

# Business Plan 2009 - 2010

Seemasahitha Gampaha Haritha Krushi  
Nishpadana Samagama





**BUSINESS PLAN 2009 - 2010**

*Seemasahitha Gampaha Haritha Krushi*  
*Nishpadana Samagama*  
**(Gampaha Green Agro Products Ltd.)**

Resource Centres on Urban Agriculture and Food Security/International Water Management Institute/Practical Action. 2011. *Business plan of the Seemasahitha Gampaha Haritha Krushi Nishpadana Samagama (Gampaha Green Agro Products Company Ltd.)*. Gampaha, Sri Lanka (38p.).

This publication was prepared under the From Seed to Table Programme implemented by the International Network of Resource Centres on Urban Agriculture and Food Security (RUA Foundation, [www.ruaf.org](http://www.ruaf.org)), of which the International Water Management Institute is not only a full member but also the regional coordinator of the RUA Foundation-FStT Programme in South Asia (IWMI, <http://ruaf-asia.iwmi.org/>), with funding from the Dutch Ministry of Foreign Affairs (DGIS, The Netherlands).

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Cover photograph shows the market shed and a production site.  
Photo by IWMI/RUA Foundation South-East Asia.

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## Executive Summary

The *Seemasahitha Gampaha Haritha Krushi Nishpadana Samagama* (Gampaha Green Agro Products Company Ltd.) aims to produce, grade and pack green chili (*Capsicum anum*) of the high-quality M12 variety and a local variety named *Batalu Angmiris/Veraniya* for the Gampaha vegetable market. The producer company will supply green chili throughout the year beginning 2009.

At the moment, there are 53 producers in the company and these members will be the beneficiaries of the From Seed to Table (FS<sub>t</sub>T) project. Each producer will cultivate at least 200 green chili plants per cycle to reach the target supply of 200 kg per day in each crop cycle. During the coming crop cycles membership is expected to increase to 100.

The total fixed cost for a cycle (20,000 plants) would be SLR846,500. The variable cost for a cycle is SLR1,855,000 and the total cost is SLR2,701,500. With the establishment of the business, RUAF-FS<sub>t</sub>T project will assist producers and the producer company to gain technical knowledge on production and marketing. Also a revolving fund will be established which helps producers to improve their savings and obtain credit facilities necessary to continue the business.

A sensitivity analysis shows that if the production is 200 kg/day, chili should be sold at SLR112.56/kg to cover the total unit costs whereas the operational cost can be covered if chili sells at SLR77.29.

After cultivating two green chili crop cycles farmers will review the past crop cycles and suitable mixed crops will be cultivated and marketed from the third crop cycle onward. Based on these analyses a marketing strategy will also be formulated. When the company produces mixed vegetables and collects substantial amounts to sell at the cluster level, the producer company will start its own market sheds which help direct marketing to consumers.

At least 25 kg of mixed crop per month are targeted to be produced and sold by each producer. To increase the income, the company will collect chili at SLR2.00/kg from each unit of production for marketing. Interest accrued from the savings and provision of credit will also contribute to the revenue of the company. In addition, to run the business and earn an income, the producer company will rent out necessary fixed assets such as market sheds and nursery structures to the producers. The estimated annual income, administrative costs

and estimated annual profit of the company are SLR120,000, SLR64,000 and SLR56,200, respectively.

The producer company will continuously obtain support services from various public and private organizations. These include government institutions such as the Departments of Agriculture and Agrarian Services, and banks, such as the SANASA City Bank and marketing networks, such as the Rural Enterprise Network.



# BUSINESS PLAN 2009 - 2010

## *Seemasahitha Gampaha Haritha Krushi Nishpadana Samagama*

### Business Plan

The business idea of the proposed project is to produce high-quality MI2 variety of green chili (*Capsicum anum*) by a group of 100 farmers, using high-quality certified seeds from the Department of Agriculture (DoA) failing which these seeds will be purchased from a commercial supplier, and applying eco-friendly, scientific agricultural practices to produce and supply green chili to the Gampaha vegetable market as well as to the export market. In addition to the MI2<sup>1</sup> variety, another local variety named *Batalu Angmiris/Veraniya*<sup>2</sup> will also be cultivated by a small group of farmers, to supply this market (Figure 1).



Figure 1. The two varieties of chili.

<sup>1</sup>MI 2 = Mahailuppallama.

<sup>2</sup>Mahailluppallama is the research center at which the variety was bred. Veraniya is the varietal name. Batalu Angmiris is the local name, which means “a chili that looks like a sheep’s horn.”

The expected supply is 200 kg of green chili per day to the Gampaha market, and 50 kg per week for the export market. Therefore, the crop will be established in the gardens of 100 farmers, each farmer cultivating at least 200 plants per cycle, to be able to supply at least 2 kg of chili per day. The required quality and uniformity of the produce are expected to be obtained by using certified high-quality seeds, adopting scientific methods in cultivating, harvesting and post-harvesting practices.

The growth cycle of chili is such that it takes 4 weeks in the nursery from the seeding to obtain plants to be replanted, and after replanting the harvest is expected in 11 weeks. Thereafter the yield of the plant will continue for about 4 months. One week after the first harvest of the first batch of plants, the second nursery will begin. This way a continuous supply of chili will be maintained. During the project period at least four cycles of chili production can be expected.

## **Marketing Strategy**

### **Target Market**

There are two types of markets for the MI2 variety of chili—the local market, which is the Gampaha vegetable market and the export market. It is planned to contact both markets from the beginning. As far as the local market is concerned there are two options that farmers can take, the first being to sell the produce to the already identified supplier and the second, marketing their own production.

Farmers will initially start with the first option with minor risks and an assured quantity of demand and will take the second option as they grow up with organizational, administrative, and financial capacities to compete with the existing market setup.

There are two potential buyers who have been already identified and who have already expressed their willingness to buy the produce.

1. The maximum requirement of the a wholesale trader (middleman) who supplies chili to the Gampaha vegetable market, Gampaha Hospital, restaurants, etc., is 200 kg of the MI2 variety and 30 kg of Batalu Angmiris/Veraniya per day and, according to the planned collection mechanism, the farmers are expected to supply 200 kg of MI2 daily and 40 kg of Batalu Angmiris/Veraniya once in 2 days. The buyer is expected to be informed about the quantity the farmers can supply one day prior to the supply, The produce is expected to be fresh when the buyer will pay for the produce an extra SLR10 above the prevailing

average wholesale market price, and make the payment in cash at the time of the transaction.

2. The business of the export company that supplies chili to the Middle East entails one shipment every week which leaves on Wednesdays, thus requiring the farmers to deliver their supply every Tuesday between 5.00 p.m. and 12.00 a.m. The requirement is an average 50 kg of MI2 variety per week, and the farmers are expected to maintain a continuous supply. The chili pod is expected to be of uniform size (3-4 cm long) and color, and fresh. The produce will be checked for these qualities at the time of purchase, and the low-quality produce that is rejected will be returned. Farmers have to deliver at the exports stores located at Oruthota Road, Mudungoda, Gampaha. The buyer is willing to pay for the product an extra SLR20 above the prevailing average market price, and would make the payment by cheque.

In addition to the above, the Farmers' Company will keep on seeking new market opportunities for future expansion through its marketing committee. This company is expected to develop its capacity to replace the middlemen in order to transfer maximum benefits to the farmers. Thus farmers will start marketing the produce at the group level or at the cluster (two or more neighboring producer groups) levels. Marketing will be done by establishing sales points or by the door to door method in farmers' lands/farm houses.

## **Competitors**

There will not be a strong competition for marketing chili, as they are an additive that consumers need for their daily cooking, and even without a strong marketing campaign they tend to buy chili. However, since there are wholesalers who purchase chili from other markets such as the Manning Market (Colombo), Economic centers in Dambulla, Veyangoda and Meegoda as well as from direct suppliers who supply to the Gampaha market, retail shops, and consumers there is competition at least to a certain extent. Therefore, the farmers can compete with some specific arguments as follows:

- Chili is grown in the consumers' own area which is Gampaha, not in a distance place and, therefore, the produce is fresher and has a longer shelf life.
- Chili has been produced using eco-friendly principles; hence, it is good for human health.

Further, the produce can be branded with some meaningful local terms to highlight the above advantages to the consumer. These strategies would be

worthwhile, especially when the farmers start to sell the produce on their own, where they have to compete with existing middlemen.

## Production

The expected supply is 200 kg of MI2 chili per day to the Gampaha market and 40 kg of Batalu Angmiris/Veraniya once in 2 days. In addition, 50 kg of MI2 will be supplied weekly for the export market. Therefore, each farmer is expected to cultivate 200 plants on average per production cycle (Figure 2). In order to maintain a continuous supply of chili a harvesting schedule will be followed within a cycle. In addition, consecutive batches of chili plants will be cultivated before a single cycle comes to an end. Hence, during the project period at least four cycles of chili production will be completed.

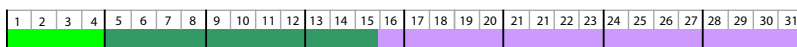


Figure 2. Crop cycle showing the nursery (light green), growth (dark green) and harvesting (lilac) phases. The numbers refer to weeks.

Technical innovations will be introduced to face challenges in space, pest and disease control and post-harvesting losses through the Urban Producers Field Schools (UPFS) and on-site technical advice from the project and the DoA.

## Collection Mechanism

There will be two collection mechanisms as per the abovementioned two marketing options.

### *Collection for the selected/already identified supplier*

Continuous supply will be assured to meet the market requirement through a proper harvesting schedule managed by the marketing coordinator who will be appointed by the association. The marketing coordinator will shoulder the responsibility of collecting, weighing, grading and delivering to the buyers, and handling money transactions with both the buyers and the farmers.

A central collection/sales center will be established to collect the produce, grade and sell it to the buyers. The collection center will be managed by a marketing coordinator. Each farmer group (a group of 10–12 farmers each) would bring its produce to a subcollection center (ideally the farmer leader’s house) established at cluster level. The marketing coordinator will collect the

produce from subcollection centers according to the preagreed harvesting schedule.

The harvesting schedule will be prepared by dividing the number of MI2 growers into nine subgroups and Batalu Angmiris/Veraniya growers into five subgroups. Each MI2 subgroup will harvest in 9-day intervals and will supply around 200 kg at each harvest. Hence, 200 kg of daily supply will be assured. Each Batalu Angmiris/Veraniya group will harvest in 10-day intervals and will provide 40 kg per harvest resulting in a supply of 40 kg in 2-day intervals.

The central sales center and subcenters will be equipped with crates and weighing scales to facilitate proper collection, weighing and transportation. A feasible mode of transportation will be used and on-time payments for the farmers will be assured.

### ***Collecting produce to market farmers' own production***

Farmers will individually deliver their produce to the group collector/seller to be marketed. In this case, a market share will be provided to the company by the producer and the seller (e.g., SLR 2/kg of green chili by each producer and SLR25/day by each seller).

### **Promotion**

The product and its unique selling arguments are expected to be brought to the attention of the potential buyers by the following means:

- The produce will be branded as a product of the Urban Agriculture Entrepreneurship Development Association.
- Developing a promotional leaflet describing the high quality of the produce that is to be distributed when visiting and writing to potential buyers as well as at different occasions when stakeholders might meet together.
- Posters and sign boards displayed at sales points (farmers' own sales points as well as other suitable locations).
- Communication by word of mouth from satisfied customers.
- Advertisements/articles in local newspapers – *Divayina*, *Silumina*, *Lankadeepa*, etc.
- Visiting potential buyers and having discussions with them.
- Writing letters to potential buyers.

## **Operational Plan**

The operational plan describes how the production, processing and marketing will be implemented.

### **1. Production**

A group of 100 farmers are expected to produce the M12 variety of green chili, using high-quality seeds while applying eco-friendly agricultural practices. The expected production is 200 kg of green chili per day to the Gampaha vegetable market, and 50 kg per week to the export market. The first cropping cycle of chili will be started in July 2009 and end in February 2010. One week after the first harvest of the first batch of plants, the second nursery will begin in the third week of October 2009. This way, a continuous supply of chili will be maintained. During the project period at least four cycles of chili produce can be expected. Several nurseries will be established from the second crop in suitable selected locations.

These farmers will be clustered in 10 groups where each cluster has 5-18 members. The average size of a group is about 10 producers.

#### **1.1 Urban Producer Field Schools (UPFS)**

The Urban Producer Field School is the primary vehicle for developing the urban farmers' technical and organizational capacities. At the planning stage of the project, technical innovations, especially related to chili production, will be identified. These include obtaining high-quality seeds, improved nursery practices, maximizing the use of limited land area for cultivation and improving soil nutrition by production and use of organic manure, efficient use of water and integrated pest and disease management.

These UPFS sessions will be conducted by Agricultural Instructors of the DoA and resource persons of Practical Action. UPFS sessions are described below.

##### ***Demonstration of home-garden designing and landscaping***

Home gardens of selected members will be developed to demonstrate the efficient use of available resources such as land, water, green manure and waste materials in the landscape. In addition to the productive use of the home garden by agricultural use this activity will also help improve the scenic value of the gardens, which is one aspect to be considered in urban gardening.

### ***Nursery demonstration***

In these nursery demonstrations, improved nursery management practices will be introduced to the farmers. Each cluster group will develop demonstration plots (one nursery per cluster of 10–12 farmers). A suitable location for the demonstration plot will be decided by the group members after discussions with resource persons. The size of each plot is about 5 m<sup>2</sup>. By managing these demonstration plots, farmers will be able to share their experience of existing best practices amongst them. Some of the learning would be on proper land preparation, soil disinfection, fertilizing, shading, hardening, etc.

### ***Compost preparation***

The farmers are encouraged to apply organic fertilizers such as green manure, cow dung, poultry manure, compost, etc., as opposed to applying inorganic fertilizers.

The use of compost for cultivation is essential. A compost preparation was demonstrated for each of the cluster groups. Most of the urban farmers are aware of the home compost produced by compost bins but not of the other methods, such as compost piles. Therefore, cluster-wise demonstration sessions will be conducted to produce compost using degradable materials as well as urban wastes in the farmers' fields.

### ***Training on chili cultivation by the DoA***

To provide overall training on each step of the chili cultivation process, a one-day training program will be provided at the training center of the DoA at Walpita for all urban producers. This training will cover the topics of nursery management, crop establishment, spacing, cultural practices, pest and disease management, irrigation and harvesting through classroom and practical sessions.

### ***Other UPFS sessions***

In addition to the above sessions, Integrated Nutrient Management and Pest Management and post-harvesting handling and establishing marketing mechanisms will be covered in the remaining UPFS sessions.

## **1.2 Preparation of Business Plan**

Business plans will be prepared by urban producers to start the cultivations. By developing such a plan each producer will identify the number of plants to be cultivated and resources needed for the cultivation. Resources will include fixed inputs such as land and agricultural equipment. Variable costs include chili

plants, area of cultivation, compost, chemical and irrigation water requirements, pest and disease control methods and other materials needed.

### **1.3 First Cropping Cycle**

The first cropping cycle of chili will be started in July 2009 and end in February 2010. As a first cycle the Batalu Angmiris/Veraniya variety will be produced by one cluster group (18 farmers) while all other groups will produce the MI 2 variety (75 farmers).

#### **1.3.1 Production inputs for the first cycle**

Identified production inputs will be utilized by producers to start the first crop cycle. Producers will require fixed inputs such as land and equipment that can be used for cultivation. Required variable production inputs to establish 20,000 plants are mentioned in Table 1.

Table 1. Variable production inputs.

Production input	Amount
Nursery plants	20,000 plants
Pots	5,000 pots
Compost	20,000 kg
Chemical fertilizer	2,000 kg
Chemical pesticides	100 l
Nonchemical pesticides	100 kg
Irrigation water	100 m <sup>3</sup>

Out of the total requirement of production inputs, the following are considered the main inputs to be supported by the project.

#### ***Nursery plants***

In order to cultivate high-quality seedlings and maintain the uniformity of cultivation, MI2 nursery plants will be purchased from a commercial nursery in the area as recommended by the DoA for the first cultivation cycle. These seedlings will be produced under the supervision of the DoA and farmer leaders. Also, Batalu Angmiris/Veraniya nursery plants will be produced by selected experienced farmers in the producer group.



The total number of chili plants expected to be cultivated for the first crop is 20,000 (18,000 of MI2 and 2,000 of the Batalu Angmiris/Veraniya).

After getting the required knowledge and experience to establish the crop from demonstrations and UPFS sessions, producers will be ready to start the first crop by the first week of August 2009. Raised nursery plants will be purchased by the project and distributed among the producers to start cultivation. The minimum number of plants to be cultivated by a producer would be 100. The number of plants given to each farmer will depend on the number of plants planned to be cultivated according to the business plan. Table 2 shows the number of nursery plants planted by each cluster group.

Table 2. Number of nursery plants planted by each cluster group.

Name of the cluster group	Number of plants cultivated in the first cycle
<i>Arunalu</i>	4,570
<i>Isuru 1</i>	3,350
<i>Isuru 2</i>	
<i>Isuru 3</i>	
<i>Dimuthu</i>	3,450
<i>Pubudu</i>	1,300
<i>Samagi</i>	1,600
<i>Siyane shakthi</i>	2,450
<i>Ekamuthu</i>	2,380
<i>Wasana</i>	1,600

### ***Pots***

Urban producers try to cultivate plants in pots to maximize the available land area and resource use such as soil and water. Most of the producers use polythene pots to cultivate the plants. Continuous supply of polythene pots is required as they can be used only in one or two seasons. This is not an ecologically sound or cost-effective practice. Therefore, several options have been explored to identify suitable pot types to be used in the cultivation.

Recycled nylon pots have been identified as the most cost-effective, durable, and user-friendly option. Each farmer will receive 50 pots, or an adjustment will be done to the number of pots given to each producer to ensure that he or she will receive equal monetary benefits by providing plants and pots. The cost of the pots will be borne by the project.

### ***Composts***

After analyzing the producer's individual business plans, compost has been identified as one of the main inputs needed to start cultivation by urban producers. The compost produced after the project interventions is not mature enough to use as it requires 3 months for the compost to be ready. Some of the farmers have a limited amount of compost produced at the fields which can be used for cropping. The minimal basal compost requirement for chili is 2 kg/planting hole. Farmers who cultivate more than 200 plants need to purchase compost from commercial suppliers. Therefore, the project has decided to provide an interest-free loan to purchase compost from a commercial supplier. As bulk purchasing will be done where the price of the compost will be lower than its average market price each farmer will receive 200 kg of compost worth SLR1,300 at the rate of SLR6.50/kg to start cultivating the first cycle.

### ***Credit facility***

Farmers need money to purchase production inputs such as compost and other organic manure, chemical fertilizer and water. Therefore, a loan will be given by the project at 3% annual interest.

The annual interest rate will be decided by the board of directors for each crop cycle and the *Maha Sabha* (General Meeting) should approve this interest rate.

### **1.3.2 Harvesting**

After replanting, the harvest of the MI2 variety of chili is expected in 11 weeks (2 months and 3 weeks). Thereafter, the plant can yield chili for about 4 months. The first harvest is expected by the second week of October 2009. Everyday, there will be a pick and 200 g/day will be harvested from each chili plant every 9 days on a rotational basis. Therefore, on average, a harvest of 200 kg/day will be collected from each cluster group at intervals of every 9 days. The harvesting cycle is described in the section on marketing and promotion that will follow.

### **1.4 The Second Cycle of Chili Cultivation**

The second cycle of chili cultivation will start in the third week of October 2009 ending in the second week of June 2010. In the second crop cycle 20,000 chili plants are expected to be cultivated. The third and fourth cycles will start in the first week of March and the second week of June 2010, respectively, while maintaining the same number of plants (20,000) in each cycle.

Multiple crops are expected to be cultivated from the third cycle onwards. Cultivating a single crop for a long period of time has several negative points. Monocropping would increase the threat of pests and diseases, and would entail higher risks in adverse conditions, decrease of soil fertility, less productivity, etc. Therefore, in addition to green chili, okra, *havari me* (yard-long beans), local yams, and green leaves, etc., will be cultivated from the third crop cycle onward. The third crop cycle will start in June 2010 and continue till December 2010.

### **1.5 Facilitating the Input Supply for Crop Cycles**

Farmers will get the required knowledge and competency in the production of green chili and marketing through UPFS activities planned in the first two cycles. If the producers are moved to practice mixed crop or any other crop (as the most promising option) UPFS sessions will be conducted as per the necessity of the ground. A revolving fund would be the main vehicle to run the business. Producers will receive credit for chili cultivation at 12% interest per year by the revolving fund deposited in the SANASA City Bank. Initially, a total of SLR500,000 will be provided as loans and each producer can access a loan of SLR5,000 in each cropping cycle. During the harvesting period, they have to pay back the loans to obtain new loans for the next cycle. To further encourage producers to engage in chili cultivation a mechanism will be established to minimize the risk of default. A part of the interest generated by the revolving fund will be used for this purpose.

## **2. Processing**

The MI2 variety of chili starts yielding when the plant is 11 weeks old (after transplanting). The harvest could be sold as a bulk to the buyers; hence, specific packaging or branding is not required. However, grading would be necessary when selling to the exporters as they expect the chili pods to be of uniform size (3-4 cm) and color.

Grading of chili will be done at the central collection center which will be equipped with a table (to facilitate sorting and grading), crates (to store and transport chili), and a weighing scale. Criteria for grading are developed based on the requirements of the export and selected local markets. Once a week, the grading and sorting will be done by the center manger and the assistant.

### 3. Marketing and Promotion

Mainly two marketing methods will be adopted to sell the products.

1. Central collection system and sales through a buyer.
2. Subcollection system and direct marketing through sales sheds.

#### 3.1. Central Collection System and Sales through a Buyer

The marketing committee which will be formed within the farmer company (consisting of the marketing coordinator/market shed managers and a few other producers) will take the responsibility for the marketing and promotion activities described in Figure 3.

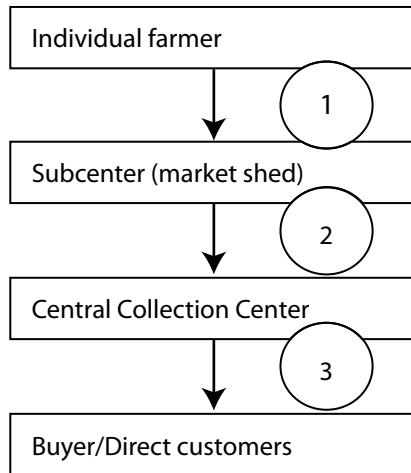


Figure 3. Central collection system.

### 3.1.1 Assuring continuous supply

#### *M12 variety*

Farmers growing the M12 variety will be divided into nine subclusters (here, existing clusters can be used as much as possible. However, there can be a few alterations to assure the continuous supply of 200 kg per day, i.e., larger groups can be divided into two and combined with smaller groups). Each group will harvest at 9-day intervals (this will assure a sufficient harvesting interval) and will supply a quantity of around 208 kg at each harvest. Therefore, a continuous supply of 208 kg per day will be assured as follows:

Total M12 plants distributed	= 18,720
No. of subclusters	= 9
Plants per each subcluster	= $18,720/9$ = 2,080
Expected harvest from a plant (with a 9-day harvesting interval)	= 0.1 kg
Harvest from each group (daily supply)	= $0.1*2080$ kg = 208 kg

#### *Batalu Angmiris/Veraniya*

The farmers growing Batalu Angmiris/Veraniya will be divided into five subgroups (three to four per each) and each subgroup will harvest at 10-day intervals. They will supply a quantity of around 43 kg at each harvest. According to the above, a supply of 43.6 kg at a frequency of 2 days will be assured as follows:

Total Batalu Angmiris/Veraniya plants distributed	= 2,180
No. of groups	= 5
Plants per each group	= $2,180/5$ = 436
Expected harvest from a plant (with a 10-day harvesting interval)	= 0.1 kg
Harvest from each group (supply once in 2-day intervals)	= $0.1*436$ kg = 43.6 kg

### **3.1.2 Collection and marketing**

#### ***Subcollection centers***

Individual farmers will bring their harvest (according to the schedule) to the subcollection center (mostly, a farmer's house) and submit their produce. Each subcenter will be equipped with crates and weighing scales to facilitate the collection, and a proper record-keeping system will be introduced for subcenters to assure accurate information.

#### ***Central collection center***

Produce from subcenters will be brought to the central collection center where the grading and weighing will be done before the delivery to buyers. The central collection center will have sufficient space for the produce and be equipped with crates and weighing scales to measure and keep records.

#### ***Marketing coordinator***

A marketing coordinator will be appointed to collect the produce from subcenters to perform activities of the central collection center, and to deal with buyers and farmers.

#### ***Role of the marketing coordinator***

- Coordination with subcenters and collection of the produce from subcenters according to the schedule.
- Grading, transporting, and selling the produce to the buyers/customers (as agreed by the association).
- Proper record keeping of the amounts received from subcenters and amounts sold to buyers.
- Performing transactions from buyers and distributing money among different groups according to the records.
- Being aware of the daily wholesale prices (Colombo, Dambulla and Meepe), negotiating with buyers and keeping the farmers informed of the updated prices.
- Working with the treasurer to weekly update the financial records (amount and the value of the produce sold).
- Ensuring transparency of all financial transactions done as the center manager.

#### *Appointing the marketing coordinator*

- Interested beneficiaries can apply for the position by sending a written application mentioning his/her experience and qualifications.
- A suitable candidate will be selected by a committee consisting of representatives from farmer associations, the project and the DoA.
- An agreement will be signed between the selected candidate and the farmer association. The DoA will sign this agreement as a witness.

#### *Benefits to the center manager*

- A preagreed sales commission and other facilities offered by the project/farmer association will be offered to the marketing coordinator. For the first cycle, a preagreed commission of SLR3/kg will be given to the center manager as a sales commission (transport will be supplemented by the project in the first cycle only). The commission rate will be fixed at 5/kg from the second cycle onwards. This amount should be included at the time of signing the agreement and can be changed only with the mutual agreement between the two parties.

### **3.2 Subcollection System and Direct Marketing through Sales Sheds**

In the subcollection system (also called cluster marketing system) (Figure 4) produce from each farmer will be brought to the subcollection center and the sales person in the subcollection center will directly sell the produce to consumers. Therefore, the subcollection center is known as the marketing shed. A few neighboring producer groups may make clusters.

Mostly the mixed crops (green chili, okra, long beans, local yams, leafy vegetables) will be cultivated from the third crop cycle onward and marketed through the market sheds developed by the producer company.

Determining prices, record keeping and payments will be done at the sales shed. These vegetables will be promoted and marketed as special fresh and local products of Gampaha.

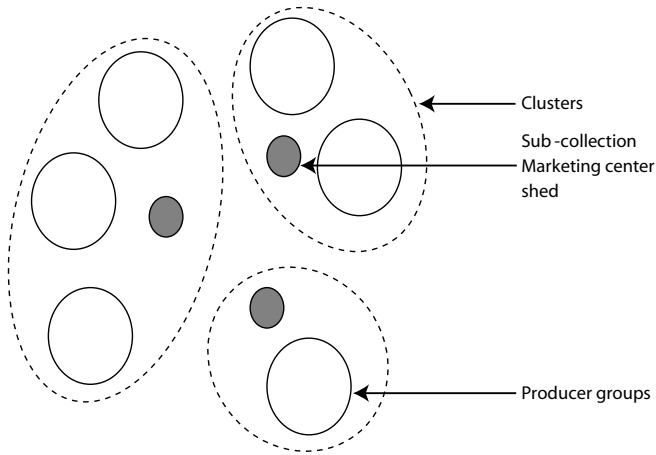


Figure 4. The sub-collection system.

### 3.3 Monitoring and Record Keeping

A simple but strong monitoring mechanism through a proper record-keeping system will be established to assure the accuracy and transparency of the collection and marketing mechanism. Record keeping is done at different levels as follows:

*Subcollection system:* Between individual farmers and the subcenter manager  
*Central collection system*

- Between individual farmers and the subcenter manager
- Between the subcenter manager and the marketing coordinator

*Producer company:* Between the Finance Director and the marketing coordinator/subcenter manager

In addition, the DoA will be given the authority to monitor the collection and marketing process with required advice and interventions.

### 3.4 Promotion

A promotional plan will be developed together with the farmers to promote the produce. The plan will include the means, time and frequency of publicity.



Some of the possible tasks are:

- a. To brand the produce as a product of the Urban Agriculture and Entrepreneurship Development Society (the registered name of the farmer association).
- b. Bring the produce to the attention of potential buyers by means of
  - Developing a promotional leaflet describing the high quality of the produce, and distributing it when visiting and writing to potential buyers as well as at different occasions when stakeholders meet together.
  - Posters and sign boards displayed at sales points (farmers' own sales points as well as other suitable locations).
  - By word of mouth from satisfied customers.
  - Advertising in local newspapers – *Divayina*, *Silumina*, *Lankadeepa*.
  - Visiting potential buyers and having discussions with them.
  - Writing letters to potential buyers.

## **Financial Plan**

The financial plan is based on three main components from where the costs of activities will be borne during the production process and marketing of green chili at Gampaha.

1. The FStT project
  - Direct contributions from the project as in-kind/infrastructure/capacity building.
  - The revolving fund (a continuously growing fund which farmers can make use of to fulfill their financial needs with a repaying agreement).

A total of SLR3,200,000 (€20,000) will be invested by the project to start the business as mentioned in the table below.

Farmers' contribution where the cost is borne directly by buyers.

Contribution from third actors: Any other contributions from partners of the project (e.g., Practical Action).

Table 3. Financial plan.

Budget Item	Subitem	Unit	Price per unit (SLR)	# of units	Total cost (SLR)	Farmers' contribution (SLR)	Contribution - third actors (SLR)	FSfT contribution (SLR)	FSfT contribution (EUR)
Cost of UPFS training sessions	Refreshments/food per UPFS session	Nos.	500	115	57,500			57,500	359.38
	Training materials (for practicals, demonstrations, and handouts)	Nos.	3,000	7	21,000			21,000	131.25
	Handheld magnifying glasses	Nos.	350	10	3,500			3,500	21.88
	Training for farmers given at the DOA training center	Nos.	45,000	1	45,000			45,000	281.25
	Exposure visits	Nos.	20,000	4	80,000			80,000	500.00
	Research on nursery, pest and disease control, introducing organic fertilizer, drip irrigation				50,000			50,000	312.50
	Leadership training for farmers	Nos.	20,000	1	20,000			20,000	125.00

Budget Item	Subitem	Unit	Price per unit (SLR)	# of units	Total cost (SLR)	Farmers' contribution (SLR)	Contribution - third actors (SLR)	FStT contribution (SLR)	FStT contribution (EUR)
	<b>Entrepreneurial</b>								
	training for farmers	Nos.	23,769	4	95,076			95,076	594.23
Infrastructure	Structures for nursery shading	Nos.	2,000	20	40,000	40,000			
	Furniture - tables for main collection center	Nos.	3,000	2	6,000			6,000	37.50
	<b>Cultivation</b>								
Machinery	Mammoties	Nos.	100	400	40,000	40,000			
	Forks	Nos.	100	350	35,000	35,000			
	Hand shovels	Nos.	100	200	20,000	20,000			
	Watering cans	Nos.	100	400	40,000	40,000			
	Sprayers	Nos.	100	250	25,000	25,000			
	Pots	Nos.	5,000	50	250,000			250,000	1562.00
	Crates	Nos.	1,000	24	24,000			24,000	150.00
	Weighting scale for main collection center	Nos.	7,500	1	7,500			7,500	46.88
	Weighting scales for subcollection centers	Nos.	4,000	10	40,000			40,000	250.00
	Bicycle with trailer		15,000	1	15,000		15,000		
Equipment	Threewheeler - (delivery vehicle)		300,000	1	300,000			300,000	1875.00

Budget Item	Subitem	Unit	Price per unit (SLR)	# of units	Total cost (SLR)	Farmers' contribution (SLR)	Contribution - third actors (SLR)	FStT contribution (SLR)	FStT contribution (EUR)
<b>Nursery</b>									
Inputs	High-quality seeds	kg	3,000	2.5	7,500			7,500	46.88
	Seed treatments	Packets	500	10	5,000			5,000	31.25
	Nursery soil treatments	Packets	350	20	7,000			7,000	43.75
	Fertilizer	kg	120	120	14,400			14,400	90.00
	Compost	kg	15	200	3,000			3,000	18.75
	Labor - nursery**	Person -days	600	200	120,000			30,000	187.50
	Chemical treatments	Packets	360	10	3,600			3,600	22.50
	Shading materials - polythene	kg	300	15	4,500			4,500	28.13
<b>Cultivation</b>									
	Designing of land, technical inputs - external resource	Person-days	1,000	100	100,000			100,000	625.00
	Water conservation systems - drip irrigation	Nos.	10,000	20	200,000	200,000			
	Organic manure	kg	7	96,000	672,000	542,000			
	Chemicals - fertilizer	kg	120	5,000	600,000	600,000			

Budget Item	Subitem	Unit	Price per unit (SLR)	# of units	Total cost (SLR)	Farmers' contribution (SLR)	Contribution - third actors (SLR)	FStT contribution (SLR)	FStT contribution (EUR)
	Labor for crop management (land preparation, planting, weeding, pest and disease management, watering, etc.)								
		Person-days	500	6,000	3,000,000	3,000,000			
	Pest and disease control - IPM								
	Chemicals	kg/liter	500	400	200,000	200,000			
	Other	kg	500	400	200,000	200,000			
	Water supply (NWSDDB)								
		Nos.	600	400	240,000	240,000			
	Transportation of inputs								
		km	40	200	8,000		8,000	50.00	
	<b>Harvesting</b>								
	Labor - for harvesting								
		Person-days	500	2,400	1,200,000	300,000			
	Sacks / gunny bags	Nos.	20	100	2,000			2,000	12.50

Budget Item	Subitem	Unit	Price per unit (SLR)	# of units	Total cost (SLR)	Farmers' contribution (SLR)	Contribution - third actors (SLR)	FStT contribution (SLR)	FStT contribution (EUR)
<b>Marketing</b>									
Other costs	Lease /rent for collection center	Months	4,936.13	24	118,467			118,467	740.42
	Payment for marketing coordinator	Months	5,000	6	30,000			30,000	187.50
	Transport - to and from center	Days	500	248	124,084			124,084	775.53
<b>Promotion</b>									
	Boards	Nos.	4,000	4	16,000			16,000	100.00
	Brochures	Nos.	3	1,000	3,000			3,000	18.75
Revolving fund	Initial activities to establish revolving fund and training of farmers				150,000			150,000	937.50
	Bank deposits for loans				1,257,923			1,257,923	7862.02
	Contingency expenses /bank deposits				315,950			315,950	1974.69
Total					8,243,127	4,882,000	15,000	3,200,000	20,000
Exchange rate used: €1.00 = SLR160.									

## **General Assumptions**

The Producer Company will be formed with a membership of 100 urban farmers who have been selected as the project beneficiaries in order to assure the long-term sustainability of production, processing, marketing and administrative functions of the planned project. In addition, a revolving fund will be set up through an appropriate mechanism (either using an existing micro-finance network – SANASA or establishing a mechanism which will be handled by the producer company itself) in order to assure financial sustainability. Other main assumptions are as follows:

- The average number of green chili plants grown by a farmer is 200 per cycle. Therefore, the total number of such plants grown in one cycle will be 20,000.
- The harvesting interval of chili will be 9-10 days and the expected production from 1 plant will be 50 g (worst case) to 100 g (optimal) per harvest.
- Wholesale price of chili will remain between SLR50 and SLR150 during the project period.
- Harvesting interval – 10 days, and harvesting period per cycle – 4 months.
- Annual increase of cost – 10%.
- Annual increase of chili prices - 10%.

## Cost of Production of Green Chili

Total cost for a cycle for green chili can be summarized as in Table 4.

Table 4. Total cost for a cycle for green chili.

Cost category	Fixed costs SLR	Variable costs SLR	Total costs SLR
1 Nursery	40,000	75,000	115,000
2 Cultivation	710,000	1,288,000	1,998,000
3 Harvesting		302,000	302,000
4 Marketing	77,500	190,000	267,500
5 Promotion	19,000		19,000
	846,500	1,855,000	2,701,500

Total fixed cost for a cycle (20,000 plants) would be SLR846,500. The variable cost for a cycle is SLR1,855,000 and total cost is SLR2,701,500.

## Revenue

Revenue of the producers and producer company will be collected through marketing green chili/vegetables, processed products, agricultural inputs, interest earnings from loans and hiring assets (such as market sheds) of the producer company.

### 1) Revenue from marketing green chili

Revenue collected by selling green chili for a cycle can be calculated as follows:

Daily production = 200 kg (daily harvest from a cluster group)

Monthly production = 200 kg \* 30 = 6,000 kg

Harvesting period = 4 months

Production in 4 months = 6,000 kg \* 4 = 24,000 kg

Selling price = SLR100/kg

Margin kept by marketing coordinator = SLR5.00/kg

Total revenue for 4 months = SLR24,000 \* 95 = SLR2,280,000



### ***Breakeven Analysis***

The breakeven analysis in Table 5 shows that the operational cost of the business can be covered within 3 months and 7 days of time ( $18,550/19,526 * 4$ ), if the group can maintain 200 kg/day harvest and sell at SLR100 price level.

Table 5. Breakeven analysis.

Total operational cost per cycle – SLR	1,855,000
Unit price – SLR	95
Breakeven units (per cycle)	19,526

### ***Sensitivity Analysis***

Per unit cost for operational and fixed inputs (Table 6) can be calculated as follows:

If the production is 200 kg/day, chili should be sold at SLR112.56/kg to cover the total unit costs whereas the operational cost can be covered if chili sells at SLR77.29/kg

Table 6. Per unit cost for operational and fixed inputs.

Description	Unit	Amount
Total no. of plants	Nos.	20,000
Harvest from a plant per each harvest	g	100
Harvesting interval	Days	10
Harvesting period	Months	4
Expected harvest per cycle	kg	24,000
Minimum price expected (worst case)	SLR	50
Average price expected	SLR	100
Maximum price expected (best case)	SLR	150
Total operational cost per cycle	SLR	1,855,000
Operational unit cost ( $1,855,000/24,000$ )	SLR	77.29
Fixed unit cost ( $846,500/24,000$ )	SLR	35.27
Total unit cost (operational unit cost + fixed unit cost)	SLR	112.56

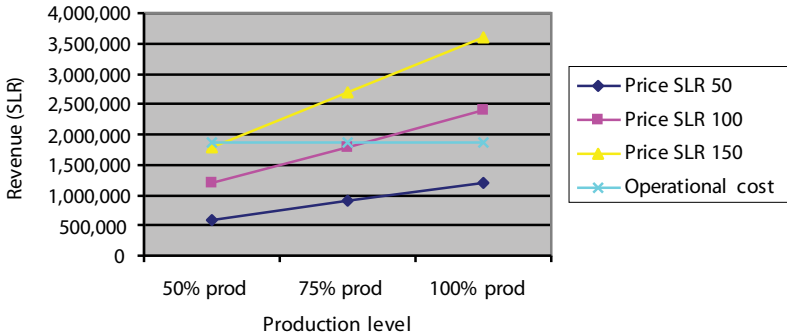
Different scenarios of the green chili production show that the revenue and profit levels vary at different production and price levels as mentioned in Table 7 and Figures 5 and 6.

Table 7. Scenarios for different production and prices levels.

Price		50% production	75% production	100% production
SLR50	Revenue	600,000	900,000	1,200,000
	Profit	-1,255,000	-955,000	-655,000
SLR100	Revenue	1,200,000	1,800,000	2,400,000
	Profit	-655,000	-55,000	545,000
SLR150	Revenue	1,800,000	2,700,000	3,600,000
	Profit	-55,000	845,000	1,745,000

Profit = Revenue – Operational cost

Cost/Revenue (SLR)



Note: prod = production.

Figure 5. Revenues at different production and price levels.

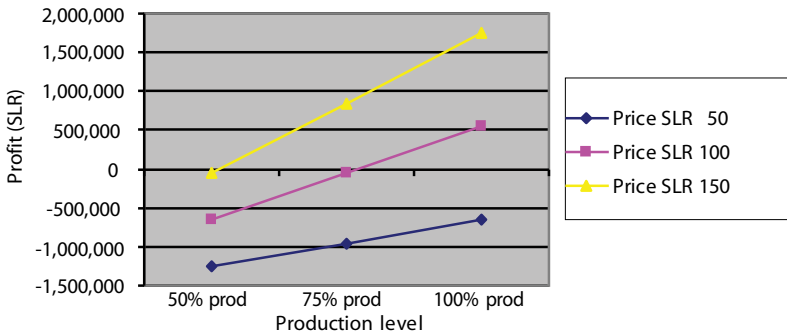


Figure 6. Profits at different production and price levels.

## **2) Revenue from selling mixed vegetables and other agricultural inputs**

Producers will sell their mixed vegetables directly to the consumers through the market sheds established by the company. This method is expected to help obtain a higher market price for produce as there is no outside buyer involved. Also, the manager of the market shed can earn a good income and will be able to learn and adopt new strategies to promote and sell the products. The harvests as well as agricultural inputs/processed products will also be sold through these market sheds.

The producer company will collect a small share from production and marketing of produce to cover its administrative costs and to increase the revenues of the company. This will be, on average, SLR2.00/kg of produce and each producer is expected to cultivate 25 kg of produce on average for each month.

## **3) Interest earned by providing loans to producers**

The producer company will earn interest by providing loans to the producers in each cultivation season. The revolving fund established by the company primarily with the grants received from RUAF FStT project, will be used to provide the loans. The rate of interest will be decided for each season and, on average, it will be 12% per annum. Also, in the first 2 years of the revolving fund 50% of the revolving fund will be saved as a fixed term deposit where producers can earn an interest to cover up their administrative expenses. After 2 years of the establishment, the producer company has to utilize the full amount of the revolving fund to provide loans.

## **4) Income earned from hiring the assets of the producer company**

Producers will be encouraged to rent out the assets of the producer company for a reasonable fare. For example, for each of the market sheds constructed and handed over to the manager a monthly rent will be collected by the company. Similarly, any equipment, such as vegetable processing equipment, will be hired to members of the producer company as well as outsiders and a user charge collected.

Summaries of the expected a) revenue and b) cost of the producer company are given in Tables 8 and 9, respectively.

Table 8. Summary of expected revenue of the producer company (for 100 members).

No.	Cost item	Annual cost (SLR)
1	Share collected from production and marketing the produce (SLR50/month * 100)	60,000
2	Rent collected from market sheds (for SLR750/month * 3 sheds)	25,200
3	Rent collected from hiring other equipment such as nursery structures, etc.	5,000
4	Interest earned from provision of loans (on average, 12% annual rate according to the reducing balance method for SLR500,000)	30,000
	Total	120,200

Table 9. Summary of expected cost of the producer company.

No.	Cost item	Annual cost (SLR)
1	Payment for bookkeeper (SLR2,000 per month)	24,000
2	Annual audit cost	15,000
3	Lawyers' chargers to submit annual documents to the company registrar	5,000
4	Office rent	12,000
5	Stationery	3,000
6	Traveling, refreshments and other costs	5,000
	Total	64,000

Expected profit of the company:

$$\begin{aligned} \text{Expected revenue} - \text{Expected cost} &= \text{SLR } (120,200 - 64,000) \\ &= \text{SLR } 56,200 \end{aligned}$$

## **Organizational Plan**

Since there was no established organization for vegetable farmers at Gampaha, the producer group has to form a producer organization. All the beneficiaries under the FST project will be members of this producer organization.

The organizational strengthening includes two main areas of attention:

The internal organizational structure.

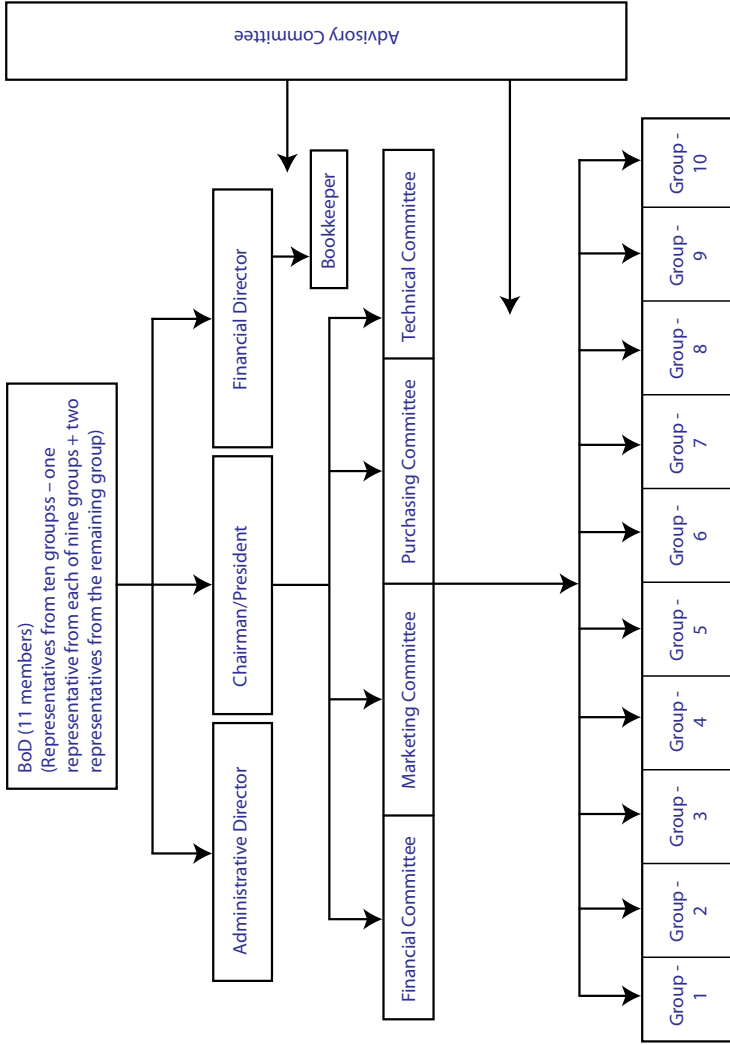
The partner strategy.

### **1. The Internal Organizational Structure**

The farmer association will be registered as a producer company. So the producer organization can be registered as “Seemasahitha Gampaha Haritha Krushi Nishpadana Samagama” (Gampaha Green Agro Products Company Ltd.) under the Companies Act of 2007. The company will have the following characteristics:

- Membership will be accepted from 100 farmers who are living in the Gampaha Municipal Council area and grow vegetables there (small groups of 5-20 members in each).
- Organizational strengthening activities such as leadership, record keeping, and negotiation skills will be conducted for relevant office-bearers and members of the association.
- Membership of the company can be obtained by becoming shareholders by buying a share valued at SLR100.
- The group leader or a representative from each group will be selected to the board of directors (BoD). One group can appoint two members for the BoD and all other nine groups will be represented by a single member from each group. Therefore, the BoD will consist of 11 members.
- Among the BoD, the chairman/president, administrative director (who acts as the secretary) and financial director should be appointed and their positions approved by the Maha Sabha.
- A bookkeeper can be there to help the financial director and he/she can be selected from among the shareholders or as an external person.
- There will be four subcommittees in the company forming a financial committee, technical committee, purchasing committee and marketing committee.
- According to the constitution, members for each committee will be selected among shareholders including representatives from the BoD.

Figure 7. Organizational structure of the producer company.



## 2. Partner Strategy

To obtain the various agricultural inputs and services and sell the harvests and processed products the producer company will closely work with the following organizations (Table 10).

Table 10. Organizations with which the producer company will work.

Name of the organization	Function
Department of Agriculture	Conduct UPFS activities to provide technical and organizational advice and marketing information Provide inputs such as seeds Provide necessary approval for applying credit scheme
Department of Agrarian Development	Register the farmer organization Provide technical advice, market information, and legal advice on agricultural activities
SANASA Development Bank	Provide financial advice, especially in group savings and revolving funds Grant loans to farmers Provide business development advice
Wayamba University of Sri Lanka	Monitoring and evaluation activities Provide technical advice
Vegetable buyers	Buy the harvests, processed products, and agricultural inputs such as nursery plants and composts
Commercial Service Providers	Provide chili seeds/vegetable seeds, nursery plants, compost, pots, and organic and inorganic materials
RUAF – FStT Project	Facilitation Provide financial assistance and advice
Multi-Stakeholder Forum	Provide organizational-level coordination to ensure necessary services and inputs from government and nongovernment organizations are received







