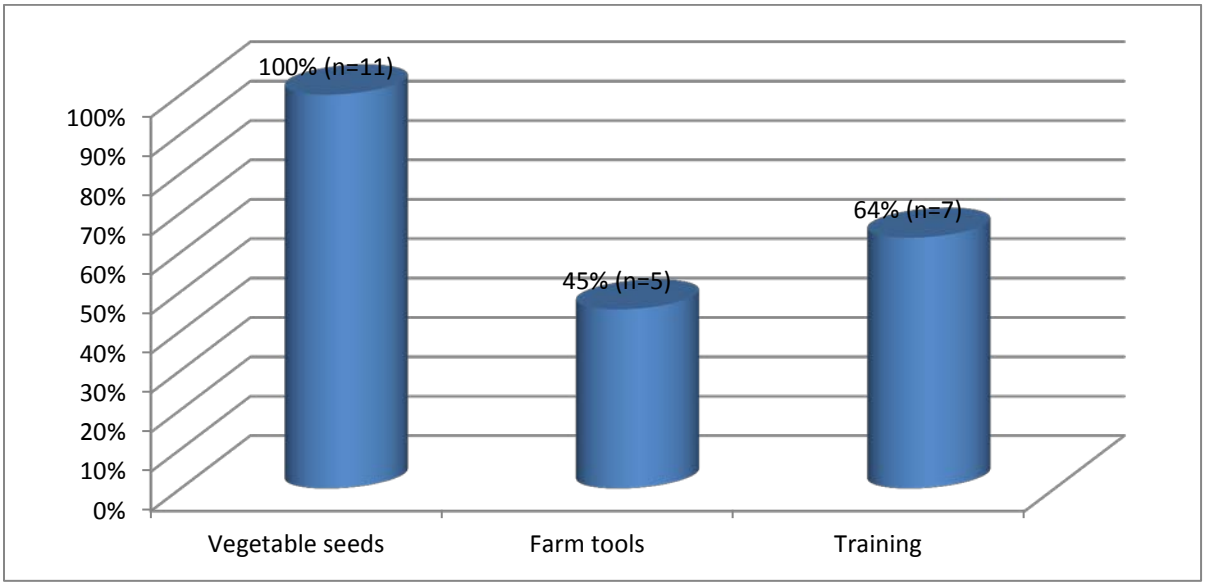

Figure 12: Types of support provided to FTCs

The study team had tried to measure the land where vegetable and fruits were produced. As shown in Table 5 below, two FTCs had allocated less than 500 sq. m., five FTCs had allocated between 500–1000 sq. m. and four FTCs had allocated between 1000-5000 sq. m. of land for vegetable and fruits production. From this analysis it is apparent that 54% of the FTCs that were interviewed need to adjust the plot size (500-1000 m^2) as per the guideline for the coming cropping season.

Table 5; Total Area of Land Allocated for Vegetable Production by FTCs

Area of land (square meter)	Frequency	Percent
< 500	2	18
500-1000	5	46
1001-5000	4	36
Total	**11**	**100**

The sources of water used by FTCs to cultivate vegetables and fruits were also reported. Accordingly, out of the total 11 FTCs included in the assessment, 64% (n=7) were reported to have used both irrigation and rainfall while the remaining 36% (n=4) were said to have used only rainfall as a source of water for vegetables and fruits production. (Figure13). The outcome of the assessment point out that out of 11 FTCs, 4 FTCs or about 37% of them had used only rainwater to produce vegetables for demonstrations. This is not expected as one of the major criterions to select FTCs for ENGINE support was and still is access to water for irrigation during the dry season. This selection criterion has twofold objectives. These are: **a)** To conduct vegetable production and cooking practice demonstrations during the long dry season when farmers (communities) relatively have slack time to observe the demonstrations in large numbers, **b)** To carry out several demonstration events in a year so as to reach as many people as possible in the program areas. Therefore the possibility of access to water for irrigation need to be explored for those FTCs which did not have access to irrigation water in the first year of the program and this could be through digging water well or water harvesting or river diversion.

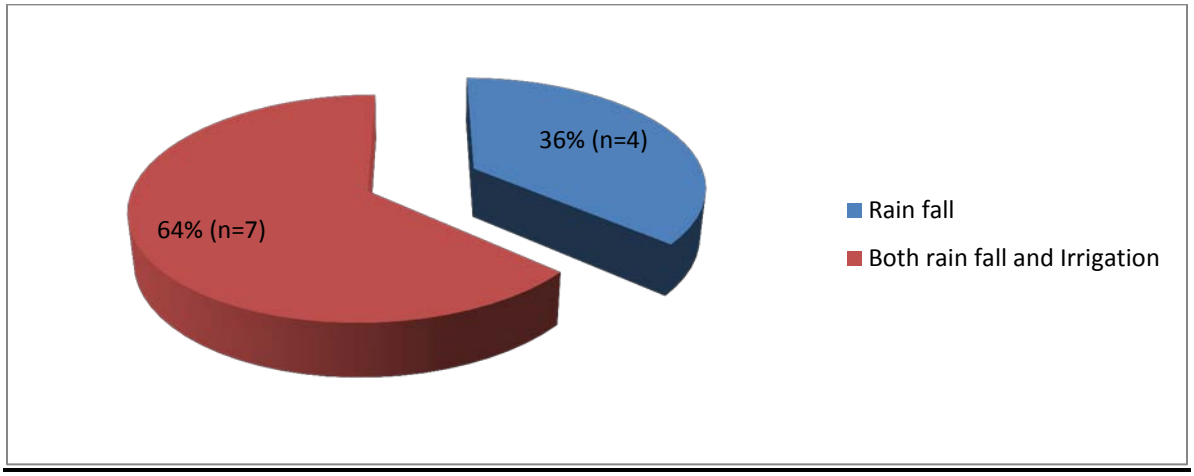

Figure 13: Source of Water used by FTCs to Cultivate Vegetables and fruits

The assessment has revealed as indicated in Figure 14 below that, out of the total FTCs included in the assessment, 4 FTCs (36%) did not conduct demonstration event during the previous year. From the analysis of the assessment, it is quite worrying and strange to note that 36% of the FTCs interviewed didn't carry out neither agronomic nor cooking practice demonstrations throughout the year. This needs to be further investigated and appropriate measures to correct the situation for the future is sought.

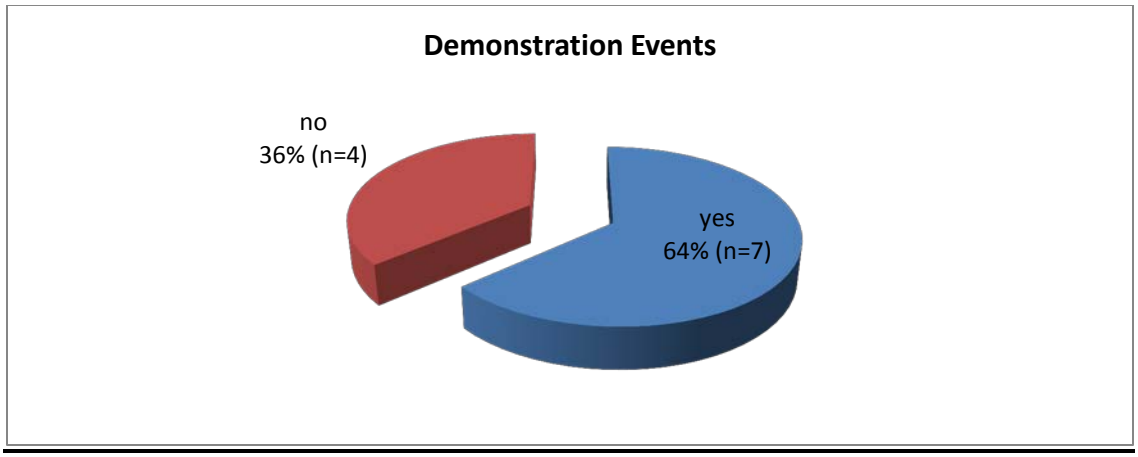

Figure 14: Percentage of FTCs which conducted demonstration events

Of the seven FTCs which conducted demonstration events, 14% of the FTCs conducted agronomic practice, 14% conducted cooking demonstrations and 71% demonstrated both agronomic practice and cooking demonstration events (figure 15).

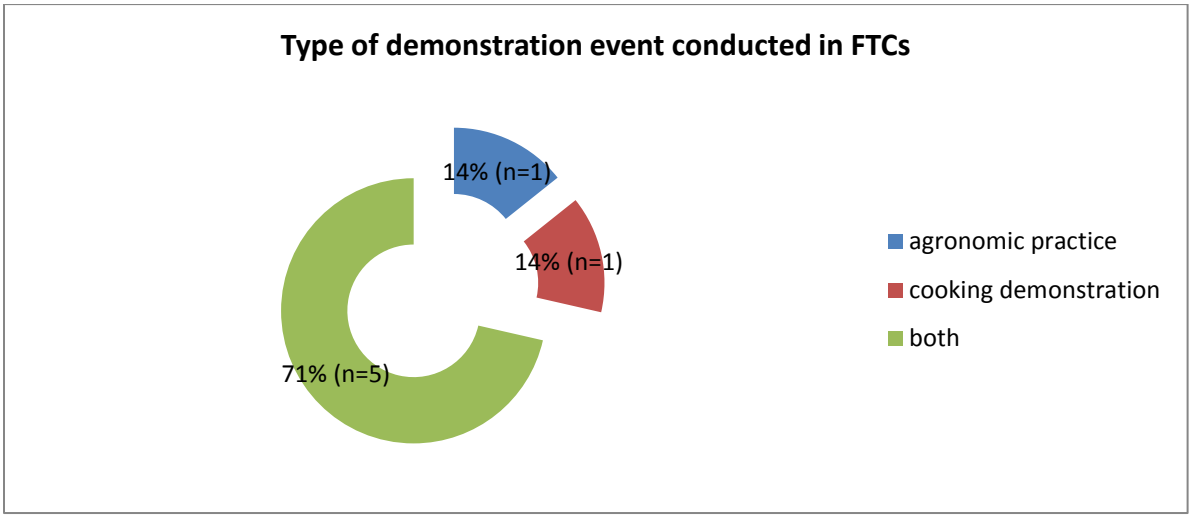

Figure 15: Percentage of FTCs which conducted demonstration events

Respondents were asked whether they sold their excess produces or not, amount of money earned if they sold their excess produce and what did they do with the income earned from the sale of excess produces. As indicated in figure 16 below, six FTCs (55%) sold their produces after carrying out cooking demonstrations.

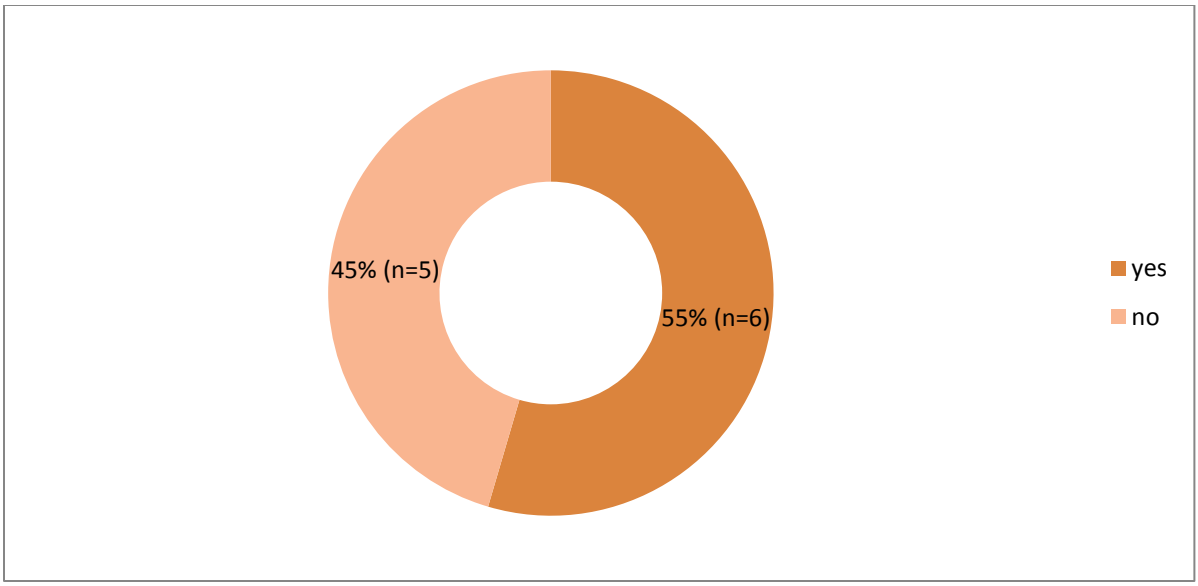

Figure 16: Percentage of FTCs which sold their in excess of cooking demonstration

As far as the amount of money they obtained from the sale of their produces, they reported that the acquired amount of money ranging from 80 to 4000 ETB, the detail is indicated in table 6 below.

Table 6: Amount of money obtained by FTCs after selling their produces

Amount of money (ETB)	Number of FTCs	Percent
80	1	17
500	1	17
600	1	17
1795	1	17
2000	1	17
4000	1	17
Total	6	100

When respondents were asked what they did with the money obtained from the sale of FTCs' excess produces, four FTCs planned to use the money to purchase planting materials for the next production season to carry out demonstrations, two FTCs have deposited the money in the bank and one FTC reported that they saved the money in bank to purchase planting materials for next season production and to cover costs for labor (Figure 17). The information obtained in the FTCs on the future use of the income generated from the sale of surplus vegetable produce generally looks to be in the right direction and hence requires encouragement. If the FTCs disposal of the income intensions holds true, it is to the project's objective that the funds earned from the sale of the surplus vegetable produce will be utilized

to advance production of vegetables and fruits for demonstrations in the second year and really which indicates would be sustainability of the approach.

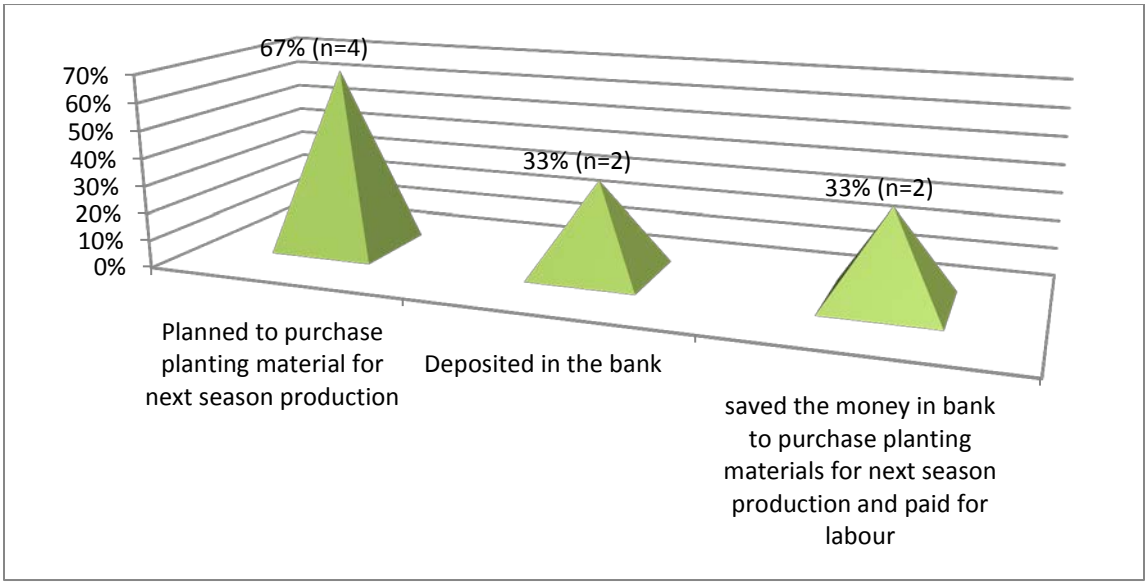

Figure 17: Income Utilization of FTCs who sold their Excess Produces

Two or (33.33%) out of the six FTCs that sold excess vegetable produce had reported that they faced marketing challenges (figure 18).

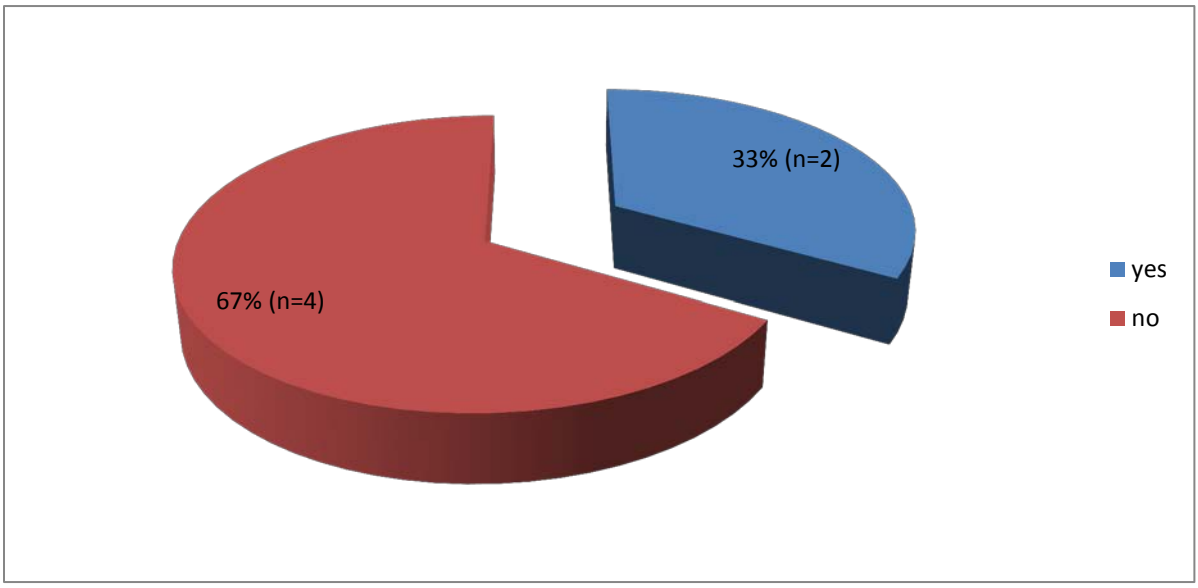

Figure 18: Percentage of FTCs which faced marketing challenges

To overcome the marketing challenges they encountered, FTCs have reported as indicated in Figure 19 below that one of the FTC's had sold products at very low price while the other FTC was linked to vegetable traders with the assistance of ENGINE staff to sell the products.

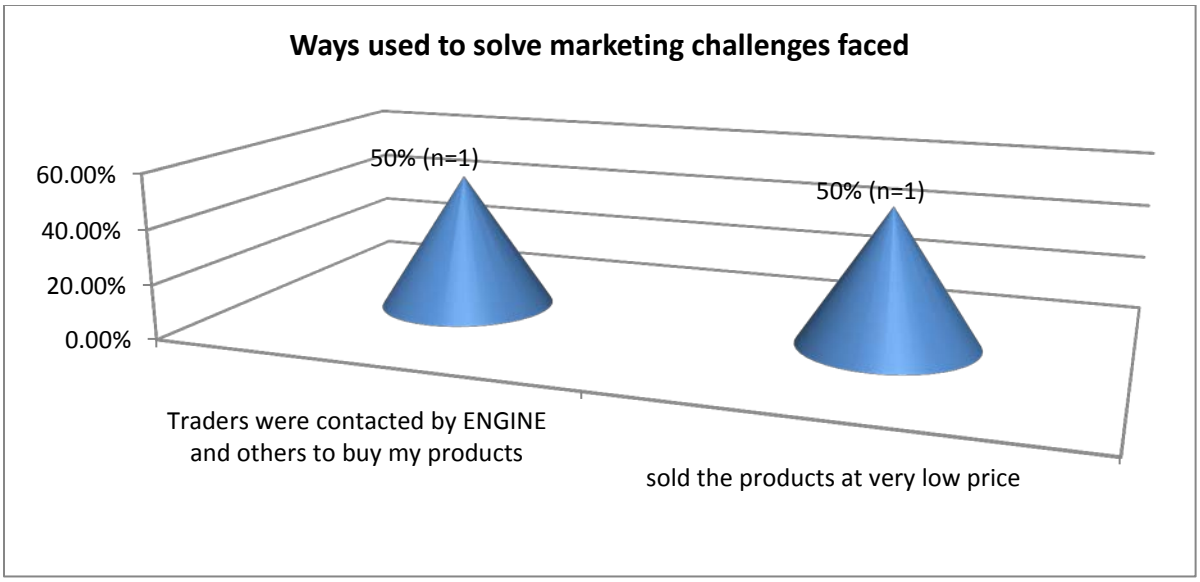

Figure 19: Ways used to tackle marketing challenges by FTCs

In order to draw lessons and plan TA for future production, respondents were asked to mention major challenges they faced during the previous year production. As indicated in figure 20 below, pest problem (9%), shortage of farm tools (9%), shortage of money to pay for labour (36%), shortage of rain fall/water (36%), predators (9%), frost (9%), marketing (9%), delay of seed supply (18%) were the challenges mentioned by respondents during the previous production season.

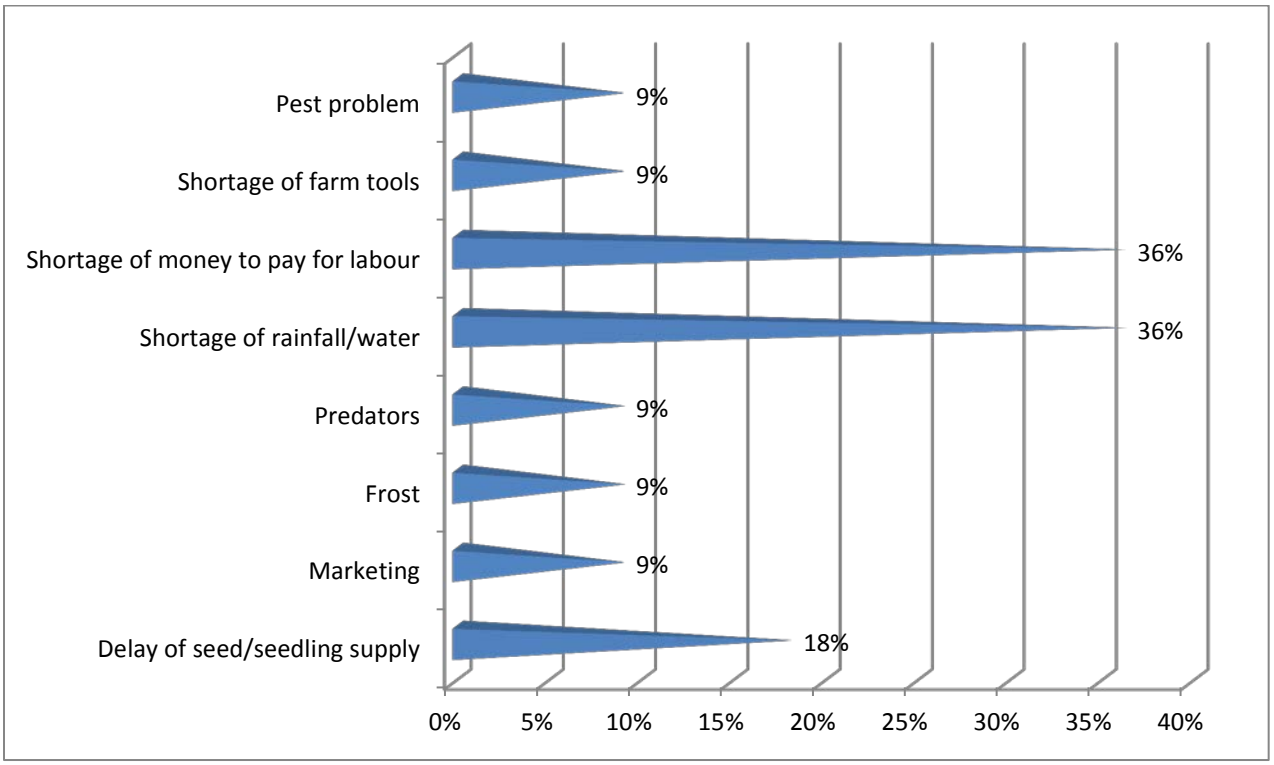

Figure 20: Major Challenges Faced by FTCs during Previous Production season

School Gardening

A total of 10 schools found in the regions were included in the assessment (table 7).

Table 7: Number of Schools included in the Assessment by Regions

Region	Frequency	Percent
Tigray	1	10
Amhara	1	10
Oromia	3	30
SNNP	5	50
Total	**10**	**100**

Of the total 10 schools included in the assessment, all were provided with vegetable seeds and farm tools, out of them nine were provided with nutrition and school gardening training (Figure 21).

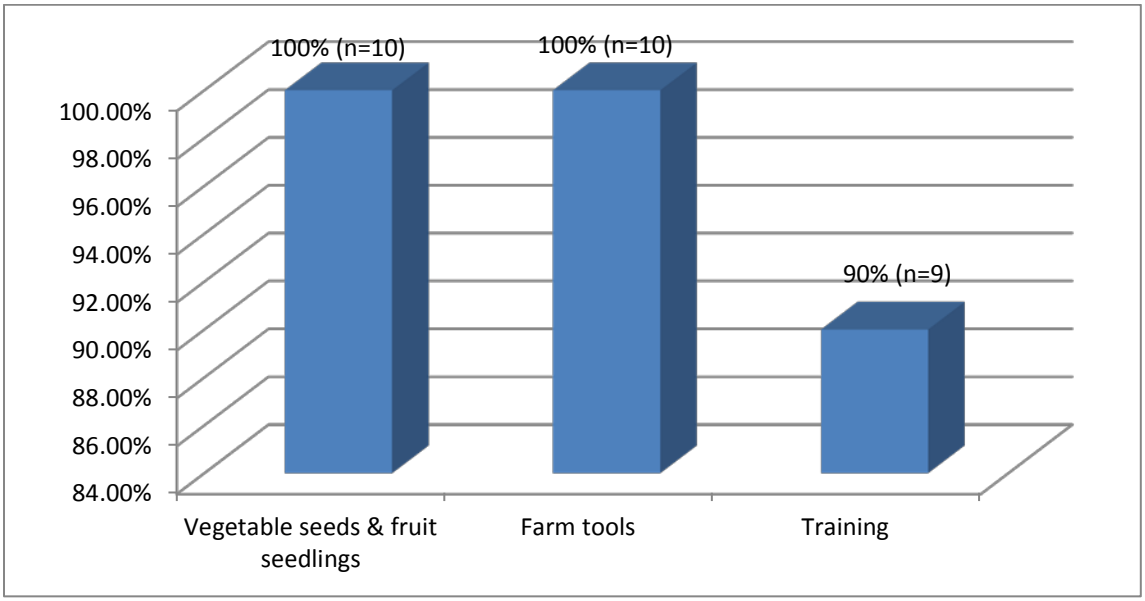

Figure 21: Percentage of Schools provided with different kinds of Support

The team tried to measure the land where vegetable and fruits were produced. As shown in table 8 below, of the total ten schools, five schools allocated area of land less than 500 sq. m., four schools allocated area of land 501–1000 sq. m., and one school allocated greater than 1000 sq. m. of land for vegetable and fruits production. This analysis infers that 60% of schools interviewed need to adjust the plot of land for gardening as per the guideline which is in the range of 500-1000 m^2 for the coming cropping season.

Table 8: Total Area of Land Allocated for Vegetable Production by Schools

Area of Land (Square meter)	Frequency	Percent
Less than 500	5	50
501 - 1000	4	40
Greater than 1000	1	10
Total	**10**	**100**

As shown in Figure 22 below, of the total 10 schools included in the assessment, 80% (n=8) of the schools used both irrigation and rain as a source of water, 10% (n=1) used rain water only and 10% (n=1) used irrigation only as a source of water to cultivate vegetables and fruits. From the analysis of the assessment, only 10% of the schools interviewed had responded that they used rain water to cultivate vegetables and fruits for demonstrations. Although the 10% figure of schools that used only rainwater is far less compared to the 37% figure of FTCs, this should not even be allowed and appreciated if the criterion of selection of the schools and the objectives thereof for ENGINE support were properly considered to select the schools and furthermore as much as possible possibility of access to water should be explored to those which did not use water for irrigation.

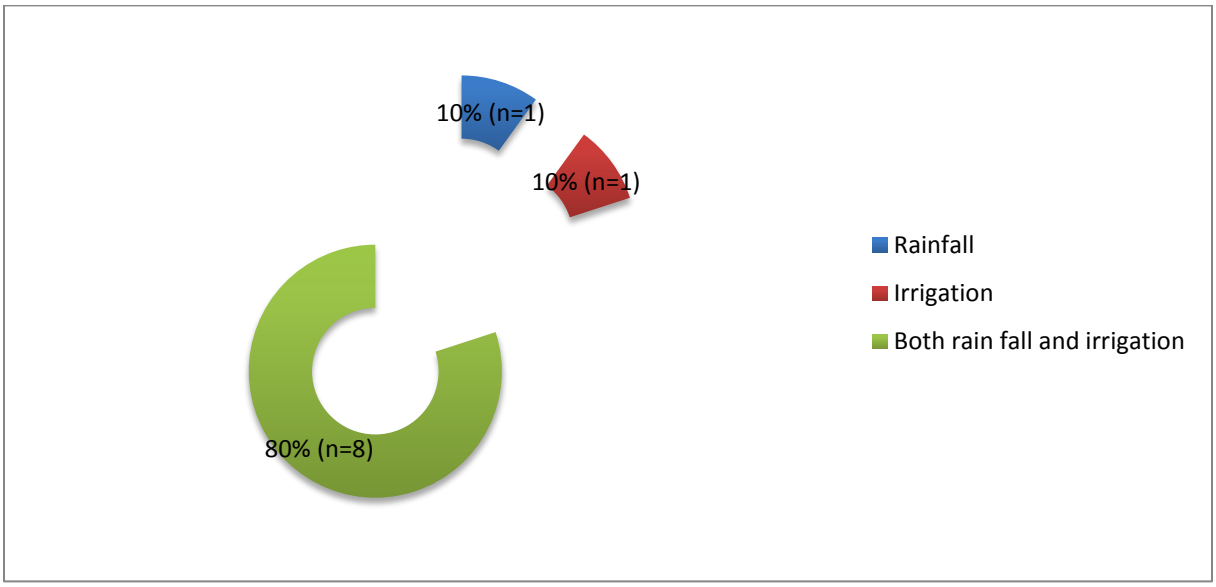

Figure 22: Source of Water used to cultivate vegetables and fruits by schools

Figure 23 in the below depicts percentage of schools which conduct demonstration events. Accordingly, of the total 10 schools included in the assessment, 90% of the schools conducted demonstration events. From this it is vivid that 10% of schools didn't undertake demonstration events. Unless they have sound and convincing reasons for failing to conduct the events, the 10% Figure is quiet significant and utterly unacceptable from the standpoint of the program's objective.

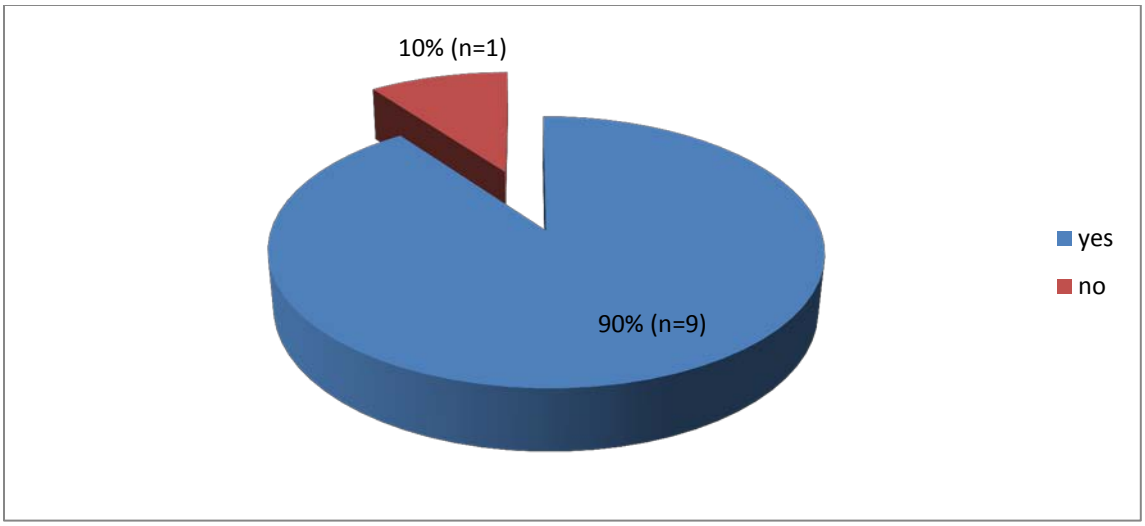

Figure 23: Percentage of schools that conducted demonstration events

Of the nine schools which conducted demonstration events, 33% of the FTCs conducted agronomic practice, 33% conducted cooking demonstrations and 33% demonstrated both agronomic practice and cooking demonstration events (Figure 24).

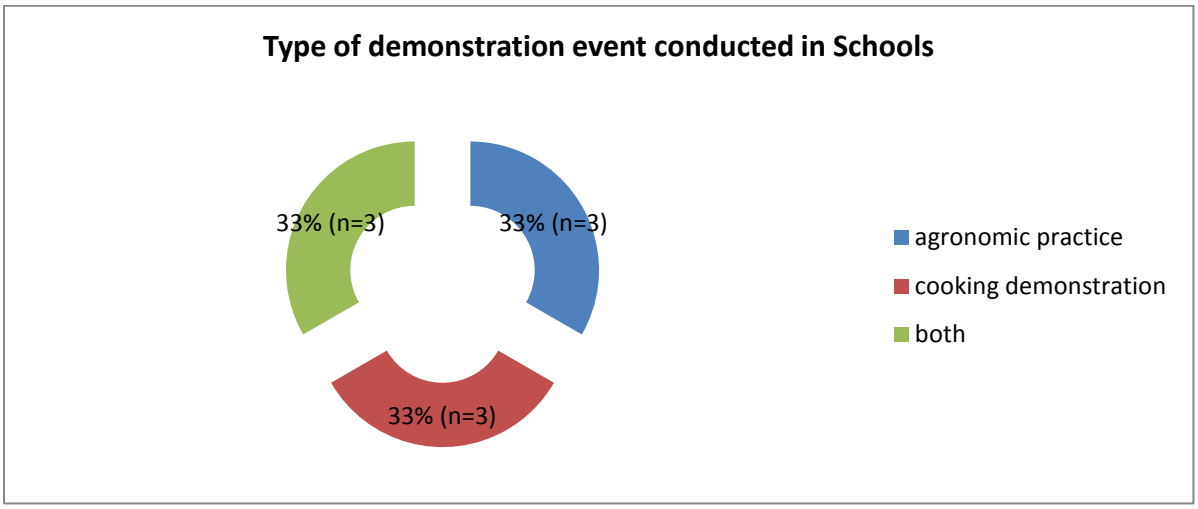

Figure 24: Type of demonstration event conducted in schools

Focal persons of schools were asked whether they sold their excess produces or not, amount of money earned from the sale of produces and what did they do with the income earned from the sale of excess produces. As indicated in figure 25 below, five schools (50%) sold their produces after utilizing for cooking demonstration purposes.

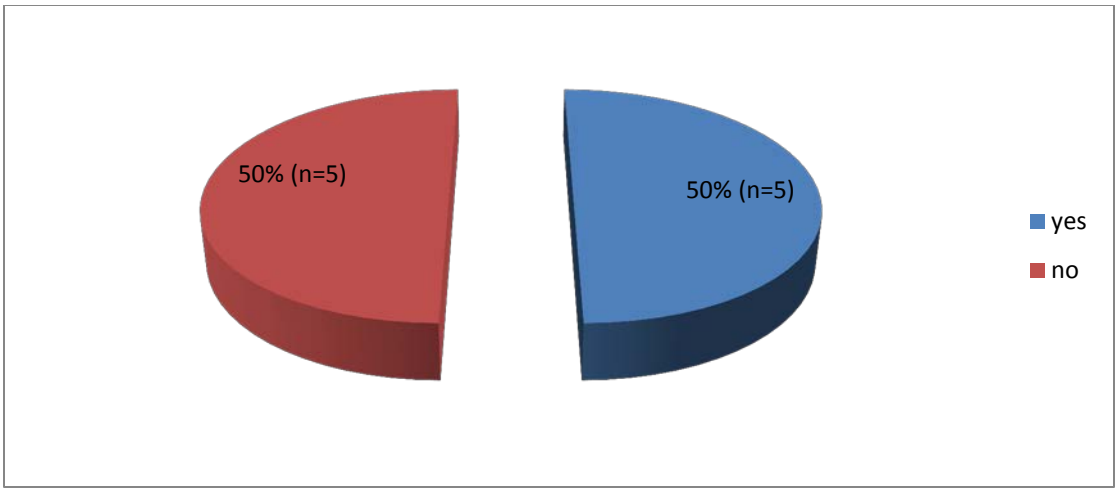

Figure 25: Percentage of Schools that sold excess vegetable produces

When selling their excess produces, focal persons were asked how much money they obtained, what they did with the money obtained, whether they encountered challenges and how they tackled the challenges they faced.

As indicated in table 16 below, focal persons of schools reported that they obtained amount of money ranging from 300 to 6000 ETB, the detail is indicated in table 9 below.

Table 9: Amount of money obtained by schools after selling their produces

Amount of money (ETB)	Number of schools	Percent
300	1	20
600	1	20
750	1	20
1150	1	20
6000	1	20
Total	5	100

With the money obtained after selling their excess produces, 80% of the schools planned to purchase planting materials for next season production to carry out demonstrations, 20% to purchase educational materials and 20% to strengthen nutrition club in the school (see Figure 26 below). In general, the assessment indicates that the money obtained from the sale of surplus vegetable produce is intended to be used to continue vegetable and fruits production for demonstrations. This is promising and needs to be encouraged.

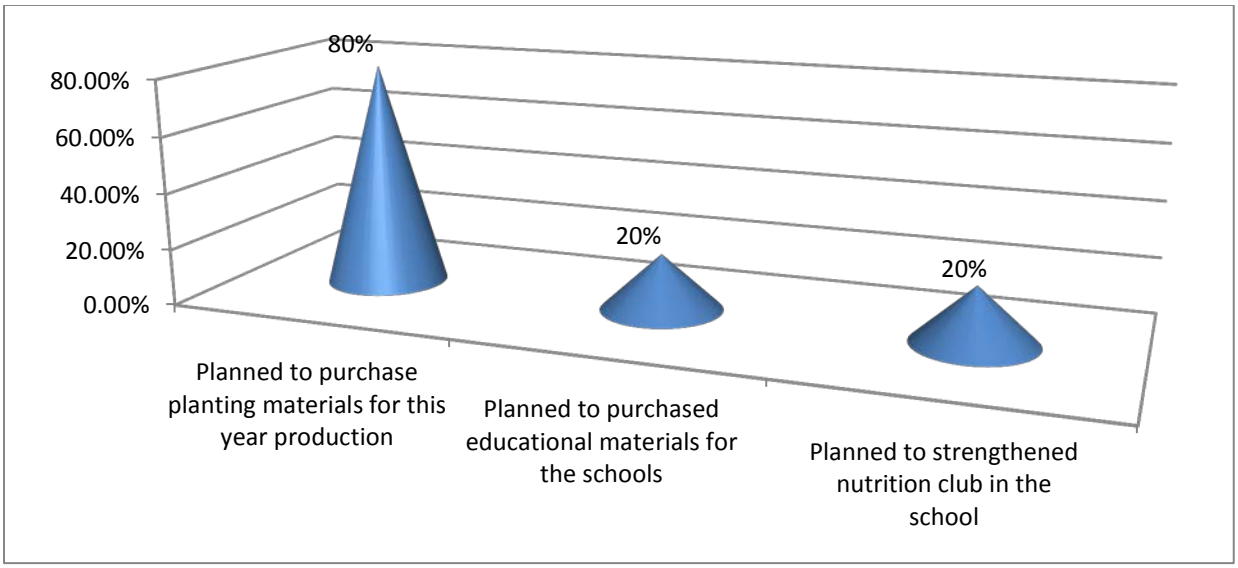

Figure 26; Income Utilization of Schools who sold their Excess Produces

Of the five schools which sold their excess produces two of them (40%) reported that they faced challenges (figure 27).

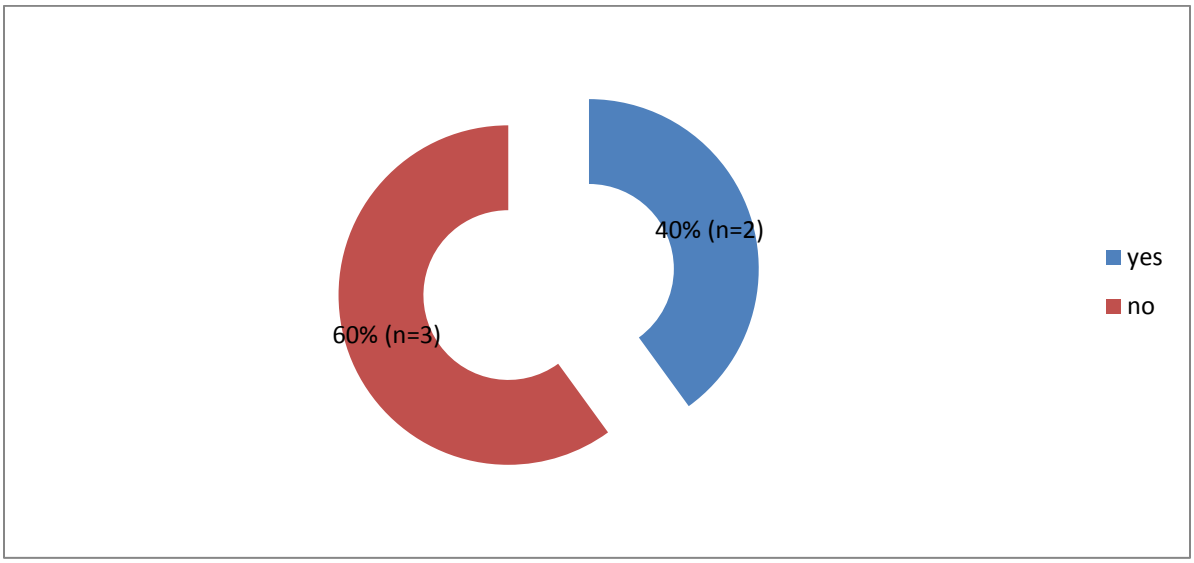

Figure 27: Percentage of schools that encountered challenges when selling their excess produces

Ways which schools used to tackle marketing challenges is indicated in figure 28 below, accordingly, one school sold products at very low price while the other responded that ENGINE assisted them to contact traders in order to sell their products.

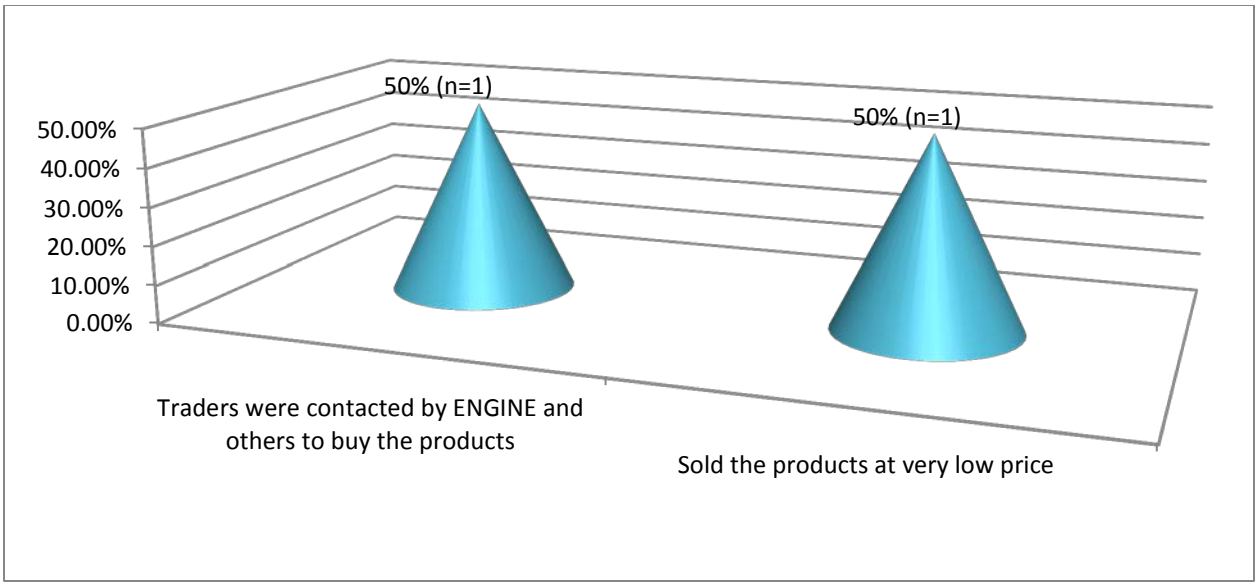

Figure 28: Ways used to tackle marketing challenges by Schools

In order to draw lessons, replicate good practices to other schools and plan TA for future production, school focal persons were asked to mention major challenges they faced during the previous year production. As indicated in figure 29 below, predators (10%), shortage of labour (50%), delay of seed supply (20%), teachers were not trained at the time of seed distribution (10%), shortage of water (80%), plant disease (20%), lack of technical support from woreda agriculture offices (10%) and market to sell surplus produces (10%) were the challenges mentioned by respondents during the previous production season.

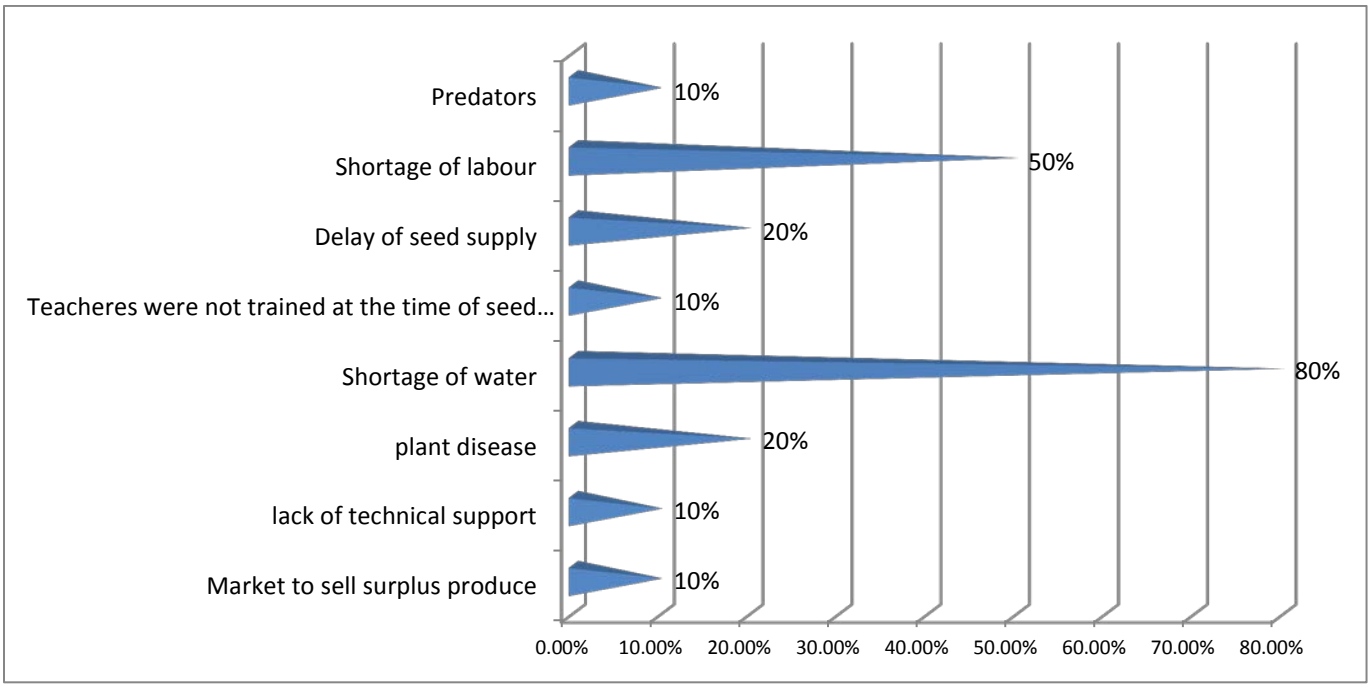

Figure 29: Major Challenges Faced by Schools during Previous Production season

Recommendations

- Most vulnerable households and schools supported for vegetable and fruits production require regular monitoring and technical backup from woreda horticulture experts, zonal livelihood coordinators and Development Agents (DAs)working in the kebeles for satisfactory productions.

- According to some HH and school respondents, training on vegetable and fruits production/gardening were provided after they started cultivations. This practice has to be discouraged for better performance and acceptance of the new technologies. It is advisable that training on productions to school teachers and MVHHs should be given immediately after or prior to supplying planting materials for proper application of technologies, satisfactory production outputs and better acceptance of technologies in the future.

- Some schools and MVHHs complained that they did not receive basic farm tools totally in some areas and partially in others parallel with planting materials. This practice need to be rectified and farm tools be provided for those MVHHs who badly in need of the basic farm hand tools. Moreover, recommended farm tools must be supplied at one go to program recipients along with planting materials in the future.

- Delay of seed supply was one of the problems reported by MVHHs, FTCs and schools in the 1st year of the program in some areas. Since most of the program areas use seasonal rainfall to cultivate, it is essential that planting materials be procured in advance and distributed to program clients a minimum of one month before the date of planting/ commencement of the seasonal rainfall and should fit to particular areas.

- In order to avoid marketing challenges encountered when selling excess produces, ENGINE staff in collaboration with the concerned government body at woreda levels needs to facilitate market linkages.

- MVHHs, FTCs and Schools must be advised and regulated to allocate land for cultivation based on the vegetable and fruits production guideline which is operational starting from year two of the project.

- Supply of vegetable seeds and fruit seedlings to MVHHs, FTCs and Schools should be based on the type of crops suggested in the vegetable and fruits production guideline.

- MVHHs must be advised to sale produces of vegetables and fruits only after meeting their consumption requirements.

- It is essential that “the availability of water for irrigation” criterion be applied strictly to select FTCs and schools in order to increase the number of demonstrations and reach as many people as possible in a short period.
- All FTCs and schools should conduct agronomic and cooking practice demonstrations if they are to be supported by the program. Conducting demonstrations ought to be mandatory and the realization of implementations be followed and monitored.
- FTCs and schools must be advised to use the income to be acquired from the sale of their surplus produce to strengthen and advance the agronomic and cooking practice demonstration efforts in the future.

Annex I: List of Woredas and Kebeles where Data Collection was Conducted

Region	Zone	Woreda	Kebele
Tigray	South Tigray	Raya Azebo	Bala
Amhara	West Gojjam	Jabitena	Arba'etu Ensisa
		Womberima	Koki
East Oromia	Arsi	Limuna Bilbilo	Lemu Dema
	Bale	Agarfa	Sebaja
West Oromia	South West Shewa	Becho	Kobo
			Awash bune
		Woliso	Obi Koji
SNNP	Keffa	Chena	Kulish
		Decha	Ermo
	Siltie	MIsrak azernet	Tachumnan
	Yem Special Woreda	Yem special woreda	Goruma Angeri

Annex II: Checklist for Household based Livelihood Activities (Homestead Production of Vegetables and Fruits)

Region: _____ Zone_____

Woreda:_____ Kebele:_____

Name of the respondent_____ Type of HH Male headed ☐ Female headed ☐

S. No.	List of questions	Responses
1.1.	Have you heard about ENGINE project?	1. Yes 2. No
1.2.	If the answer to Q1.1 is yes, what it is all about?	1. A program that promotes nutrition for children and mothers 2. A program that supports MVHHS to grow nutritious vegetables & fruits and raise productive livestock to diversify diets and improve economic status 3. A program that works on nutrition and health in selected MVHHs 4. Others (specify)
1.3.1.	Do you know anything about nutrition?	1. Yes 2. No
1.3.2.	If the answer to Q1.3.1 is yes, what is it all about?	1. Diversified diet 2. Balanced diet 3. Consumption of vegetables, fruits and animal products 4. Others (specify)
1.4.	What do you think is the reason you are targeted for ENGINE support?	1.Food gap 2.Have children under 5 3.PLHIV 4.Disabled 5. OVC 6.Lactating 7.Pregnant 8.Others (specify)
1.5.	What in kind supports did you receive through ENGINE project? (circle all that apply)	1.Vegetables & fruits 2.Productive livestock 2.1. Heifer 2.2. Sheep 2.3. Goats 2.4. Chicken 3.Farm tools 4.Training

1.6.	If the answer to Q1.29 is yes, what kind of training TA did you receive? (circle all that apply)	1. Vegetable and fruit production 2. Livestock husbandry 3. Nutrition 4. Gender 5. Business management 6. Others (specify)
1.7.	What crops did you grow last year through ENGINE support? (circle all that apply)	1.Cabbage 2.Carrot 3.Onion 4.Lettuce 5.Beetroot 6.Tomato 7.Swiss chard 8.Garlic 9.Irish potato 10. Orange fleshed sweet potato 11. Pepper 12. Avocado 13. Mango 14. Apple 15. Papaya 16. Cassava 17. Green beans (fossolia)
1.8.	What was the total size of the land you cultivated?	_____ (in sq. m)
1.9.	What is the source of water you are using to cultivate vegetables and fruits?	1. Rain fall 2. Irrigation 3. Both
1.10.	. What amount of products did you harvest?	1. Cabbage _____ (kg) 2. Carrot _____(kg) 3. Onion_____(kg) 4. Lettuce_____(kg) 5. Beetroot_____(kg) 6. Tomato_____(kg) 7. Swiss chard_____(kg)
1.11.	Have you consumed of what is produced?	1. Yes 2. No
1.12.	If yes what portion of a onetime produce did you consume?	1. Half 2. One fourth 3. Three fourth 4. All 5. Other amount (specify)
1.13.	Have you sold what is produced?	1. Yes 2. No
1.14.	If the answer to Q1.12 is yes, what portion did you sell?	1. Half 2. One fourth 3. Three fourth 4. All 5. Other amount (specify)

1.15.	Have you encountered marketing problems for your surplus produce?	1. Yes 2. No
1.16.	If the answer to Q1.14 is yes, what were the problems please mention.	1. Some produces are not familiar to the area 2. Supply to the market of similar produce were high 3. Prices of produces were very low 4. Produce markets are very far from my residence 5. Others (specify)
1.17.	What measures were taken to solve the problem that you faced?	1. Traders were contacted by ENGINE and others to buy my products 2. Sold my products at a very low price 3. Gave my surplus produce to neighbours, friends and relatives 4. Used for HH consumption 5. Feed animals of my surplus produce 6. Others (specify)
1.18.	What much money did you earn from your sales?	_____ (in br.)
1.19.	If the answer to Q 1.17 is yes, What have you done with the income?	1. Purchased livestock (chicken) 2. Purchased livestock (sheep) 3. Purchased livestock (goat/s) 4. Purchased livestock (calf) 5. Purchased educational materials for children 6. Purchased household furniture 7. Purchased clothes for children 8. Paid school fee for children 9. Paid cost of family health service 10. Purchased additional food for the HH 11. Others (specify)
1.20.	Have you saved any from the sales of the produces?	1. Yes 2. No
1.21.	If the answer to Q119 is yes, what amount of money did you save?	_____ (br.)
1.22.	What is your plan to do with the money you saved?	1. To purchase livestock (chicken) 2. To purchase livestock (sheep) 3. To purchase livestock (goat/s) 4. To purchase livestock (calf) 5. To purchase educational materials for children 6. To purchase clothes for children 7. To purchase household furniture 8. To purchase oxen 9. To pay credit 10. To purchase additional food for the HH 11. Others (specify)

1.23.	Have you shared seeds/seedlings to others (neighbours, friends etc)?	1. Yes 2. No
1.24.	If the answer to Q1.22 is yes, what portion did you share?	1. Half 2. One fourth 3. Three fourth 4. All 5. Other amount (specify)
1.25.	Have you planned to continue production of vegetables/fruits/root crops this year?	1. Yes 2. No
1.26.	If the answer to Q1.24 is yes, please specify your reasons	1. To consume in order to diversify our diet and improve our nutritional status 2. To consume and generate income 3. To generate income 4. Others (specify)
1.27.	If the answer to Q1.24 is yes, what size of land you will allocate compared to the last season?	1. Greater than last year, 2. Less than last year 3. Same as last year
1.28.	Where will be your seed/seedling source for this year production?	1. Buying 2. Borrowing 3. Project grant 4. Any other means (specify) 5. Do not know the source
1.29.	What intent do you have with what you are going to produce?	1. HH consumption (fully) 2. HH consumption and selling 3. Selling (fully) 4. Others (specify)
1.30.	What major challenges have faced you during last year production?	1. Market to sell surplus produce 2. Lack of technical support 3. Plant disease 4. Insect pest 5. Shortage of water 6. Frost 7. Inadequate provision of farm tools 8. Others (specify)
1.31.	How do you overall rate last year's production performance?	1. Below expectation 2. Above expectation 3. As expected 4. Don't know
1.32.	What changes have you noticed in your livelihood as result of the ENGINE support last year?	1. Diversify my HH diet 2. Diversify my family diet and generate income as well 3. Generate income 4. Invest from the income generated 5. Others (specify)
1.33.	Have you also been supported with livestock interventions?	1. Yes 2. No

1.34.	If the answer to Q1.34 is yes, what type of animals and how many did you receive?	1. Number of sheep_____ 2. Number of goats_____ 3. Number of heifers_____ 4. Number of chicken_____
1.35.	Does the animal provided to you considered sex composition?	1. Yes 2. No
1.36.	How many of your animals provided from ENGINE gave birth?	_____(number of animals which give birth) _____(number new animals born)
1.37.	How many livestock were dead?	_____ Number of animals dead
1.38.	What is the current number of livestock in the HH provided by ENGINE?	_____(number of livestock)
1.39.	Are the members of your HH consuming livestock products?	1. Yes 2. No
1.40.	If the answer to Q 1.40 is yes, which animal products are you consuming? (circle all that apply)	1. Milk 2. Eggs 3. Meat
1.41.	Did you sell animals/animal products?	1. Yes 2. No
1.42.	If the answer to Q1.42 is yes, which anima products did you sell?	1. Milk 2. Eggs 3. Offspring 4. Others (specify)
1.43.	What amount of income did you earn after selling livestock products?	_____ (br.)

Annex III: Check list for FTC based Livelihood Activities

Region:_____ Zone _____

Woreda:_____ Kebele:_____

Name of FTC_____

Name or Position of the respondent _____

1.1	Have you heard about ENGINE project and its activities in FTCs? What is it about?	1. Yes 2. No
1.2	If the answer to Q1.1 is yes, What kind of support did you receive from the project? (circle all that apply)	1. Planting materials 2. Farm tools 3. Training
1.3	If the answer to Q1.2 is 3, what kind of training are you provided with?	
1.4	If you received planting materials (seed/seedlings) what type of crops did you grow? (circle all that apply)	1. Vegetables 2. Fruits 3. Both
1.5	What was the total size of land you cultivated in sq.m.?	_____ (sq. m)
1.6	What was the source of water you used to cultivate?	1. Rain water 2. Irrigation water 3. Both
1.7	Who did the cultivation work?	1. Farmers 2. Paid labour 3. Others (specify)
1.8	Did you distribute planting materials to grow in their homesteads?	1. Yes 2. No
1.9	If the answer to Q1.8 is yes, to whom did you distribute?	1. Farmers 2. Others (specify)
1.10	Did you u organize agronomic/cooking practice events?	1. Yes 2. No
1.11	If the answer to Q1.9 is yes, what kind of demonstration event did you organize?	1. Agronomic practice 2. Cooking demonstration 3. Both
1.12	If the answer to Q1.9 is yes, who participated in the event?	1. Farmers 2. Others (specify)
1.13	How many times did you conduct the events until now?	
1.14	How many people precipitated in the events until now?	_____ (number of people)
1.15	Are you aware of people adopting the technologies (growing of vegetables and fruits in their homesteads)?	1. Yes 2. No
1.16	If the answer is yes, who are these?	1. Farmers 2. Others (specify)
1.17	Did you sell produces from your gardens?	1. Yes 2. No
1.18	If the answer to Q1.17 is yes, How much money did you get from the sale of last year produce?	_____ (amount of money)
1.19	Did you encounter problems in marketing your garden produces?	1. Yes 2. No
1.20	If the answer to Q1.19 is yes, how did you solve it? (circle all that apply)	7. Traders were contacted by ENGINE and others to buy my products 8. Sold the products at a very low price

		9. Gave the surplus produce to neighbours, friends and relatives 10. Fed animals of the surplus produce 11. Others (specify)
1.21	What did you do with the money you got from the sale of the produce? (circle all that apply)	1. Purchase planting materials for next production season 2. Invest in other activity 3. Deposit in the bank 4. Paid for labour 5. Others (specify)
1.22	Have you planned to produce vegetables/fruits/root crops this year?	1. Yes 2. No
1.23	If the answer to Q 1.22 is yes, what will be the size of land you plan to cultivate compared to the previous year?	1. Increase 2. Decrease 3. Similar
1.24	Can you indicate in order of importance t the types of crops to be grown this year?	
1.25	What is your source of planting materials for the current year's production?	1. Planting materials saved from the previous year 2. Market 3. Project grant 4. Others (specify)
1.26	What are you going to do with the upcoming crops harvest?	1. To distribute to students 2. To distribute to others 3. To market
1.27	What is your source of water for this year production?	1. Rain 2. Irrigation 3. Both
1.28	What major challenges did you face during the previous production? (circle all that apply)	1. Delay of seed/seedling supply 2. Marketing 3. Frost 4. Predators 5. Shortage of rainfall/water 6. Shortage of money to pay for labour 7. Shortage of farm tools 8. Pest Problem 9. Plant disease 10. Others (specify)
1.29	What major problems do you expect to encounter during the current year production?	1. Delay of seed/seedling supply 2. Marketing 3. Frost 4. Predators 5. Shortage of rainfall/water 6. Shortage of money to pay for labour 7. Shortage of farm tools 8. Pest Problem 9. Plant disease Others (specify)
1.30	How do you overall rate the last year production performance?	1. Poor

		2. Medium 3. Good
1.31	Any other question/issue related to FTC gardening activity and ENGINE program	

Annex IV: Check list for School based Livelihood Activities

Region:_____ Zone_____

Woreda:_____ Kebele:_____

Name of the school_____

Name or Position of the respondent _____

1.3.	Have you heard about ENGINE project and its activities in schools?	1. Yes 2. No
1.4.	If the answer to Q1.1 is yes, What kind of support did you receive from the project? (circle all that apply)	1. Planting materials 2. Farm tools 3. Training 4. None
1.5.	If the answer to Q1.2 is 3, what kind of training are you provided with?	
1.6.	If you received planting materials (seed/seedlings) what type of crops did you grow? (circle all that apply)	1. Vegetables 2. Fruits 3. Both
1.7.	What was the total size of land you cultivated in sq.m.?	_____ (sq. m)
1.8.	What was the source of water you used to cultivate?	1. Rain water 2. Irrigation water 3. Both
1.9.	Who did the cultivation work?	1. Students 2. Teachers 3. Parent-teacher association members 4. Students' parents 5. Others
1.10.	Did you distribute planting materials to grow in their homesteads?	1. Yes 2. No
1.11.	If Yes, to whom did you distribute? (circle all that apply)	1. Students 2. Teachers 3. Parent association members 4. Students' parents 5. Others (specify)
1.12.	Did you organize agronomic/cooking practice events?	1. Yes 2. No
1.13.	If the answer to Q 1.10 is yes, what kind of demonstration event did you organize?	1. Agronomic practice 2. Cooking demonstration 3. Both

1.14.	If the answer to Q1.10 is yes, who participated in the event?	1. Students 2. Teachers 3. Parent association members 4. Communities living around the school 5. Students' parents 6. Others (specify)
1.15.	How many times did you conduct the events?	
1.16.	How many people precipitated in the events until now?	_____ (number of people)
1.17.	Are you aware of people adopting the technologies (growing of vegetables and fruits in their homesteads)?	1. Yes 2. No
1.18.	If the answer to Q1.15 is yes, who are these? (circle all that apply)	1. Students 2. Teachers 3. Parents of students 4. Wider community 5. Others (specify)
1.19.	Did you sell produces from your gardens?	1. Yes 2. No
1.20.	If the answer to Q1.17 is yes, How much money did you get from the sale of last year produce?	_____ (amount of money)
1.21.	Did you encounter problems in marketing your garden produces?	1. Yes 2. No
1.22.	If the answer to Q1.19 is yes, how did you solve it? (circle all that apply)	12. Traders were contacted by ENGINE and others to buy my products 13. Sold my products at a very low price 14. Gave my surplus produce to neighbours, friends and relatives 15. Feed animals of my surplus produce 16. Others (specify)
1.23.	What did you do with the money you got from the sale of the produce? (circle all that apply)	1. Purchase planting materials for this year production 2. Invest in other activity (purchase educational materials for the school) 3. Deposit in the bank 4. Others (specify)
1.24.	Have you planned to produce vegetables/fruits/root crops this year?	1. Yes 2. No
1.25.	If the answer to Q1.22 is yes, what will be the size of land you plan to cultivate compared to the previous year?	1. Increase 2. Decrease 3. Similar
1.26.	Can you indicate in order of importance t the types of crops to be grown this year?	
1.27.	What is your source of planting materials for the current year's production?	1. Planting materials saved from the previous year

		2. Market 3. Project grant 4. Others (specify)
1.28.	What are you going to do with the upcoming crops harvest?	1. To distribute to students 2. To distribute to others 3. To market 4. Others (specify)
1.29.	What is your source of water for this year production?	1. Rain fall 2. Irrigation 3. Both
1.30.	What major challenges did you face during the previous production?	9. Market to sell surplus produce 10. Lack of technical support 11. Plant disease 12. Insect pest 13. Shortage of water 14. Shortage of farm tools 15. Teachers were not trained at the time of seed distribution 16. Delay of seed supply 17. Shortage of labour 18. Predators 19. Others (specify)
1.31.	What major problems do you expect to encounter during the current year production?	1. Market to sell surplus produce 2. Lack of technical support 3. Plant disease 4. Insect pest 5. Shortage of water 6. Others (specify)
1.32.	How do you overall rate the last year production performance?	1. Poor 2. Medium 3. Good
1.33.	Any other question/issue related to school gardening activity and ENGINE program	