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Women, (UAPHAW)



Market Linkages Study

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Table of Contents

Tables and Figures	i
Background	2
Objectives of the Study	3
Methodology	3
Market Research	3
ADAMA MARKETS	6
PROFITABILITY OF THE VARIOUS MARKETING CHANNELS	7
'GULLIT' ENTERPRISE BUDGETS	8
ASSESSMENT OF THE 'EXPECTED' INCREMENTAL INCOME TO ACCRUE TO THE FARMER FROM IDENTIFIED MARKETING CHANNELS	8
VEGETABLE SUPPLY TRENDS IN ADDIS ABABA	10
Producer Segmentation	11
PRODUCER GROUPS/ SEGMENTS IDENTIFIED.....	11
CHARACTERISTICS OF SUBSISTENCE LEVEL PRODUCERS.....	11
CHARACTERISTICS OF MEDIUM LEVEL PRODUCERS.....	12
CHARACTERISTICS OF HIGH LEVEL PRODUCERS	12
COSTS OF PRODUCTION	12
Productivity of a 30m2 and a 100m2 unit	13
Continuous vegetable production vs Seasonal production	15
Marketing Strategy Options	16
MODEL 1: SCHOOL GARDENS.....	16
MODEL 2: INDIVIDUAL HOUSEHOLD GARDENS.....	17
MODEL 3: COMMUNAL GARDENS	17
Future Work	18
RESEARCH	18
References	19
INTERVIEWS HELD	19
Annex 1: Gross income calculations for Gullits	19
Annex 2: Producer Sites Visited	19

Tables and Figures

Table 1: Vegetable producer prices from supermarkets in Addis Ababa	4
Table 2: Open markets Addis Ababa, vegetable prices per kg Feb 2008	5
Table 3: Addis Ababa horticultural production, 2006/7 seasons	6
Table 4: Adama markets, vegetable prices per kg, Adama, Feb 2008.....	6
Table 5: Quantities of vegetables in hotels in Adama	7
Table 6: High level Gullit, gross margin	8
Table 7: Medium level Gullit, gross margin.....	8
Table 8: Scenario 1 Enterprise Returns for 30m2 bed unit – with a permanent stall at Adama market	9
Table 9: Scenario 2 Enterprise returns for a 3m2 unit – Selling off farm.....	10
Table 10: Seed cost	13
Table 11: Assessment of productivity per bed.....	14
Table 12: Typeical one season production, 3 bed unit and 10 bed unit	14
Table 13: Production calendar for one year.....	15
Table 14: Cycle 1	15
Table 15: Cycle 2	16
Table 16: Cycle 3	16

Background

ECIAfrica is subcontracted by DAI to implement the Urban Agriculture Program for HIV/AIDS affected Women (UAPHAW) in Ethiopia. The project is supported by USAID through the AMAP IQC. The program is targeting 15 000 women and Orphans and Vulnerable Children, (OVCs) in HIV/AIDS affected households in urban and peri-urban areas of Addis Ababa, Adama, Gonder, Awassa, Dessie and Bahir Dar.

The two principal objectives of the UAPHAW program are to produce food for household consumption from household nutritional gardens (HNG) and to generate income from sale of the produce.

To achieve these two objectives, UAPHAW has introduced the drip kit micro-irrigation technology to reduce labor, water and land requirements and contribute to increased productivity per unit area. The Drip Kit has been shown to require only 50% the water and 50% the labor as conventional watering. This study contributed to the second objective of the program; i.e. for households to generate income from sale of produce.

The program is implemented in partnership with Ethiopian-based NGOs, the Implementing Partners, IPs, who have either successful HIV/AIDS programs and networks or are running urban agricultural development programs in the target communities.

It is envisaged that by the end of the program, the program beneficiaries affected by HIV/AIDS in targeted geographic areas will have improved nutritional sources, improved income levels and improved skills and alternative livelihoods.

The beneficiaries have embarked on one of three gardening types (30m², 100m² or grow bags) depending upon the availability of land. The total number of nutrition gardens established so far is 14 000. A significant proportion of beneficiaries grow vegetables in grow bags mainly because of unavailability of land for vegetable growing.

Although the income generation aspect of the gardens is considered to be critical for project sustainability, the profitability of different marketing streams has not been explored. This would ensure that the beneficiaries could benefit by significantly increasing cash incomes through the identification and utilization of the most profitable market streams, contributing to greater program sustainability.

Marketing plays an important role in maximizing the benefit that could be obtained from any agricultural activity. One of the main questions in addressing farmers' market access ability is how to improve their competitiveness. This relies on cost reduction strategies, which can be achieved through economies of scale. The lack of political power and negotiating capacity limit small farmer participation in their relationship with value chain actors as well as limiting the improvement of their institutional environment.

UAPHAW producers are found in cities where there are no major restrictions in terms of infrastructure and road networks. The producers should be able to easily access the market. The greater specificity of the vegetable market and its demand in terms of product quality and consistency of supply puts pressure on operators at all stages of the marketing channel. This is intensified by two characteristics of vegetable production and marketing. The perishability of vegetables makes it obligatory to complete certain operations within a precise and often very short time span. The seasonality of production also creates temporary, calendar-specific quasi-monopolies for individual production zones. This calls for innovative strategies from the producers to interact more and benefit from the synergies from greater coordination of intermediaries including transporters, wholesalers and retailers.

Objectives of the Study

UAPHAW carried out an analysis of the constraints to market linkages for the Drip kit beneficiaries in 2007. The analysis identified the scope of marketing problems and provided important background information for the implementation of activities to enhance the ability of the project beneficiaries to market their surplus production.

The purpose of this assignment was to ascertain the different income streams from identified marketing channels and to match the producer segments in the HNG to the identified channels. The profitability of different channels will also be assessed.

The specific objectives of the study entailed:

- Segmenting the markets,
- Segmenting the producers,
- Develop marketing strategies/ models for the different producer segments.

Methodology

The study was undertaken in two purposely selected areas (Addis Ababa and Adama) due to the limited time frame. Four implementing partners in Addis Ababa and 3 IPs in Adama were selected to pilot the market research. The selection of IPs was based on the number of communal gardens under an individual IP.

Various group interviews were conducted with vegetable producers in the study areas on production and marketing of vegetables. In particular:

- Market research was carried out to get an indication of current price levels in the different marketing cannels,
- Beneficiaries' segmentation to be carried out together with the IP. The beneficiary segmentation focused on classifying the beneficiaries according to their capacity levels. Certain markets identified require high levels of production and high organizational ability. It was deemed important to distinguish among the various categories of farmers with varying capacities,
- Action Plan Developed for follow on activities.

Market Research

Two main marketing segments were identified from this study and these are the high value marketing segment and the informal marketing segment.

Table1 and 2 summarize the markets in Addis Ababa. No marketing information was available from the Urban Agriculture Office, the Ministry of Agriculture or the Central Statistics Office.

Four supermarkets and four open markets were identified and interviewed in Addis Ababa.

The need for quality vegetables on a daily basis in the high value market segment was affirmed. There are no stringent measures required other than the requirement that the vegetables should be watered by safe and clean water. Table 1 shows the vegetable producer prices being offered in Addis.

Table 1: Vegetable producer prices from supermarkets in Addis Ababa

Vegetables	Novis	Friendship	Bambis	Shi Solomon	Ave price/kg, (Birr)
Tomato	6	8	8.00	6	7.00
Cabbage	9	5	8.00	4	6.50
Chinese cabbage	4.50	-	9.00	-	6.75
Garlic	16.00	18.50	18.00	16.00	17.10
Cauliflower	-	42	-	-	42.00
Green beans	17.00	20	15.00	16.50	17.10
Carrot	5	-	-	-	5.00
Onion	-	3.00	3.75	3.50	3.42

Survey data, February 2008

Genesis farm, located 45km east of Addis Ababa in Debre Zeit town supplies the supermarket segment, which is the higher value market channel. The supermarkets identified all target the high income segment. Producer prices in this market channel are higher for all vegetables compared to the informal market. One limiting factor is the size of this market, representing only about 5% of the total vegetable supply in Addis Ababa.

Genesis is an integrated commercial production unit. It operates a dairy unit, poultry production unit, flower production unit as well as the vegetable production unit. Genesis supplies vegetables to supermarkets in Addis Ababa depending on the requirements/ order from the supermarket. Vegetable pricing is set by Genesis depending on the prices of vegetables on the informal market. For the 'non traditional' vegetables such as broccoli, they practice price skimming, whereby they 'dictate' the price as high as possible initially and gradually lower the price if there is a competitor on the market. Genesis can afford to set their prices in this way because they hold a monopoly position in supplying vegetables to this market segment.

Genesis sells 50% of its vegetable production on the farm with the remainder being sold in Addis. The quality requirements demanded by this channel are not stringent and do not present a barrier to entry for UAPHAW producers. The buyers/owners in the high value market segment interviewed indicated that they would want more vegetables as long as the quality specifications are met. The UAPHAW producers can meet the quality requirements but need to have the coordination and organizational levels required for consistent supply to the market.

The second market segment identified is the informal market segment. The informal market channel constitutes about 95% of the total vegetable supply in Addis Ababa. The vegetables are supplied from commercial farms in Arsi, 175km from Addis mainly for the Arada market, the largest vegetable market.

Other sources of vegetables include Shewa Robit, Ziway, Awash koka, Holeta, Arsi Negete, Waliso, Shashemene and Debrezeit. Table 2 shows the producer prices at various open markets in Addis.

Table 2: Open markets Addis Ababa, vegetable prices per kg Feb 2008

Vegetables	Mesalemia	Lideta	Arada/ Piassa	Shala	Ave price/kg, (Birr)
Tomato	4.50	5.50	4.50	5.00	4.88
Cabbage	-	1.50	1.00	3.00	1.83
Onion	1.70	1.20	1.50	2.00	1.60
Carrot	-	-	3.00	3.50	3.25
Swiss chard	-	1.50	1.00	3.00	1.80
Potato	-	4.00	5.00	4.50	4.50
Beetroot	2.50	-	2.50	3.00	2.67
Garlic	14.00	13.00	14.00	15.00	14
Green beans	-	6.00	3.00	-	4.50

Survey data, February 2008

On comparison, it is evident that prices for all vegetables in the higher value marketing channel surpass those from the informal marketing channel. The informal channel can however absorb more quantities. The rent for a stall in Arada market is E1500/ month. On average, sales from the interviewees average EB4000/ day.

Eleven government supported producer cooperatives also contribute vegetable supply in Addis. These include the Mekanissa and Furi Sons who are the highest producers with a hectareage of 150ha. The hectareage for the rest of the cooperatives is 5hectares on average.

Total vegetable production in Addis has been increasing over the last 3 years. Total production for the 2006/07 season is shown in Table 3.

Table 3: Addis Ababa horticultural production, 2006/7 seasons

Product	Total Production tones	Product	Total Production tonnes
Potato	20800	Beet root	17296
Tomato	5600	Leek	2300
Carrot	14560	Swiss chard	12390
Onion	2160	Cauliflower	4410
Pepper	1200	Kale	10752
Squash	4200	Parsley and celery	616
Cabbage	7260	Pumpkin	1680
Lettuce	14336		

Source. Urban Agriculture Office

Swiss chard, Kale and Lettuce are the leafy vegetables which dominate the production scene as these vegetables are consumed predominantly by most Ethiopians.

ADAMA MARKETS

Adama has only one supermarket, Chuchu supermarket but hotels present a major market for vegetable produce. Two hotels were also interviewed in Adama, one representative of the 'luxury' hotels segment and one representative of the medium class hotels accessed by the bulk of the medium class in Ethiopia. Two open markets were identified in Adama and interviews were held at different operational scales of the traders, locally called the 'gullits'.

Table 4: Adama markets, vegetable prices per kg, Adama, Feb 2008

Vegetables	Chuchu S/mkt	Mzulukazi Retailing	Gemebaya Retail Trader	Genesis Retail	Amede
Tomato	4	4.50	3.70	3.00	5
Cabbage	1.60	1.80	1.80	1.50	3.00
Onion	1.30	1.40	1.45	2.00	1.70
Lettuce	3.00	2.50	3.50	2.00	3.00
Swiss chard	-	2.00	3.00	-	3.50
Chilli	-	6.50	8.00	-	9.00

Open markets in Adama account for approximately 97% of total vegetable supply. Awash Melekasa, Wonji and Koka supply all the markets identified. An average of 70kg of onion, 70 kg of tomato, 50kg of cabbage and 20kg of lettuce is sold daily through Chuchu supermarket.

Quantities going through the Mzulukazi market are 40kg of tomato, 30kg of onion, 30kg of cabbage, 10kg of lettuce, 10kg Swiss chard and 10kg of chilli.

It was interesting to note that all the groups visited had no marketing problems. However, market research abilities varied from one group to another depending on capacity levels. Some beneficiaries had done better in terms of developing marketing strategies that work compared to others.

Jamal Kadir and Solomon Kebede are examples of proactive producers who have conducted market research in their localities. Solomon Kebede is from Adama Bosat Elementary School Garden. He took samples of his vegetables into nearby hotels and has since been requested to increase the quantity and range of vegetables he is supplying. He has started purchasing vegetables from other beneficiaries at a slightly lower price and supplies the hotels.

Although he admitted that he has more negotiating power on farm when making a sale, there are advantages in bulk sales in that the payment is also bulk payment. Table 3 below shows the quantities demanded by two hotels in Adama. Beneficiaries are already supplying to these hotels and marketing through this channel should be maximized more from the perspective of bulk sales than higher prices.

Table 5: Quantities of vegetables in hotels in Adama

Vegetables	Palace, Qn/ day, kg	Karamara, Qn/ day
Tomato	5	20
Lettuce	5	12
Onion	10	40
Garlic	5	7
Swiss chard	-	12
Green beans	10	10
Carrot	10	10
Green pepper	5	-
Chilli	5	6

Jamal Kadir has supplied vegetables to the Rift Valley, Palace and Adama Hotels. He is an individual garden holder but is the coordinator for HNG in Kabele 09. He now also buys produce from fellow producers in the Kebele and sells in bulk to the hotels mentioned.

PROFITABILITY OF THE VARIOUS MARKETING CHANNELS

The open markets exhibited defined variations in terms of the scale of the traders on the market. The traders buy the produce from the produce delivered in the early morning by producers/ middlemen. They simply put a mark up and aim to sell the produce within 3 days due to the perish ability of the produce. It was of interest to assess the viability of these enterprises as they represent downstream industries in the open market channel and also represent the final flow of the product directly to the consumer.

'GULLIT' ENTERPRISE BUDGETS

Two levels of Gullit traders were assessed. Annex 1 shows the detailed gross income they receive daily. Below are an enterprise budgets for a high and medium level Gullit.

Table 6: High level Gullit, gross margin

Gross income	195 25	4875
Less costs	-	-
Additional costs	-	-
Labour	4 25	100
Rent	300	300
Gross margin	-	4475

Assumption

Trader sells for 25days per month

From the enterprise budget above, high level Gullit makes EB4475 per month. Assuming, a spoilage percentage of 10% this translates to 4027.50/ month.

Table 7: Medium level Gullit, gross margin

Gross income	129 25	3225
Less costs	-	-
Additional costs	-	-
Labour	4 .25	100
Rent	250	100
Gross margin	-	3025

Assumption

Trader sells for 25days per month

A medium level Gullit makes EB3025/ month. Assuming, a spoilage percentage of 10% this translates to EB2722.50

ASSESSMENT OF THE 'EXPECTED' INCREMENTAL INCOME TO ACCRUE TO THE FARMER FROM IDENTIFIED MARKETING CHANNELS

An assessment was conducted to compare the returns from the beneficiaries selling through the various channels. The table below show the returns expected for farmers selling at farm gate prices, and selling into the open market, which is the most common market. Some IPs have suggested that the erection of a permanent stall at the market could be one intervention that leads to greater returns on income. These avenues were explored from a cost to benefit point of view to assess the incremental returns when selling into the open market.

Table 8: Scenario 1 Enterprise Returns for 30m2 bed unit – with a permanent stall at Adama market

Farmer	Average farmer
(Costs ETB)	-
Cost of seed	3.0
Transportation	20.0
Rent	10.0
Water charges	54.0
Labour cost	20.0
Wastage, 10% of production	36.70
Total production costs	143.70
Gross income	447.50
Less total costs of production	143.70
Gross margin	303.80
Profit for 50 beneficiaries	15 190 .00

Assumptions,

50 beneficiaries on site.

Rent to be paid for one month only, EB 500 per month, EB6/individual

Water cost charged at 60cents a day

Labor cost not included

Transport costs, EB1000 per month

Table 9: Scenario 2 Enterprise returns for a 3m2 unit – Selling off farm

Farmer enterprise	Average farmer
(Costs ETB)	-
Cost of seed	3.00
Water charges	54.00
Total production costs	57.00
Gross income	367.60
Less total costs of production	57.00
Gross margin	310.60
Profit for 50 beneficiaries	15 530.00

Assumptions,

50 beneficiaries on site.

Water cost charged at 60cents a day

Labor cost not included

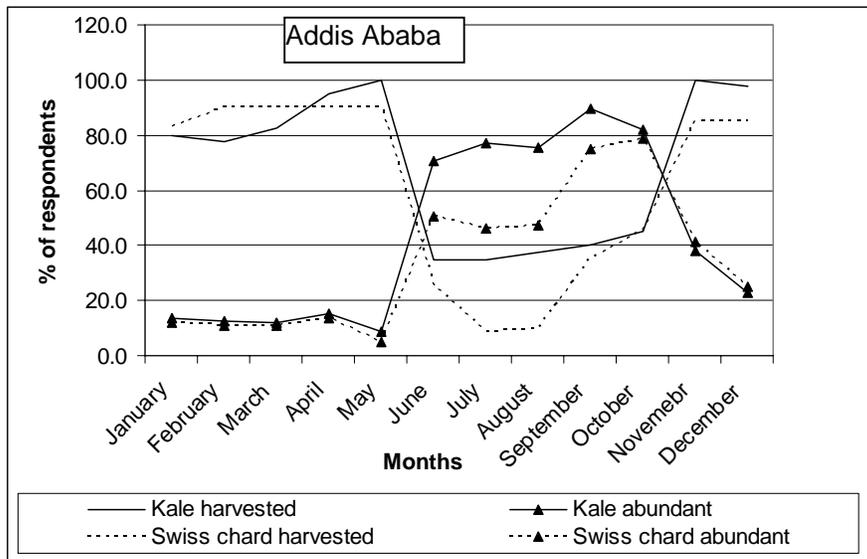
From the analysis above, it is clear that the producer has a higher gross margin from operating in scenario 2, selling off the farm compared to scenario 1, selling from an established market stall in a one month period. Even though the Gross Income for scenario 1 is higher the additional costs from rent and transport outweigh the additional revenue. To operate such an arrangement, the organizational capacity within the group should be high.

VEGETABLE SUPPLY TRENDS IN ADDIS ABABA

Vegetables are more abundant during the rainy season starting from June through November. Vegetables are generally in low supply between November and May. This is a very good period for producers to produce vegetables since vegetables are generally scarce in the market during this period. In both Addis Ababa and Adama it was observed that producers have not targeted the low vegetable supply period to take greater advantage of higher prices in the market during these periods. A good example of a vegetable being produced when there is a glut in the market during the study period is onion.

The seasonal supply of onion indicates the glut period from January to March. Most beneficiaries are actually harvesting onions at a period when the prices are at their lowest at an average price of EB1.00/kg. Onions can be hanged to dry and sold later when the prices on the market are higher.

The graph below indicates the periods of high and low supply of Kale and Swiss Chard in Addis Ababa



Source; Market Linkage Study, UAPHAW, 2007

There is high vegetable demand in the market during the March-April period. This is due to the long Orthodox Christian fasting period where the substitution effect occurs as vegetables replace animal products as a relish. No animal products are consumed by Orthodox Christians during the fasting period which is about 2 months.

There are pocket areas where gardens are presumably water logged during July to September and beneficiaries tend to produce rice. This is an opportunity for the project to look at methods of countering moderate water logging and assessing crops that can fetch higher returns during this period. Producers who started production of vegetables 'straight after' the rainy season realized higher returns by having a head start of two weeks.

Producer Segmentation

PRODUCER GROUPS/ SEGMENTS IDENTIFIED

Nine communal gardens, three school gardens and five individual gardens in Addis and Adama were visited during the study period to get a sense of the production and marketing issues of each garden. Each garden has its own strengths and weaknesses and each has responded in various ways to challenges encountered. Annex 2 shows the groups that the consultant held in depth discussions with the beneficiaries.

Three producer groups were identified from the various gardens visited in Addis Ababa and Adama as listed below:

- Subsistence level producers,
- Medium level producers,
- High level producers.

CHARACTERISTICS OF SUBSISTENCE LEVEL PRODUCERS

- Low level producer,
- Low production levels,
- Low product quality,

- Low sales,
- Low organizational capacity,
- Generally practice farm gate selling,
- Low knowledge in agronomic practices.

CHARACTERISTICS OF MEDIUM LEVEL PRODUCERS

- Medium production level farmer,
- Good quality crop,
- Low to medium sales,
- Low understanding of market.

CHARACTERISTICS OF HIGH LEVEL PRODUCERS

- Good quality product,
- Understand markets,
- Medium to high sales,
- Proactive, enterprising,
- High organizational capacity,
- Market oriented producer.

The key criteria used to identify a producer in the sub categories above are the level of production and organizational capacity of the producer.

COSTS OF PRODUCTION

Direct input costs are kept to a minimum on the gardens. The two major input costs, in monetary terms, are the cost of water and the cost of seed.

To ensure sustainability, producers should also be contributing to depreciation costs of the equipment they use, eg the drip kit and water containers pipes.

Water Usage at the rate of 160l/day for the 30m² and 460l a day for the 100m² kit unit remains the major input cost the producers have to adjust to. Water remains the major input cost even with use of the drip kit which reduces the normal vegetable water requirements by 50%. For the 30m² kit unit, producers currently pay an average price of 60c/day towards the cost of water. Seed cost is relatively much cheaper. Table 10 shows the market seed prices.

Table 10: Seed cost

Seed cost	Cost/ 50g
Tomato	25 units
Lettuce	30 units
Onion	8 units
Cabbage	8 units
Swiss chard	12 units
Cauliflower	25 units
Hosepipe	5B/ metre

Some shops further package the seeds into 1 Birr small packets suited for one bed. This should make them affordable to most producers. Linking producers with such markets may result in a greater proportion of producers affording seed.

Organic pesticides are being used by the beneficiaries for disease treatment. The main reason for use of organic pesticides is primarily from a health perspective as organic pesticides have no residual effects and minimal, if any side effects. The second reason is from a cost perspective, to keep input costs to a minimum.

The following organic pesticides were discussed:

- Garlic spray,
- Chilli spray,
- Pepper powder,
- Soap solution,
- Vegetable oil sprays,
- Molasses spray,
- Water to wash out aphids.

These are sprayed mainly for aphids. The molasses spray is used as a deterrent for chewing insects.

It was observed that less emphasis is placed on indirect costs and how the producers should organize themselves to generate the required income/ savings to ensure project continuation.

Productivity of a 30m² and a 100m² unit

In order to assess the returns being realized from the investment that has been made on the project, it is important to get an indication of the returns that accrue to the producers from producing in the garden. We looked at the return on investment from two angles, the first being returns based on the 30m² and the 100m² and secondly from the perspective of a producer producing for one season only and a producer practicing 3 production cycles per year.

It is important to note that such analysis if co-opted into the production and marketing training manual will assist the producers appreciate the true value of their plots and the opportunity costs of not producing. Benefits must be sufficient to provide incentives for changes in behaviour patterns that entail taking on new risks and the adoption of innovations.

Table 11: Assessment of productivity per bed

Crop	Duration, weeks	Plants/ row	Kg/ bed
Tomato	12	33	33
Lettuce	5	66	52.8
Onion	12	132	12
Cabbage	12	66	99
Swiss chard	36	66	330
Beetroot	12	132	26.4
Carrot	12	200	25

Beneficiary record keeping was next to non existent. The figures in Table 11 were obtained from calculations done with Extension workers in Adama. The production per bed figures are useful as they can be easily used to calculate the returns for both the 3 bed unit and the 10 bed unit. It is worth noting that in areas where intensive vegetable production is practiced, some of the yield levels could be doubled.

Fintrac, runs an Agribusiness Unit, which focuses on promoting a business approach to farming. They promote organized marketing and offer training for staff for capacity building. This can be explored further for possible linkages.

Expected returns from a 30m² unit and a 100m² unit is indicated in Table 12.

Table 12: Typical one season production, 3 bed unit and 10 bed unit

Crop	Output, kg/ plot	Market Price/ kg, (Birr)	Gross Income, 30m ²	Gross 100m ²	Income
Tomato	33	4	132	(3)	396.00
Swiss cabbage	110	2	220	(3)	660.00
Onion	12	1.30	15.6	(4)	62.40
Total			367.6	1118.40	

Although these figures are for one production cycle only, when calculating the ROI from a 30m² (Drip kit cost of EB386.40) it is 0.95. For a 100m² unit, the cost per kit is EB695.55. This translates to a ROI of 1.6.

The incremental benefits for a 10 bed unit far outweigh the incremental drip kit cost. Moreover, the value of the product available for sale is higher with the higher production unit resulting in greater returns to the producer and greater change in his/ her livelihood.

This also contributes to greater sustainability since the producer has more income to save for depreciation costs of the drip kit and hose pipe purchase etc above the direct production costs.

Continuous vegetable production vs Seasonal production

Assuming an arbitrary production calendar for a one year period, with no production in July and August when the rains are heaviest rendering production impossible.

Table 13: Production calendar for one year

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
T, SC, ON	T, SC, ON	T, SC, ON	L, C, SC	L, S, SC	L, C, SC	-	-	Car.T, SC	Car.T, SC	Car.T, SC	Car.T, SC

Key;

T- Tomato

SC- Sweet Cabbage

ON- Onion

L - Lettuce

C - Cabbage

Car - Carrot

Please note, the production calendar above is for computing purposes only. The vegetables to be produced in each garden should be selected according to the levels of supply in the market. Although marketing information was not available and price trends could not be developed, some producers are able to articulate the periods of high and low supply of each vegetable in their localities. This knowledge can be used to develop market based production calendars for each group. An important benefit in this instance is the reduced market risk and most likely the more stable income. Returns expected from production cycle one, where tomato, swiss chard and onion are produced is shown in Table 14. The market value of the produce is 367.60

Table 14: Cycle 1

Crop	Output, kg/ plot	Market Price/ kg	Gross Income (Birr)
Tomato	33	4	132
Swiss cabbage	110	2	220
Onion	12	1.30	15.6
Total			367.6

The second production cycle which is from April to June is shown in Table 15. During this period, an additional EB466.40 is produced. Following this cycle production will stop in July and August and continue in September with the third cycle.

Table 15: Cycle 2

Crop	Output, kg/ row	Market Price/ kg	Gross Income (Birr)
Lettuce	52.8	3	158.4
Swiss cabbage	110	1	110
Cabbage	99	2	198
Total			466.40

Production Cycle three stretches from September to December. An additional EB427 is realized as the total production value, (Table 16). For the whole year the total production value becomes EB 1261.00.

Table 16: Cycle 3

Crop	Output, kg/ row	Market Price/ kg	Gross Income (Birr)
Tomato	33	4	132
Swiss cabbage	110	2	220
Carrot	25	3	75
Total			427

It is evident that when the garden is used to its maximum potential and gardening is ongoing for 3 cycles a year that the returns are much higher. A 30m2 drip kit currently costs 386.40 ETB. The payback period is essentially one production cycle, i.e. 3 month period.

However, if assessed from a return to investment point of view, the continuous production system gives a much higher ROI of 3.26 compared to a ROI of 0.95 when producing vegetables in the dry season only.

It is important to incorporate such analysis in training for the beneficiaries to know the true value of the gardens and understand the opportunity cost of producing in one season only.

Marketing Strategy Options

It is recommended that each producer group conducts a market research in its locality. The IP can guide the group in conducting the market research, identifying different market segments/ channels, assessing the profitability of each and coming up with the 'best' marketing strategy for the group. It is of the utmost importance to take into account the capacity of the producers, according to the producer categories identified.

MODEL 1: SCHOOL GARDENS

School gardens typically have three marketing options

- Option1, target the high value markets identified capitalizing on the 'organic producer' label.

This would include quantifying the number of producers in category producer level 1 to assess the production capacity for the target market. It may be useful to hold stakeholder meetings with potential buyers for selected, identified potential markets.

Training in proper crop staggering, handling and packaging will be required to maintain quality and a consistent supply. In addition, business training is useful for appreciation of how the enterprise works.

- **Option 2.** Selling to the 'school community'. This may provide a ready market for the garden. It is still important to assess the profitability of other options and also assess whether the school community absorbs all the produce as regular buyer.
- **Option 3.** Cropping calendars, scheduling should be developed that maximizes returns and maximizes land use. This may prove to be the best strategy for some producer groups. The producer groups could aim to sell from the garden but maximize returns by selling when the product is in short supply on the market, indicative of high prices.

There is need to change the orientation of the thinking of technical experts in the programme, from producing when the conditions are 'best suited to the crop', to coming up with 'innovative' ways of producing when it is most difficult to do so, translating to low supply in the market and highest prices fetched on the market.

MODEL 2: INDIVIDUAL HOUSEHOLD GARDENS

Individual household gardens are not grouped together and would not ordinarily benefit from 'economies of scale' by pooling produce with others.

There are two main ways the individual household could strategise to maximize their operational efficiency and returns.

Option1 Selling into the surrounding 'kebele'. Typically, the neighbors would come to purchase on farm. Producing vegetables according to a well planned, market based cropping calendar may prove most beneficial.

Option 2. Identification of a marketing agent within the same 'kebele' who can act on behalf of the whole group, buying the produce and supplying to an identified higher value market channel. Horizontal linkages among producers are needed to reduce the transaction costs of working with many small suppliers. For small producers, they can generate external economies and improve bargaining power.

Horizontal linkages can also help producers to generate economies by buying in bulk or by supplying large orders, which can contribute to competitiveness and increase their bargaining power.

The individual household gardens are typified by low sales into the neighboring community. Business training is also important for this group of producers.

MODEL 3: COMMUNAL GARDENS

Communal gardens are gardens located on much larger hectares donated by municipalities. Though the gardens are on the same open land, the gardens are owned by individual gardeners.

Communal gardens were identified as most suitable for supplying the more formal markets because they can supply higher volumes of vegetables. However, this depends on the level of organization and coordination within the group. Identifying good leadership for the group and capacity building are key to the success of supplying consistently to a high value market channel and indeed to the continued sustainability of the whole group.

Three options were also identified for the communal producer.

Option 1. The communal producer, more so those with 100m² units have the capacity to match volumes demanded on the formal market. What is of importance is to identify the groups with the organizational ability or alternatively, to equip the groups with the required organizational capacity to supply consistently starting from a one month period.

Training in proper crop staggering, handling and packaging will be required to maintain quality and a consistent supply. The producers also require business training. Fintrac is currently running agribusiness training and it might prove useful to draw from their resources.

Option 2. The Development of a market based cropping calendar. This would enable the group to produce in bulk and also receive 'bulk' payment. Moreover, when the product is on high demand, the middlemen are willing to negotiate a fair price and provide transportation to the market.

Option 3. Renting of a marketing stall in the open market to take advantage of the higher retail prices.

It is widely believed that the traders in the market are benefiting the most from the sale of vegetables. The beneficiaries can vertically integrate their enterprises to include the wholesaling and retailing function depending on the findings of the market research in their localities.

In this study, the additional costs of such an option outweighed the benefits and this would not be a worthwhile venture. However, situations change and it calls for greater marketing awareness and the agility to assess and respond quickly to the potential in markets identified through the market research.

Future Work

- Complete producer categorization exercise to be aware of group capacity and capacity building needs of group.
- Group representatives identified conduct market research for each communal garden together with the extension officer with support from Supervisor.

RESEARCH

Export Market – Green beans and ## are the only vegetables currently being exported from Ethiopia. It is important to further understand the extent of the export market, the players involved and where opportunities may lie for the producers. Additionally, crops like strawberries are being grown for the export market and it may prove useful to coordinate our future activities with such initiatives.

Based on the work covered in this study, it will be more useful if a marketing training module was developed that can be added to the current training pack offered to Extension Workers.

References

INTERVIEWS HELD

1. Ministry of Agriculture and Rural Development, MoARD Horticulture Dept. HOD Ato Assefa Mulugeta
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Annex 1: Gross income calculations for Gullits

Crop	Producer Price, EBirr	Selling Price, EBirr	Gross Profit	Quantities sold/ day, kg	Gross Profit/ day, EBirr
Tomato	4	5	1	70	70
Lettuce	3	5.80	2.80	20	56.00
Onion	1.30	2.00	0.70	70	49.00
Cabbage	1.60	2.00	0.40	50	20.00
Gross Income					195

MEDIUM LEVEL GULLIT

Crop	Producer Price, EBirr	Selling Price, EBirr	Gross Profit	Quantities sold/ day, kg	Gross Profit/ day, EBirr
Tomato	4.50	5.50	1.00	40	40
Lettuce	2.50	5.00	2.50	10	25
Onion	1.40	2.00	0.60	30	18
Cabbage	1.80	2.50	0.70	30	21.00
Swiss chard	2.00	3.00	1.00	10	10.00
Chilli	6.50	8.00	1.50	10	15.00
Total					129.00

Medium level Gullit

Annex 2: Producer Sites Visited

ADDIS ABABA SITES VISITED

Sites visited	Beneficiaries	Marketing channels identified	Issues
CVDA, Addis	108	Farm gate selling	Source of water vandalized
SWDA, School garden	40	-	

ADAMA SITES

Sites visited	Beneficiaries	Marketing channels identified	Issues
EKHC	68	1	
Abnezer orphanage	18	2	Water costs very high
Dersa	72	2	Production low because of infertile soil as a result of flood
Adama Bosat Elementary School	70	3	Marketing agent selling on behalf of whole group
Kabale 09	8 hhlds	2	Marketing agent coordinating sales on behalf of other.