

Summary of 2011 Activities



Farm Support Association (FSA) Vanuatu Vegetable Programme

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prepared by **Peter Kaoh**
Manager – Farm Support Association (FSA)
Olivier Iato
Field Officer - Farm Support Association (FSA)

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1 Activities

1.1 Farmer-market linkage

1.1.1 Overview of the Vanuatu Vegetable Supply Chain

In preparation for the FSA (Farm Support Association) Vanuatu Vegetable Programme a baseline mapping of the supply chain was carried out to identify all the actors involved in the chain and the various issues affecting them. With this information in hand FSA was able to determine where they should focus their work.

1.1.2 Farmer meetings

FSA has approximately 50 Efate farmers who have joined the FSA group of vegetable growers. A majority of these farmers come from the peri-urban areas around Port Vila. These areas include:

- Teouma Valley
- Teouma Bush
- Etas
- Salili

Over the course of 2011 FSA has visited participating farmers to assess their current production practices and determine what type of up- skilling will be required through the FSA vegetable programme. The level of interest from the farmers visited was very high. The little vegetable production that was observed is part of a very basic production system where land around the house is simply cleared of vegetation and then planted. A short fallow period was the only soil conservation/improvement technique practiced by the farmers and little to nil inputs are used on the farm for supplementary nutrition.

Following these meetings five strategically placed lead farmers were selected, FSA will focus the majority of their extension support on these lead farmers.

1.1.3 Buyer meetings

Five main buyers/traders were identified as the major marketers of locally produced vegetables. All of the buyers/traders identified are also producers of fruit and vegetables. Initially a meeting was arranged to bring together all of these buyers for a group discussion, this initial group meeting was attended by 3 of the main fresh produce buyers/traders as well as FSA and Department of Agriculture and Rural Development (DARD) staff. After this meeting it was decided that future buyer interviews would be conducted individually.

From discussions with all five of the identified buyers, only two agreed to be part of the FSA programme; Vanuatu Direct and Teouma Gardens. Despite an early interest from Teouma Gardens and some good start up activities, the owner was diverted away from fresh produce marketing.

At present there is only one participating buyer in the FSA vegetable programme and this is Vanuatu Direct. Teouma Gardens which was the other participating buyer has now mostly withdrawn from the fresh produce business. Vanuatu Direct is the leading supplier of fresh produce (imported and domestic) to the hotel sector, restaurants and cruise liners. Vanuatu Direct has provided a range of improved variety seed selections to FSA for the trial and distribution work. Seeds provided by Vanuatu Direct include:

- Tomato (6 varieties)
- Capsicum (1 variety)
- Broccoli (1 variety)
- Lettuce (4 varieties)
- Round cabbage (4 varieties)
- Chinese cabbage (3 varieties)

1.2 Vegetable seedling production

1.2.1 Establishment of nursery demonstration site

FSA has established a nursery demonstration site at La Source Farm with assistance from a technical advisor and nursery specialist from Fiji. Three nursery models were constructed, including:

- Backyard nursery house
- Small farm nursery house
- Small farm nursery house (improved)



In addition to the three types of nursery houses, the nursery demonstration site at La Source Farm also includes a model soil sterilisation unit (see below).



1.2.2 Establishment of nursery trials

To determine a package of best practices for vegetable seedling production in Vanuatu, a series of nursery trials were conducted at La Source farm to investigate:

- 1) The most suitable seed raising mix using different raw materials
- 2) The most appropriate potting tray
- 3) The effect of using a slow release fertilizer incorporated with the potting mix
- 4) Differences in three different nursery designs

Results from these trials were analysed and the conclusions incorporated into FSA's training materials. A full trial report is available from FSA.



Nursery trials underway at La Source Farm

1.2.3 Hands on training for FSA staff members

A two day hands on training was conducted by the technical advisor and nursery specialist from Fiji for FSA staff members. Four core staff attended the full two days while other staff participated in specific sessions. The session topics for the hands on training included:

- Advantages and disadvantages of different vegetable planting methods: nursery seedling production vs. direct sowing vs. seed bed propagation.
- Production planning – Synchronising work in the nursery with work on the farm.
- Identifying the most appropriate nursery design
- Developing an appropriate seed raising mix using locally available materials.
- Soil sterilisation techniques.
- Sourcing and storing seeds, understanding seed labelling.
- Nursery techniques – filling trays, sowing seeds, germination, watering etc.
- Detecting nutrient deficiencies
- Understanding and applying good plant nutrition
- Identifying and dealing with signs of pests and diseases.
- Hardening and transplanting seedlings

1.2.4 Development of training materials

A number of information sheets on key nursery topics were developed. The materials were written and designed as a joint effort between the technical advisor, nursery specialist and FSA staff. Special attention was given to making the language simple and to incorporating as many photographs as possible.

Information sheets that have been developed and are currently being finalised include:

- Ways of planting vegetables
- Nursery house design
- Good seed raising mix
- Clean seed raising mix
- Nursery techniques
- Are your seedlings hungry?
- Feeding your seedlings
- Pests and diseases in the nursery house
- Transplanting your seedlings.
- Setting the price for your seedlings.

1.2.5 Training of trainers workshop

The training of trainers workshop was held at La Source farm on 12.09.11 and facilitated by FSA staff, the nursery specialist and technical adviser. Eight trainers participated from four training organisations, including:

- Department of Agriculture and Rural Development (DARD) – Extension division
- Vanuatu Rural Training Centre Association (VRTCA)
- Live and learn (local NGO)
- Wan small bag (NGO)

The training of trainers workshop was an ideal time to field test the training materials that had been developed.



Nursery specialist Saten Reddy demonstrates a seeding technique to a youth trainer from Wan Small Bag.



Participants at the training of trainers workshop – La Source Farm.

1.2.6 Lead farmer workshop

FSA staff conducted a workshop for their leading vegetable farmers at La Source Farm. The following farmers were in attendance:

- Joe Noclam – Teouma Bush
- Andre Malere – Teouma Bush
- Willie Samuel – Etas
- Dorothe Samuel – Etas
- Timothy Kavila – Teouma Valley
- Mary Kavila – Teouma Valley
- Philip Bongin – Teouma



Charles Rogers discusses observations from the nursery trials at La Source farm to lead farmers.



Oliva Iato demonstrates techniques for sowing seeds into plastic trays to lead farmers.

1.2.7 Distribution of new variety seedlings for evaluation

A range of new variety vegetable seedlings were produced by the FSA nursery. These seedlings were distributed to several groups for evaluation and feedback.

Farmers and groups receiving seedlings for evaluation included:

Lead farmers

Joe Noclam – Teouma Bush

Andre Malere – Teouma Bush

Willie Samuel – Etas

Timothy Kavila – Teouma Valley

Philip Bongin – Teouma

All the above farmers received 2 trays of tomato (different varieties) and 2 varieties round cabbage Red and Green.

Live and learn (local NGO)

Through live and learn the Leleba community (North Efate) was supplied with 2 trays of tomato (different varieties), 2 varieties round cabbage Red and Green, and 1 tray leaf cabbage. These seedlings were planted in a demonstration plot along with alley cropping techniques.



Wan small bag (NGO)

2 trays of tomato (different varieties) and 2 varieties round cabbage (Red and Green) were supplied to Wan small bag nutrition programme to be planted at their home garden demo plots.

School gardens

Two school gardens: Montmarte secondary school and Lololima Vocational School were both supplied with 2 varieties round cabbage (Red and Green), 2 trays of tomato (different varieties), and 1 variety of Chinese cabbage (leaf cabbage).

1.2.8 Establishment of nursery kits with lead farmers, women's group and NGO partners

Four lead farmers that participated in the lead farmer workshop and expressed interest in producing their own seedlings were selected to receive nursery kits from FSA. The farmers receiving nursery kits included:

Joe Noclam – Teouma Bush

Timothy Kavila – Teouma Valley

Willie Samuel – Etas

Philip Bongin – Teouma

In addition to these lead farmers, one women's group and two NGO's were supported by FSA to construct backyard nursery kits.



Nursery house constructed at Teouma Bush



Nursery house constructed at Etas – Women's group

1.2.9 Hands on training in nursery practices for lead farmers, women's group and NGO partners

FSA staff along with the nursery specialist provided hands on training to participating nurseries on the various aspects of nursery production from collecting and treating potting mix to transplanting seedlings. The training was carried out at the participating nurserymen/farmer's site, using materials supplied by FSA. This one-on-one training proved to be invaluable and almost always ended with the sowing of several trays of seedlings which the participant was then left to look after.

1.3 On-farm vegetable production

1.3.1 Field production trials at La Source Farm

With seedlings produced in the FSA nursery, two phases of field production trials were planted at La Source Farm. The trials were mainly to investigate the performance of the new variety vegetables supplied by Vanuatu Direct. Treatments were measured in terms of vigour, pest and disease susceptibility, and yield.



Cabbage variety trial at La Source farm



New tomato variety being evaluated

1.3.2 Field production trials with lead farmers, women's group, school gardens and NGO partners.

As an extension of the trials to investigate the performance of the new variety vegetables supplied by Vanuatu Direct, several lead farmers as well as one women's group, two schools and two NGO partners were selected to plant out the trials. Participants in the production trials were required to provide feedback to FSA on the performance of the varieties. This step also provided the farmers with an opportunity to see firsthand the benefits of planting seedlings compared to other methods.



Planting of cabbage variety trial at Etas.



New variety tomatoes bearing fruit at Teouma bush.

2 Lessons Learnt

2.1 Lessons Learnt

It is difficult to link up small farmers with buyers (middlemen)

- There is generally a lack of buyers (middlemen) in Vanuatu.
- The buyers that do exist often have many conditions which farmers do not always agree with.
- The municipal markets provide ample demand for small farmers.

The municipal markets still remain undersupplied with many vegetables (particularly in the off season) and this is the preferred outlet for small farmers.

- Vegetable crops like tomato, capsicum, carrot and cabbages are often under supplied in the municipal markets, this situation results in these crops receiving a high price in the market.
- Most small farmers prefer to sell their produce directly at the municipal markets. Many farmers feel they get the best price when they sell directly to the consumer. Many farmers and their families also enjoy the social interaction of selling at the municipal markets.

Very few farmers have used vegetable seedlings and therefore they do not have the technical skills to grow high quality vegetable seedlings.

- Nearly all of the vegetable farmers working with FSA use either the direct sowing method or the seed bed method to plant vegetables.
- Nursery concepts such as soil sterilisation and using plastic trays are completely new to many of the farmers.
- Many farmers have yet to see the benefits of using vegetable seedlings over the other methods and therefore are unlikely to invest in the required materials.

Vegetable seedlings grown in a nursery house allows the farmer to properly plan production as well as extend the growing season.

- Using vegetable seedlings allows the farmer to coordinate his land preparation with the growth of the seedlings in the nursery house.
- Seedlings can be grown in the nursery house during very wet or very dry conditions and then transplanted when the weather is just right.

New varieties of seeds are proving to be better than Yates

- Preliminary trial results have indicated that several new varieties are outperforming the Yates seeds that are commonly sold in Vanuatu.

Farmers don't keep very good records which makes business hard

- A lack of record keeping means that farmers do not know the cost of production and cannot accurately set prices and determine if they are making a profit or not.

3 Way Forward for FSA Vegetable Programme

Continue with nursery and on-farm production trials to further develop a package of best practices.

- FSA through the La Source Farm and participating lead farmers aims to continue nursery and on-farm trials to improve upon the package of best practices that has been developed.
- FSA is looking to trial Integrated Pest Management systems on selected vegetables as well as trial natural insecticides.
- The area of plant nutrition is of particular importance in both the nursery and farming systems. A majority of FSA farmers choose not to use synthetic fertilizers, which means that they have to adequately and economically meet the nutrition needs of the plant. FSA feels this is an area that needs further research.

Finalizing information leaflets and production of handbook

- Ten information leaflets are currently being finalized. FSA aims to release these leaflets to interested farmers as well as compile the information into a farmer friendly handbook.

Supply of targeted inputs (Syndicat Agricole)

- FSA is currently evaluating and sourcing a number of targeted inputs for nursery and vegetable production, including: seedling trays, improved seeds, and plastic crates. It is envisioned that the supply of these inputs will be turned over to Syndicat Agricole and will be available to all its members.

Continue to provide support services and technical expertise in nursery and vegetable production.

- FSA staffs now have a wealth of technical and practical experience in nursery and vegetable production. FSA aims to continue to provide support to its members in these areas as well as to other interested groups/organisations.

Improving the business skills of nurserymen and vegetable farmers

- FSA aims to provide training and support to its farmer members in specific business skills such as record keeping and setting prices. The concept of farming as a business has long been a theme in FSA's work and this can now also be applied to vegetable farmers.