About the Marketing Training Manual

The material was prepared by the FAO Consultant Bob Densley with the assistance of Mr. Lamipeti Havea, the National Project Coordinator and other staff of the Policy and Planning Division of MAFF.

The materials included notes for trainers who will subsequently conduct the workshop course. This was in the format of previous materials prepared by Dr Euan Fleming for the farm management part of the project. This covers the goal of the training, the expected outcomes, and the methods to be used and suggested duration of the sessions.

The materials were produced in seven modules:-

1. Introduction (Course Outline, Workshop Program, The Role of the Marketing Plan in the Farm Business)
2. The Marketing Plan
3. Markets and Marketing
4. Post- Harvest Handling and Value Adding
5. The Use and Interpretation of Market Information
6. Managing Risk
7. Action Plan (and Workshop Evaluation)

As well, the Market Advisory Note together with a Market Report prepared by MAFF staff with some assistance was used for a special session on Market Opportunities for Tongan Fruit and Vegetable Growers. This session included the material for the Panel Discussion already outlined above.

The material covered marketing plans, marketing and markets, post-harvest handling and value adding, the use of market information, and risk management.

Because of the special circumstances of Tonga and needs of the workshop to have material for trainers special attention was given to the material on Marketing Plans and to that on Market Information. The other material as far as possible was made consistent with the draft *FAO Analytical Toolbox* which will be published in 2004 as

"Helping Small Farmers Think About Better Growing and Marketing: A Reference Manual. Pacific Farm Management and Marketing Series No3. FAOSAPA Apia, Samoa.

Notes from the training of trainers workshop conducted by Consultant Bob Densley and held at Vaini Research Station in March 2004:

- **Outline**

The objectives of the workshop and an outline of the course materials was provided to participants.

- **Program**

The program as originally planned was varied to have the panel discussion on Market Opportunities for Tongan Horticulture on the first day. This was necessary because of the funeral arrangements and mourning for the King's son requiring the MAFF Annual Conference to be postponed to the week of the Training workshop meaning that some senior regional staff could not be present for the entire Workshop. To cover this situation their Deputies were included in the program and the course material on the Marketing Plan was also presented on this day.

- **Attendance**

The workshop was attended by representatives of Young Farmer Groups, US Peace Corps volunteers working with groups in villages, and selected MAFF staff. All participated fully in the training**.**

- **Training Demonstrations.**

Various teaching /training techniques were used to demonstrate the use of each method. The small group approach was the most appreciated method used. At the start of the second and third day a review session of the previous day included not only a review of the material but also the method and process used.

- **Farming as a Business**

Many participants in their evaluation and privately expressed their appreciation of the discussions and notes on the Farm Business Plan and how the Marketing plan fits into this Business Plan.

- **Marketing Opportunities in Tongan Horticulture**

The panel discussion session was considered by most participants to be a key feature of the workshop. The inclusion of Nationals with long experience in Tongan agriculture enabled stimulating discussions and questions**.**

- **Post- Harvest Handling**

A few of the participants indicated in their evaluation that there were valuable ideas coming from this session. To demonstrate different techniques of training this session was conducted as a question and answer session

- **Market Information**

Participants were impressed with the series of graphs and charts prepared by the Market reporting staff of MAFF on sales in Talamahu Market. The small group session where the groups were asked to list the critical market information issues for the group resulted in each group having good information for the Marketing Plan prepared by each group on the last day of the Workshop.

- **Markets and Marketing**

A Video on Horticultural Marketing Extension fro FAO was shown and used as a basis to teach the basics of markets and marketing. Special emphasis was given to the differences in export marketing to domestic marketing. There was special interest and discussion on contract marketing and some of the strengths and pitfalls of contracts.

- **Risk Management**

For many of the participants this was a new concept and the session generally created considerable discussion and interest. Apart from the production and marketing risks the large group session wanted to discuss issues related to the management of the groups including misuse of funds or products and the impact of family and social obligations on the use of production from the farm. As a result, some additional notes were included in the Training Notes to cover the points of this discussion**.**

- **Marketing Plan**

The concept of a Marketing Plan was introduced on the first day and in the final sessions each group was asked to prepare a Marketing plan for at least one of their commodities based on the information they had received in the workshop. These were presented to the whole training group. The tasks related to the development of a marketing plan were embraced enthusiastically by all the groups and many new ideas were taken from the workshop as a result of the process and the comments of others in the open session. Most participants indicated that this was the most useful part of the workshop for them.

- **Action Plan**

Each participant was given an outline Action Plan and asked to make notes to take with them on the issues which he/she would follow up individually or with the group as a result of the workshop**.**

- **Evaluation**

Each participant completed an evaluation form. In general these showed that the workshop achieved its objectives. Some commented on the difficult venue (which was unpleasant with very hot and humid weather). Some indicated that there were too much “teaching” or “lectures” and not enough group sessions. However, as different techniques were demonstrated this was unavoidable. The small groups

did work effectively and were able to report back to the overall group succinctly and well. This is obviously a preferred technique. The focused group task of preparing a Marketing Plan was appreciated. Other sessions rated highly included the discussions on market information, the panel discussion on market opportunities, and risk management.

Marketing Module 1 MARKETING IN THE FARM BUSINESS

FARMER TRAINING MANUAL

1. MARKETING IN THE FARM BUSINESS

- Market Based Production
- Farm Business Plans and the Role of Marketing Plans in Business Decision Making
- The Purpose of the Marketing Plan

2. DEVELOPING A MARKETING PLAN

- Commodity and Market Identification
  - Market supply demand and prices
  - Yield price Assumptions
  - Crops
- Market timing
- Post- harvest Handling Requirements
  - Quality Grading Packaging Presentation
  - Transport and storage
- Marketing Strategy
  - Selling Options
  - One market or various markets
  - Export or domestic market
  - A decision not to harvest
  - Contract Farming

3. MARKETS AND MARKETING

- Introduction
- What is Marketing
  - Why Marketing is Important
  - The Most Important Elements of Marketing
- Supply Demand and Price
- Price Fluctuations and Changes
  - Short Term Fluctuations
  - Long Term changes

- Marketing Channels and Selling Options
  - Direct Sales(Farm Gate, Farm- stall/Roadside, Sales to Larger Local Buyers, Door to Door)
  - Sales to Local Dealers, Packers and Exporters
  - Urban Markets
    - ✓ Retail
    - ✓ Wholesale(Agents, Merchants, Brokers, Auction)
  - Export Markets
  - Contract Marketing
  - Communal /Co-operative Marketing
- Marketing Costs

4. POST HARVEST HANDLING AND VALUE ADDING

- Harvesting
- Post Harvest Handling
  - On-Farm Processing-Adding Value

5. UNDERSTANDING AND USING MARKET INFORMATION

- What Market Information Is Needed
  - Market Price
  - Market Supply and Demand
  - Various markets
  - Other market information
    - ✓ Quality
    - ✓ Varieties
    - ✓ Post harvest handling(Packaging and Presentation p/h handling costs and losses)
    - ✓ Storage
    - ✓ Transport
    - ✓ Processing outlets
- Selling Options
- Sources of information
- Using Market Information
  - Uses

- Interpreting the Price Data
  - ✓ Prices Quoted
  - ✓ Price Variations
  - ✓ Seasonal and long- term trends
- Marketing Costs
- Marketing Plan

6. MANAGING RISK

Developing a Marketing Risk Management Strategy

7. INDIVIDUAL ACTION PLAN

8. MARKET OPPORTUNITIES AND PROBLEMS IN TONGAN FRUIT AND VEGETABLE PRODUCTION

- Consideration of advisory note
- Marketing decisions needed for effective marketing
- Evaluating potential market opportunities

9. INDIVIDUAL ACTION PLAN

MARKETING IN THE FARM BUSINESS

MARKET BASED PRODUCTION

In subsistence farming, farming decisions on what to grow or produce are made on the basis of growing for own consumption. A subsistence grower may decide to sell some production surplus to needs but this is not planned.

Once a grower decides to deliberately produce commodities for sale then he/she is making a commercial or business decision. If the production is not market based, that is based on what the market, the buyer and end- user or customer requires then there is a strong likelihood that the enterprise will lose money and fail.

Farming is a business.

The business of farming is to make a profit.
The business of farming should be about producing a commodity or a mix of commodities which the market, buyers and consumers require:
What they want
How they want it
Where they want it
When they want it
at a **price** which returns the best profit for the farm.

THE FARM BUSINESS

The aim of the farm business should be to maximize farm profitability

Farm business decisions should be made, in the same way that other businesses operate, on the basis of sound economic information.

Farming business decisions should be made within the context of a Farm Business Plan.

This Business Plan can be very simply written and does not need to be a complex document.

For small-holder farmers a business plan, even a basic plan, will provide the logical framework for good business decisions.

Any decision to produce and market a particular commodity or product mix should be made as a result of consideration of the likely impact on the outcome of the Business Plan and overall farm profitability.

A simple Business Plan should cover-

- **The Farm Production Plan**- what can be produced, land usage, water and labour availability etc Costs including overhead costs. Expected yields
- **The Marketing Plan**- post harvest handling, packaging, grading, local storage, transport, - marketing strategies, selling options. (Dealers Agents etc) costs, analysis of market demand supply and prices for the product s to be produced, calculation of expected marketing returns and marketing costs.
- **The Financial Plan**—A farm budget , partial budgets and gross margin analysis, Costs of borrowing, cash flow
- **The Risk Management Plan**- identification of the key risks and how to manage these risks in such a way as to minimizes the impact on farm profitability

The Farm Management Manual provides materials on some of the tools to use for the financial plan and how to evaluate profitability.

These include:-.
Gross margin analysis
Sensitivity analysis
Partial budgeting
Cash flow analysis
Farm budgets
Even if a farmer when he commences farming commercially does not initially use some of these sophisticated farm management tools, it is important that farm business decisions are not made without as many of the facts as possible.

A simple Business Plan, a simple Marketing Plan, the calculation of marketing costs and returns and a simple budget will help farmers to improve profits and to avoid costly mistakes.

Marketing Module 2

THE MARKETING PLAN

PURPOSE OF A MARKETING PLAN

The purpose of a Marketing Plan is to:-

- Define the Market
- Refine the Production Plan to market requirements
- Develop a marketing strategy
- Minimize risk

Each FFT group should have a Marketing Plan covering each ***commodity*** based on their own study of the local market.

Defining the Market and Commodities-

- **Market demand and prices** -An assessment based on published market information , discussions with local extension staff, farmers, dealers and buyers of the commodity of the likely demand and prices on offer during the year and during any period of seasonal shortfall
- **Market Requirement**- Varieties, size, grading, packaging, maturity demanded by the buyers in the particular market.
- **Yield /Price Assumptions-** How much commodity will be available? How much premium grade? Second grade? Losses? If the commodity /crop is aimed to be produced for a particular period e.g. for a low supply period, while the price assumptions (expectation) may be higher some reassessment of yield and cost of production assumptions in the gross margin analysis or partial budgets is usually necessary.
- **Marketing Returns and Costs** Calculate expected income and costs in marketing

Refining the production plan

- **Crop timing** There should be an accurate assessment as to when the crop will be ready for harvest.

  - What factors may advance or delay harvest? (rain, dry weather?)
  - Can the harvest be progressive? e.g. some root crops or
  - Can harvest be delayed? e.g. paper mulberry or
  - Can harvest be advanced? e.g. by selective watering, use of different planting cycle or varieties? Is there a cost to this? How will this added cost affect returns?

- **Post Harvest handling-Quality Grading Packaging and Presentation**

  - What are the quality, grading and packaging requirements of the specific target market?
  - How will grading and packing be done? What are the costs?
  - Packaging – Can local materials be used? Are new/unused packs (cartons, bags) required? Costs?
  - Is there a market for the second grades? At what price? Is this worth while doing including given the possible impact on trading reputation and does this cover costs?

- **Transport and Storage**

  - How will commodity be moved to the target market? Costs per kg?
  - Storage. Will cold storage or other storage be required? Where / Costs per kg?

Developing a Marketing Strategy

- **Farmer marketing or use of an agent or a merchant /dealer?**

  - **Time involved-** family or group member availability
  - **Cost –**Cost of space rental in a market e.g. Talamahu Market 50c per hour or $ 4 per day
  - **Quantities –** If there are larger quantities to be sold, are sale are to be made to a market elsewhere e.g. inter-island or other urban area or export , then usually sales are best made through an agent or merchant. It is usually only when farmers have developed expertise in more sophisticated marketing or have sufficient volume either by themselves or in co-operation with others, that direct marketing to other markets is profitable.

- **One market or Various Markets?**

  - **One market .**All production/grades sold to one target market
    - **Marketing Risk** The marketing risk "with all the eggs in one basket" is that opportunities for better returns elsewhere may be missed. This risk has to be assessed against the financial security of secured /assured sales
  - **Various markets? Some of the questions are:-**Different grades sold to different markets? Prices expected? Range of different buyers needs to be met e.g. different supermarkets, hotels, restaurants. Are these clearly understood? Is there different quality presentation in each market? Timing requirements e.g. weekly daily deliveries. Can these be met If the local market is considered not able to absorb all the production from the area under crop then in some situations progressive harvesting ,if possible,(e.g. root crops)or sales out of the area may be required to ensure that the local market is not flooded. While this is unlikely with present areas to be planted, any significant expansion of areas may require provision in budgets for transport and sale in Nuku'alofa or for

prices in the budget to be based on what merchant / dealers are prepared to offer. In some situations local prices on offer may require investigation of sales to the capital or to dealers.

- **Marketing risks –**
  - Risk of not being able to sell all production can be reduced by using various target markets
  - Risk of increased costs and reduced returns with greater time spent on product preparation selling delivery and other marketing ,
  - Risk of reduced prices from negotiating for sale of smaller quantities

➢ **Contract Farming**

For most small scale fruit and vegetable production an informal type of contract arrangement may be entered into with merchants/ dealers, packers, exporters or processors. In some situations other models of contract arrangements may apply including inputs such as seed fertilizers, packaging materials being supplied by the buyer. In the usual informal arrangement the following obligations can apply**:**

➢ **Farmer obligations**

- To deliver a stated production of a commodity (all the crop or a specified quantity) of specified quality, grading and packaging at specified times and for specified prices
- Contract could specify an obligation to make up any deficit to a stated quantity (e.g. from farmer buying in) or penalties (usually price reductions) for not making the required grades or timetable.

- **Buyer obligations**

  - To buy specified quantities of a commodity at specified prices against required grade and quality standards and at specified times
  - (Buyer may be a dealer/merchant, exporter, supermarket, hotel or other buyer).
  - Usually formal contracts are taken out only with merchants exporters government institutions and processors for larger volumes
  - Contractual arrangements with dealers for smaller quantities and with hotels, restaurants etc are less formal and therefore less binding- e.g. letter confirming discussion.)
  - Contract may give the right to review prices e.g. in the event that a reference market price in a market report goes below a specified price

- **Marketing Risks (for farmer)**

  - Farmer may have a crop shortfall (weather, pests and diseases, etc.) and may be penalized for this.
  - Market prices may rise well above the agreed price/s
  - Buyer may review price under certain conditions

- **Minimizing Market Risk in Contracts**

  - Provide clause in contract which allows for reduced volume in the event of floods, lack of rain cyclone etc
  - Avoid price reduction clauses for buyers or have a clause which allows for the price to be renegotiated by either party if the reference price goes up or down by more than a stated percentage e.g. 20%

DEVELOPING A MARKETING PLAN

A PRACTICAL EXERCISE

Develop a Marketing Plan for your farm or your group's farm under the following headings (or similar headings of your choice.)

1. COMMODITIES

- Quantities-Different times or varieties; Progressive harvesting ; Progressive plantings
- Timing of production Seasonal shortfall period how much of total production?
- Varieties
- Quality required—grading etc

2. POST HARVEST HANDLING

- Washing trimming cleaning etc-
- Grading—marketable yield?
- Packaging
- Transport
- Storage

3. MARKETS

- Where?
- How much to whom at what times?
- When?
- How? Contract? Letter of agreement?

4. PROMOTION

- Building your reputation. How?

5. EXPECTED PRICES AND RETURNS

- Prices for different quality or grades?
- Prices for different times of the year?
- Prices for different markets?
- Returns are Price/s multiplied by marketable yield

6. MARKETING COSTS

- Post- harvest costs (washing, trimming, grading, labour costs?)
- Transport
- Storage
- Fees Etc

7. GROSS MARGINS, FARM BUDGET, CASH FLOW

- How do your price and yield assumptions compare to the MAFF (or your own earlier) Gross Margin calculation
- How do your REVISED expected income and cost figures impact on your farm budget or cash flow?

8. MARKETING STRATEGY

- One market or various markets?
- Direct farmer sales?
- Use of agents or merchants
- Timing of production and sales.
- Competitors?
- Co-operation with other farmers in the market?

9. RISK STRATEGY

- What are the marketing risks?
- How can these be removed or minimized?
- What are the essential parts of my/our risk management strategy

10. IMPACT ON FARM BUSINESS PLAN

- What changes have to be made to my Production Plan as a result of my Marketing Plan. What to grow? How to grow? Harvesting techniques etc? Post harvest handling?
- How will this impact on my gross margin calculation?
- Impact on cash flow?
- Impact on farm budget?
- Organisation—what changes in farm management, group organisation or accounting procedures will be necessary as a result of my Marketing Plan. Should our group work with other groups? Doing what?

Marketing Module 3
MARKETS
and
MARKETING

MARKETS AND MARKETING

1. INTRODUCTION

Product marketing is important for farming families since understanding the marketing process and using that knowledge in marketing produce can have a very major impact on the profitability (or net farm income) of a farm. Farming families with a ***poor knowledge of the marketing process can lack power or influence in the marketing process***. They are ***price takers*****.** Knowledge about the marketing process and marketing strategies can strengthen the farmer's position.

This module covers the following topics:

- What is Marketing
- The Marketing Process
    - Supply and demand and product prices
    - Marketing channels
    - Selling options
- Markets and How they Operate
- Marketing Strategies
- Marketing Costs and Marketing Margins
- Post- harvest Handling and Value- adding

2. What is Marketing?

2.1 Why Marketing Is Important?

Marketing is the process by which a farmer seeks to maximise the return from farm production by providing buyers what they want and supplying it at a profit The process involves – commodity or crop selection for the market (varieties, etc.) identification of any special field procedures, post- harvest handling packaging transportation and storage to meet the market requirements combined with techniques for minimising product losses and maintaining the quality of produce. Sometimes the marketing process also involves **value adding** through grading, packaging and/or farm processing the product.

- The marketing process has to be customer-oriented.
- Marketing is a commercial process and is only sustainable if it provides all those participating in it with a profit
- Marketing is the series of activities and services relating to moving a product from the point of production to the point of consumption

2.2 The Most Important Elements of Marketing

There are four important elements in the marketing process:

- prioritising the customer: Marketing begins with the customer, not the product. Knowing what the customer needs or wants is essential.
- process of selection: The farmer needs to know who to sell the product to. This will determine how and where the produce is marketed.
- promotion: The farmer is selling something that other people want to buy. Naturally, it is helpful to let them know that the product is available and of good quality.

- trust: Good marketing occurs when the customers trust the farmer. The customer should feel they are not being cheated and they are getting value for their money.

In thinking about these elements, farmers need to ask themselves about the six Ps:

- people: Who are the customers? What do they want or need? Who is actually going to market the product?
- plan: How is the product going to reach the selected customers? What are the steps?
- product: What product is going to be marketed? Is the family producing what the customer wants? What services (for example, a cooked product), if any, are requested by the customer?
- place: Where is the product going to be marketed?
- price: What price will the product be offered on the market for?
- promotion: How are people going to be informed that the product is available?

The answers to these questions require a farmer to obtain market information and advice, to do market research and to develop a marketing plan.

3. Supply, Demand, and Price

In a free market, prices for inputs and products are determined by supply and demand.

Supply is what producers are willing to market at a certain price.

Demand is how much consumers are prepared to buy at the market price

In theory, as the price of a product goes up, the quantity supplied rises and the quantity demanded falls. Likewise, when the price goes down, the quantity supplied falls and the quantity demanded rises.

For agricultural produce, *demand* is affected by a number of factors, the most

important being:

- the price of the goods;
- the tastes, preferences and culture of consumers;
- the number of consumers;
- the consumers' income level;
- competing prices of related local and imported goods;
- the range of alternative goods available to consumers.

Considering these factors, it is understandable that when the market price of a product drops, more people are likely to buy it (and to buy more of it); quantity demanded will rise. Conversely, if the product's price is high, fewer customers will purchase the product (or they will buy less of it); quantity demanded will fall.

Supply is also affected by a number of factors, the most important being:

- the price of the product on the market;
- the price of inputs and costs of production;
- technological factors;
- the climate and weather conditions;
- storage possibilities;
- packaging possibilities (for example, extended-life packaging, plastic boxes, etc.)

4. Price Fluctuations and Changes

4.1 Short-Term Price Fluctuations

Prices for perishable products often fluctuate significantly, sometimes on a daily basis and even within the period of one day. The main causes of short-term price changes of fresh produce are:

- the amount of produce on sale in the market on a particular day and the quantities sold in the previous few days;
- short-term demand changes;
- the prices of competing products.

4.2 Long-Term Price Changes

There are four main elements influencing long-term (over a year or more) prices for food: supply, demand, the time of year, and people's tastes (including other factors such as health concerns, convenience, etc.).. A change in the price of one product can affect the demand and, in turn, the price of a competing product. In general, however, supply is likely to fluctuate much more than demand and thus supply changes will normally have a greater impact on prices than demand changes. Some of the impacts of the four elements include:-

- supply: In the case of perishable produce which cannot be stored, the main impact on prices is the seasonality of production and when the crop in the main producing areas reaches maturity. Other factors affecting supply include:
  - ***how much was planted****:* If prices in one production cycle are bad, farmers often respond by planting less in the next cycle. This leads to lower production and higher prices, encouraging more planting in the following cycle and a consequent fall in prices. Successful farmers are sometimes those who do the opposite to what is being done by other farmers.
  - ***weather****:* Extreme weather, from inadequate rains to high winds, can have a significant effect on production levels.
  - ***imports and trade policies****:* A change in the government's import policy (such as adopting a free trade policy) can have a major impact on supply of particular products on the market and therefore influence the prices local farmers receive for their products.
  - ***storage****:* If the product can be stored, the farming family has the option of selling immediately or storing in the hope that prices will rise later in the season. Farmers' decisions about how much to store and how much to market will depend on their need for money after harvest, on the price, and on their knowledge of likely price trends. If farmers market a large proportion of their crop immediately after harvest, this will inevitably increase the supply and lead to lower market prices.

- demand: Demand is influenced by the market price. If the market price is high consumers will reduce their purchases. However, for staples such as roots and tubers , demand is relatively constant . There are not significant reductions in the quantities consumed as prices rise. If prices go up people may eat slightly less, and they may also be more careful about how much they cook in order to waste less. They may continue to buy the same quantities but buy a lower quality. They may also buy other products that they see as being of better value, if such products exist, such as rice. If the market price is low consumers will probably increase their consumption, buy better quality and be less careful about avoiding waste. But a person can only eat only so much taro, so consumers who can already afford adequate quantities will not increase their consumption by much in response to lower prices. Instead, they are likely to use the money saved to buy larger quantities of fruits, vegetables or animal products.
- time of the year: There tend to be seasonal price patterns for most crops, particularly annual crops. Therefore, there are certain times of the year when there will likely be a glut of certain crops. Farmers who can avoid the glut periods in production of annual crops by staggering their planting and harvesting can benefit from higher market prices outside those glut periods.
- taste and other factors: Changing tastes can influence the demand and hence the market price farmers receive for their products. For example, increasing health concerns may result in a reduction of the consumption of certain goods (for example, corned beef). Also needs may change over time, for example, when the female head of the household starts working outside the home, there is an increased demand for convenience, processed, and semi-prepared foods.

5. Marketing Channels and Selling Options

When marketing a particular product, the farmer must not only take into consideration how much it will cost them to produce it but also the costs of getting it to market.

This section briefly describes the major types of marketing channels or selling

options—direct sales (farm gate, farm/roadside stall and door-to-door or to larger buyers); sales to dealers processors exporters; sales through urban markets using agents merchants or auction; contract farming ;and co-operative or communal marketing,—along with a brief description of the advantages and disadvantage of each.

5.1. Direct Sales

5.1.1 Farm Gate Marketing

As the name implies, this is marketing done by the farmer at the place where the product is produced — from the "farm gate". Consumers come to the farm to buy produce. .

Advantages of farm gate marketing:

- no transport costs;
- can be marketed by the farming family, thus costs are reduced;
- better suited to the small-scale farmer.

Disadvantages of farm gate marketing:

- farming family must accept the local price for their produce which may be lower;
- farm may not be well located to market the product
- once the local market's demand is supplied, the farmer has to look to more distant markets.

5.1.2 Farm Stall or Road side Marketing

This channel is a further development on marketing from the farm, as it goes some way towards taking the product to the consumer. At the simplest level, a farm stall may be operated by a farming family or farmer group marketing their own produce. Eventually, an individual may operate a stall on behalf of local farmers or farmer groups. Generally the products marketed in a farm stall are perishables such as fruits and vegetables, although "processed" foods such as pickles, jams and cooked cassava are also suited to this type of marketing.

Advantages of farm stall marketing:

- Minimal transport costs
- Larger markets can be exploited.
- Farmers can take advantage of more favourable prices.
- Price fluctuations are generally small.

Disadvantages of farm stall marketing:

- The quality of the produce may need to be higher as the consumer in the market may be more demanding.
- A constant supply of produce must be available to satisfy the needs of the market.
- Farmers must be flexible on pricing the produce.

5.1.3 Direct Sales to Larger Buyers

This can include sales to:-

- Institutional buyers(feeding large numbers e.g. Police, Army, Education, Hospitals)
- Hotels and resorts
- Restaurants
- Guest houses apartments
- Supermarkets and stores

Advantages

- An assured outlet for the farm production
- Usually is a local sale so transport is not expensive
- Usually a consistent demand

Disadvantages

- One farmer may not be able to meet the demand throughout the year
- Usually a range of products is required and the buyer may prefer to deal with only one supplier
- A high standard of product is required
- Usually an informal contract which can be varied at short notice resulting in some production unsold

5.1.4 Door to-Door Marketing (Vending)

With door-to-door marketing, farming families market their produce directly to consumers at their households.

Advantages of door-to-door marketing:

- can be sold and promoted by the farmers themselves;
- marketing margins can be reduced, meaning a higher price for the product can be obtained.

Disadvantages of door-to-door marketing:

- transport is essential and may be difficult or expensive;
- time required for marketing may be longer than if the farmer sold through other channels.
- Usually requires a supply of a range of products available on a regular basis to build up customer interest

5.2 Sales to Local Dealers, Packers, Exporters

There are usually dealers in any area willing to buy produce directly from farmers. These may be merchants who sell to exporters or larger institutional buyers or to urban markets. In some cases they may be acting as agents for a processor.

Advantages:-

- Produce can be delivered locally so transport is less
- Larger volumes can be sold
- Farmer does not have to spend time in marketing
- Production can be of only one or a few commodities

Disadvantages:-

- Price will be less than direct sales to consumers as the dealer's profit margin and handling and transport costs will be reflected in lower prices offered

5.3 Urban Markets

Urban markets in larger centres mainly provide for the marketing of vegetables and fruit although some allow the sale of some other products e.g. eggs

Urban markets may be:

5.3.1 Retail markets- selling directly in smaller lots to consumers-This can be either growers selling their own produce or traders who have their own produce together with produce bought from growers

5.3.2 Wholesale markets – growers selling mainly in wholesale quantities to wholesalers who in turn sell to retailers who in turn sell the produce at retail elsewhere. Selling options may include:-

- **Agents** Sales by market agents on commission is one of the most common methods of trade. With this system, the farmers or farmer groups send their produce to the agent at the market, who sells for the best price and takes a commission fee as a percentage of gross receipts. The agent never takes ownership of the produce and it remains the property of the farmer until it is sold. For the commission fee the agent usually handles the produce in the market and sells it
- **Merchants** In merchant or dealer transactions ownership of the produce transfers from the grower to the dealer or merchant usually on delivery. The transport risk to delivery is that of the grower. The price received by the grower is by "private treaty" i.e. by agreement often by phone or email.

Advantages of urban markets:

- Farmers and farmer groups can take advantage of higher prices in times of short supply, if they have produce available.
- The market is able to market large quantities of farmers' produce.
- The farmers can employ the services of an agent to perform the task of marketing.

Disadvantages of urban marketing:

- Market information is important to enable farmers to make the right decisions, and this often is not available
- Prices fluctuate.
- Markets are often far from the point of production.
- To get the right price, the time of harvesting is critical.
- Quality, packaging and presentation are very important and produce must conform to accepted grade and packaging standards.
- The farmers will need to be confident that they can cover the higher marketing costs, including the agent's commission.

5.4 Export Markets

Because of the complexity and risk of exporting produce, small farmers and small groups of farmers are advised to sell export produce through established exporters or traders rather than attempting to export them:

***A decision to supply to an export market will mean significant changes in the Farm Business Plan including*:**

- **Quarantine**

  - A precise response is required in farm planning and decision making to the import and quarantine requirements of the importing country.
  - Very specific rules apply to particular pests and diseases. Where the commodity has specific concerns for the importing country a separate country to country quarantine agreement (Called a Bilateral Quarantine Agreement-BQA) will set out in detail procedures for grading packaging and other post- harvest treatments including fumigation, hot air treatment. e.g. If fruit fly is found in a shipment of most commodities the product could be condemned by importing inspectors and destroyed or the product returned to the exporter. In both cases considerable losses are incurred
  - The Farm Business Plan including the Gross Margins Analysis should be adjusted to include the additional costs of treatment ,packaging, importer costs etc

- **Consistent Supply of High Quality-**

  - Export markets require very high quality of product and packaging .
  - New packaging materials are usually required(Cartons , poly bags etc)
  - .Careful and uniform grading will mean extra post- harvest farmer costs for grading and lower marketable yields(Tongan squash exports usually reject up to 30% of production as not suitable for export)

- **Consistent Regular/ Supply**

  - Importers and merchants in importing countries require regular and consistent supply (Know what they are getting. Have orders or potential markets/buyers for the commodity for sale on a regular basis.). One small farmer can not meet this need.
  - A co-operative approach to ensure sufficient quantities may be necessary either by farmer collaboration or more usually through use of a packer or exporter
  - Timing is important.- .Often the market niche or gap of opportunity may be limited (e.g. if selling into a seasonal shortfall –until local supplies are available).

- **Effective Use of Agents and Merchants**

  - If a farmer or farmers together export there is a need to develop a close business relationship with the agent or merchant in the importing country and to be guided by their advice on market needs..

5.5 Contract Marketing

With contract marketing the farmer markets directly to a buyer under a contract arrangement. Agreements may be formal i.e. a written contract but for most fruit and vegetables the contractual arrangement is usually informal. The contract arrangement usually covers the quality requirements of the buyer as well as the quantity, timing, method of delivery and packaging.

This arrangement may be with:

- an institutional buyer e.g. army education boarding facilities
- a major user e.g. hotels , tourist resorts, restaurants, mining camps,
- super-markets and other retail stores
- merchants or dealers, locally or in an urban market who may subsequently sell the commodity by retail or export or to another merchant or to processors or exporters.

For most small scale fruit and vegetable production an informal type of contract arrangement may be entered into with merchants/ dealers, packers, exporters or processors. In some situations other models of contract arrangements may apply including inputs such as seed, fertilizers, and packaging materials being supplied by the buyer of the farmers produce. In the usual informal arrangement the following obligations can apply:

- **Farmer obligations under contracts**

  - To deliver a stated production of a commodity (all the crop or a specified quantity) of specified quality, grading and packaging at specified times and for specified prices
  - Contract could specify an obligation to make up any deficit to a stated quantity (e.g. from farmer buying in) or penalties (usually price reductions) for not making the required grades or timetable.

- **Buyer obligations under contracts**

  - To buy specified quantities of a commodity at specified prices against required grade and quality standards and at specified times
  - Contract may give the right to review prices e.g. in the event that a reference market price in a market report goes below a specified price
  - (The buyer may be a dealer/merchant, exporter, supermarket, or other buyer. Usually formal contracts are taken out only with merchants, exporters government institutions and processors. Contractual arrangements with hotels, restaurants etc are less formal and therefore less binding- e.g. letter confirming discussion.)

- **Marketing Risks (for farmer under contract)**

  - Farmer may have a crop shortfall (weather,, pests and diseases, etc) and may be penalized under the terms of the contract for this.
  - Market prices may rise well above the agreed price/s and income is not as good
  - Buyer may review price under certain conditions of the contract

- **Minimizing Contract Market Risk**

  - Provide clause in contract which allows for reduced volume in the event of floods, lack of rain cyclone etc
  - Avoid price reduction clauses for buyers .If there has to be such a clause ensure it allows for the price to be renegotiated by either party if the reference price goes up or down by more than a stated percentage e.g. 20%

Advantages of contract marketing:

- Marketing margins can be reduced, meaning that the farmer can obtain a higher price for the product.
- In some cases, the volume of sales is guaranteed to the farmers.

Disadvantages of contract marketing:

- The farmers must have sufficient produce of acceptable quality to supply the customer or retailer.
- The quality of the produce must be consistently high.
- If the farmer cannot meet the needs of the retailer, they will have to buy produce from other farmers to make up the order of quantities required. In an informal contract, there are usually no penalty provisions on the farmer – but the market assurance is less as the buyer may also not buy. In an informal contract there may not be any penalty provisions on the buyer who fails to buy the verbally agreed amount.

5.6 Communal or Co-operative Marketing

Co-operative marketing by a number of farming families or a formal farmer marketing group may mean markets which an individual cannot supply can be supplied. If some post harvest processing or packaging is required then this can be done for a larger volume at a lower per unit cost.

A farmers' association may also get together and jointly market their crop in a formal /urban market.

Advantages of co-operative or communal marketing:

- wider market opportunities
- lower costs per unit for post harvest handling and transport
- lower marketing costs overall
- better prices and smaller price fluctuations;
- builds solidarity among farmers.

Disadvantages of co-operative communal marketing:

- returns may only be as good as the management of the group/co-operative
- the farmer does not have as much say on final markets and prices
- constant supply is needed;
- prices must be flexible.

6. MARKETING COSTS

All transfers of produce involve some form of marketing activity. Also all such activities involve costs. At its simplest level, the cost involved may be the time it takes the farmer to walk to a nearby market and stay there until all their vegetables are marketed. At the most complex level, a product may be stored for lengthy

periods, transported long distances and processed several times before reaching the form in which it is finally marketed.

The costs involved with marketing—or the reason the price of a product in a shop or retail market is often much higher than the price paid to the farmer—are not always fully understood. It's easy to understand that traders or processors spend money on transport or packaging, but there are many other less obvious costs also. Because these costs are not always visible, those doing the marketing are often accused of making too much profit. People look at prices paid to the farmers by traders and after comparing them with the prices consumers pay for the same product, come to the conclusion that the farmers and consumers are being exploited. Sometimes, of course, traders do make very high profits but many times they make small profits or even losses. Clearly, unless they make an overall profit, traders will not want to continue in business. This is bad for both consumers and farmers. In addition, because many small farmers market their production themselves it is important for them to understand the costs involved in the marketing process.

Generally, the more complex and lengthy the marketing chain, the higher the marketing costs are. Because of transport costs, a farmer who lives 5 kilometres from a market will normally receive a higher share of the final price than one who lives 20 kilometres away. A farmer marketing a perishable crop such as tomatoes is likely to receive a lower share of the final price than the farmer marketing a non-perishable crop such as pumpkins because some of the crop may be rotten by the time it reaches the market. In comparing farmer and consumer prices, we need to be fully aware of all the costs involved.

6.1 Types of Marketing Costs

Some of the more important costs in the marketing process are associated with:

- product preparation and packaging:
  - the movement of produce from the farm to the farm gate or house;
  - all the costs associated with packaging.

Box 6.1: Calculating Transport Costs

Assume that there are 40 metres^3 of space available in the truck being used and that it costs 200 DOLLARS to hire the truck.

A container of 0.2 metres^3 holds 8 kg of green peppers

Then the transport cost for peppers per container and per kilogramme is:

$200 / (40 metres^3 / 0.2 metres^3) = $1.00 per container

$1.00 / 8 kg = $ 0.125 per kg

It is worth noting that while packaging is a major cost, the costs of trying to save money on packaging can be much greater. Poor quality packaging may increase losses due to product damage. It may also make the product less attractive, reducing the price that buyers are prepared to pay.

- product handling: At every stage in the marketing chain, produce has to be packed and unpacked, loaded and unloaded, put into store and taken out again. Each individual handling cost will not amount to much, but the sum total of all such handling costs can be large.
- transport costs: Once packed, the produce is then transported. This transport cost can involve boats, trucks, private motor vehicle (PMV), etc. Sometimes transport costs are a simple matter to calculate because the farmer or trader pays a set price per kilo to the transporters. Other times produce is carried on a

"per container" basis or farmers may hire a complete truck and transport a variety of crops. (It becomes difficult to calculate a farmer's or a traders' actual transport costs if they own their own vehicles. It is best then to calculate the cost based on how much it would be to rent a similar vehicle.).

- product losses: Losses are common in agricultural produce marketing. Even if nothing is actually thrown away, products may lose weight in storage and transit. Losses as high as 10% per day can occur under tropical conditions. The treatment of losses in marketing cost calculations can be quite difficult. In particular, produce which is bought but not sold can still incur costs such as packaging, transport and storage. Even if there are no quantity losses, there can still be quality losses, and this is reflected in the price at which produce is sold.

Box 6.2: Calculating the Cost of Product Losses

Assume that, at 10 percent loss levels, 20 kg of green peppers purchased by the trader from the farmer results in 18kg available for sale to consumers. The trader buys green peppers from the farmer at $5.00/kg and marketing costs are $2.00/kg for the green peppers originally purchased. The selling price of green peppers is $9.00/kg. Then the costs are:

20kg purchased at $5.00/kg	= $100.00
20kg packed and transported at $2.00/kg	= $ 40.00
Total costs	= $140.00
Sales revenue or $9.00 x 18 kg	= $162.00
Thus the margin to the trader	= $ 20.20
The value of produce lost or cost of product	
loss is.2 kg x $9.00	= $ 18.00

- storage costs: Storage is an important cost for many products. The main purpose of storage is to extend the availability of produce over a longer period than if it were sold immediately after harvest. (As indicated previously, storage is often not a major issue in the Pacific because of the crops produced and the non-seasonality of crop production.) Storage costs vary depending on the expense of building and operating the store and also based on the capital used to purchase the produce which is stored.

Box 6.3: Calculating Storage Costs

Assume that a warehouse is hired for 120 days of the year at a total cost of $600 and that the weighted average contents are 250 bags. Then the storage cost is:

$600 / 120 days = $5.00 per day

$5 / 250 bags = $0.02 per bag/day

Box 6.4: Calculating Storage Costs over Time

Assume that a trader buys potatoes at $10 per bag and keeps them in store for 4 months.

To do this he or she has to borrow money at 12% per year.

$10 x 0.04 (12% per year over 4 months) = $0.40 per bag

A realistic calculation of storage costs per bag for the potatoes is:

Storage charge for 120 days at $0.02 per bag/day (see Box 5.7) = $2.40

Interest charge of K0.40 per bag = K0.40

Total cost per bag = K2.80

- processing costs: Processing is a way of adding value to the product finally sold to the consumer and is often an important marketing cost. For example, taro and cassava are often processed by grating and cooking before they are sold. Processing costs can vary according to the efficiency of the organisation doing the processing, the processing facility's throughput, and the frequency of its operation. It will also vary according to the organisation's costs, which depend on factors such as fuel costs, depreciation costs, import duties, taxes and

wages. As farming becomes more commercialised, processing is increasingly done off the farm by someone other than the farming family or farmer group. However, farmers can attempt to reduce their marketing costs, and in doing so add value, by processing the product themselves. For example, in Box 6.4, a farmers' group might grate the cassava themselves rather than paying someone else in the marketing chain.

- capital costs: Capital costs may not be very visible but are important. To operate, a trader may have to borrow money from the bank. The interest paid on that money is a cost. If a trader uses his own money, then he has to consider the interest he could have received on it (or the opportunity cost of using it; see Sub-Section 4.4.1).
- fees and commissions: Commissions and fees are often a part of marketing costs. E.g. Talamahu Market $ 4 per day

6.2 Marketing Margins

This discussion has shown that marketing costs can be many and varied. The price paid by the eventual consumer is not just the amount of money paid out to the farmer for their produce. There are also costs involved in getting it to consumers in the form that it's purchased in.. The total percentage of the final retail price taken up by the marketing function is known as the ***marketing margin***. Sometimes the marketing margin can be quite a high percentage.

Box 6.5: Calculating Processing Costs

Assume that a cassava grating operation converts cassava at a rate of 70 percent (0.70) and has saleable by-products equal to 25 percent (0.25) of the field weight. Processing costs per kilo of cassava have been calculated at $0.30 per kilo on the basis of the grater's total annual costs divided by the number of kilos of cassava processed. The buying price of the raw cassava is $2.25 per kilo and the by-products have a value of $0.15 per kilo.

Then the processing cost per kilo of the cassava is:

One kilo of cassava purchased	= $2.25
Processing costs for 1kilo x $0.30	= $0.30
Total cost per kilo	= K2.55

Less the by-product revenue of

1 kilo x 0.25 x $0.15	= $0.04
	= $2.51 per kilo

The break-even selling price/kg of grated cassava is calculated as follows:

K2.51 / 0.7	= K3.59

Grated cassava is actually being sold for K3.70 per kilo

Therefore the profit per kilo is of grated cassava is:

K3.70 — K3.59	= K0.11 per kilo

However, high margins can often be fully justified by the costs involved. Without an understanding of those costs and how they are made up, it is impossible to know whether margins are reasonable or not.

One marketing cost that tends to become more significant as income levels increase is processing costs. In other words, processing costs contribute an increasing percentage of the marketing margin. Consumers increasingly wish to buy products that are convenient for immediate consumption. In the past, any processing tended to be done before the product left the farm. Farmers need to consider if there are value-adding opportunities for their production.

Marketing Module 4
POST-HARVEST HANDLING AND VALUE ADDING

POST HARVEST HANDLING AND VALUE ADDING

The way most horticultural crops are handled at and after harvest is important in maintaining their value. Adoption of improved harvesting and post-harvest techniques is essential for high quality product.

Mechanical damage which causes reductions in produce quality and value includes cuts, compression, impact and vibration.

1. Harvesting

The timing, technique and conditions at harvesting can significantly affect prices. Consider these points:

- harvesting prices: With some crops, harvesting can be undertaken early to take advantage of high-priced opportunities (e.g., cabbage harvested as spring greens, young carrots sold in bunches, green plums and Irish potatoes). Exploiting these short-term market opportunities requires close linkages with the market.
- harvesting and crop maturity: Shelf life and long-term storage is affected by the maturity of the crop at harvest. The storage characteristics of root vegetables are generally improved by only harvesting fully mature crops. (Examples include sweet potatoes, cassava, taro and yams.) Some fruit have to be harvested when they are not completely ripe in order to transport them to distant markets. Examples are bananas, pineapples, mangoes and avocados. However, the most important consideration is to avoid damaging the product at harvest and to prevent exposure to heat or sun.
- optimal harvesting stage: The optimal harvesting stage for most crops will depend on growing conditions and the variety being grown and the growing conditions. There are significant differences between cultivars, growing regions and sometimes season with regard to the optimal harvesting time.
- harvesting, handling and quality: Poor harvesting and handling will impact seriously on the quality of the produce. Once a fruit is plucked from a plant or a root or leaf vegetable is harvested, it is cut off from its source of food

and, most importantly, water. The effects of poor treatment normally show themselves some days later, when the produce is being presented for sale. Poor treatment has two effects: firstly, the price is reduced; secondly, the long-term reputation of the producer is diminished, again tending to result in lower prices.

- time of day harvesting is done: Ideally, harvesting should take place when the temperature is the coolest and the plant is most turgid (or, in other words, when the plant has the highest moisture content). This is in the early morning. Harvesting time also has to accommodate labour availability, and when collection will take place, to minimize the time produce is left standing in the field.
- harvesting techniques: Methods of harvesting can play an important role in the quality of the produce harvested… cut rather than pull or pluck..
- field containers: Damage is often caused by moving sacks through the field, or when transferring produce from one container to another. If possible, produce should be harvested into the container in which it will be stored or transported. Baskets or boxes with sharp or rough edges should either be avoided or lined with paper or leaves.
- harvesting system: With highly perishable produce, damp cloths can be used to give protection against the sun's heat. Field containers should be removed to a shaded area as soon as possible. Some leafy vegetables may be sprinkled with water at intervals to maintain leaf crispness. Field assembly points, such as a shade house made out of natural materials or a canvas tent, should be used in order to keep the produce out of the sun and rain.

Note that the quality of fruit and vegetables cannot be improved after harvest. However, the more careful the handling, the slower is the deterioration in quality. Containers must be emptied carefully to minimise drop heights and fruit-to-fruit damage. In addition, harvesting containers should be periodically cleaned.

2. Post Harvest Handling

Important issues that will help maintain or increase the prices farmers receive after harvesting:

- curing and drying;
- cleaning and washing
- trimming
- grading and sorting: Provided the market wants graded produce and is prepared to pay for it, selection and grading is justified. Buyers may specify grading standards, particularly in the export market where international standards are enforced. Grading is usually by size, colour and /or maturity with damaged produce removed.
- packaging and presentation: The main functions of packaging are to help prevent mechanical damage and facilitate transport and to sort the produce into the most presentable and acceptable pack for the market and for handling. Good packaging will always enhance the attractiveness of the produce.
- storage: Produce can be stored for both short-term and long-term purposes:
  - *Short-term storage* is used to provide flexibility in marketing, such as when awaiting transport or when buyers are not immediately available. Most horticultural crops are perishable and can only be stored for a few days.. Storage will reduce quality and shelf life. It is costly and, in most instances, when the produce is withdrawn from storage, it has to compete in the market against freshly arrived produce,
  - A few crops are adapted for *long-term storage*. These can be held in stores well beyond the normal harvesting period. In turn, higher prices can normally be obtained and greater volumes of produce sold .e.g. potatoes onions.

3. On-Farm processing- Adding Value

Every marketing function comes at a cost, and processing is one of those cost components. The main ways of improving the value of agriculture and especially horticulture products are careful harvesting and post-harvest handling; an additional possibility is on-farm processing by the farming family or, more likely, a farmer group.

Processing is a very common way of adding-value to products.

Value adding through on-farm processing of farm-produced products can benefit farmers by:

- increasing the profit margins of the enterprise through capturing the processing marketing function;
- providing a product (e.g. dried fruit) which can be transported over some distance without loss or at lower cost than the unprocessed product.
- increasing the shelf life of the product, therefore increasing the possibility of it being marketed at a time when the prices are higher;
- gainfully employing family or farmer group labour;
- reducing the transport costs if the improved product has a local market (for example, cassava chips might find a ready market in the community and thereby reduce the farmer's marketing costs dramatically).

Marketing Module 5 UNDERSTANDING AND USING MARKETING INFORMATION

UNDERSTANDING AND USING MARKET INFORMATION

1. WHAT MARKET INFORMATION IS NEEDED?

1.1 MARKET PRICE INFO is needed for:

- **Budget and profitability calculation**

To estimate the potential profit from growing and selling a particular commodity or product mix a grower needs an accurate assessment of the expected price or prices- i.e. for a Farm Business Plan or Farm Budget or Gross Margins.

- **To evaluate Commodity and Market Options**

To decide between various crop or commodity production options-Gross margins Partial budgeting
To decide between various or several marketing options e.g. selling into one or several markets, sales to processors or consideration of contract farming, or of the profitability of various options in post- harvest handling , processing or value – adding operations**.**

- **Current Prices in a Seasonal and Historical Context**

Business decisions should not be based solely on current prices but the expected prices when the crop is ready for sale.
Prices can vary markedly throughout a year .If the decision is to market into an “off season” or seasonal shortage period then the exact timing of the market window of opportunity needs to be determined.
Price data over several years on a weekly or monthly basis will show up any seasonal variations.

Longer term data over a number of years will reveal if there is any trend in the market – e.g. prices generally going down. This should lead to a search as to why this trend is occurring, the reasons for the changes noted.

Various Markets

Price information from several sources should be obtained to allow for comparison.

Prices in various markets may be different and the reasons for this need to be understood if informed business decisions are to be made.

1.2 MARKET SUPPLY AND DEMAND

Identify Buyers - what are their needs in terms of quantity, consistency of supply, quality, packaging, timing of delivery

Identify Competitors- what do they offer in terms of quantity, quality packaging timing of delivery

Identify Market Volume and likely product flow- and factors which can affect this and consequently prices

Identify Product Differentiation – different varieties, brands, special packs- What promotion may be needed?

1.2 OTHER MARKET INFORMATION

- Varieties- What varieties sell for the best price?
- Timing –Is market seasonal? When does the buyer want the product? This can include detailed discussions with the ultimate consumer or user as well as the merchant or agent.
- Post harvest handling Grading for size or colour or weight, trimming, washing, removing husks etc Packaging –What does the buyer want? What are the costs?
- Transport How will the produce be moved to market and what arrangements have to be made? What are the costs?

1.3 SELLING OPTIONS

- Direct sales (farmgate, road side, door to door ,larger consumer e.g. hotels, restaurants institutional buyers e.g. schools, colleges, army, hospitals)
- Merchant /dealer. Agent or Broker
- One market or several markets

2. SOURCES OF INFORMATION

- Government market reporting services MAFF market reports on Talamahu Market
- Traders (merchant and exporters)—But have an interest to buy at lowest prices.
- Agents A person acting on a percentage commission will usually want the best price as it is in his interest to do so.
- Other farmers-But may not know or can exaggerate
- Farmer organizations -A key role of farmer organisations is to monitor markets and prices
- Other government Agencies—Extension workers, Agricultural or Development Banks
- Banks or lending institutions- monitor markets
- Non Government Organisations – e.g. Peace Corp – often have good information
- Processors –can give an indication of prices- but note that many processors buy on a contract basis and this can be different from general market prices.
- International bodies The Pacific Islands Trade and Investment Commission based in Auckland has up- to- date published market survey and analyses and also send out by email regular market reports
- Internet-More and more trading now occurs on the internet and traders put out buying notices and price offers on their web sites.

3. USING MARKET INFORMATION

3.1 USES

- Decision on <u>what</u> to produce—product mix
- Decision on <u>when</u> to produce-timing
- Decision on <u>how</u> to produce—varieties , field treatment, post harvest handling (including quarantine considerations) storage and transport required by the market

- Decision on how to sell—direct sales to consumers ; agent merchant broker or auction
- Identify Marketing Risk and Decision on how to minimize risks
- Decision on marketing strategy- based on market requirements, competitors(quantity quality, timing, prices) ,expected prices and returns, estimated marketing costs, selling options and other decisions
- Develop a Marketing Plan for the commodity
- Monitor performance- check prices received are reasonable or if better options exist
- Decision on how profits may be improved—change market , different commodity, changed post harvest handling and transport, changed marketing arrangements(merchants etc)

3.2 INTERPRETING THE PRICE DATA

3.2.1 PRICES QUOTED

- Is the price quoted a wholesale (market) buying price or a wholesale (market) selling price or is it a retail price. (The Talamahu market reports on retail prices therefore the prices which a trader in Vava'u may offer will be less than these prices to cover his transport and marketing costs as well as his overhead fixed costs and profit margin)

- The day of the week of the price quotation and the time when the price information was collected will have a bearing on how to interpret the market information The Talamahu Market information is collected in the morning on each Friday and therefore may represent high volume of trading than other days of the week.

3.2.2 PRICE VARIATION

- Prices vary in response to supply and demand. Sometimes this supply or demand may not be evident in a market but merchants may be aware of pending orders or pending deliveries. It is therefore important in any dealings with a marketer (agent or merchant) to be able to ask if they are aware of any factors especially anticipated product availability which may change the market price expectation.
- Prices will vary according to quality and grades
- The price will also vary as varieties in a market change e.g. during a season different varieties may ripen at different periods and there are distinct preferences for some varieties

3.2.3 SEASONAL AND LONG TERM TRENDS

- Current prices have to be considered in terms of what has been happening to prices for the commodity over a longer period of time.
- Prices can change during the year especially for products with seasonal surpluses and seasonal shortages.
- In considering long term prices care has to be taken to consider the impact of inflation on the real value of the price compared to a return in a previous year. If prices in an importing country are being considered then the previous year's prices may need to be adjusted by the relative changes in currency of the exporting and the importing country.
- Seasonal price trends i.e. how prices change from one month to another can show a market opportunity if it is possible to produce for that timing.

3.2 MARKETING COSTS

- The marketing information collected can be used to calculate marketing costs
    - In the planning stage in developing a Marketing Plan
    - During production to determine if savings can be made in present costs
- Marketing costs include
    - Grading – for size and colour defects
    - Trimming –of vegetables e.g. leafy greens
    - Cleaning and washing e.g. root-crops and carrots
    - Chemical treatment - Dipping
    - Packing and packaging- wrapping, tying, placing in cartons or other containers or pre-packs
    - Storage – on farm or at market
    - Transport from farm to market
    - Losses –Grading or rejection rates for Tongan squash average up to 30% of total farm production. Gives marketable yield
    - Fees commissions and charges
- Total costs and costs per kg or unit
    - Total marketing costs for each of the above will be required to calculate Gross Margins and cash flows in budgeting
    - Costs per kg are also useful to indicate where most costs are occurring and can give a grower a basis to seek how to reduce particular costs.

3.3 MARKETING PLAN

Market information is essential to

- Define the market and the commodities
- Estimate expected returns and costs and likely profitability
- Develop the marketing strategy
- Develop a risk minimization strategy –Helps to anticipate changes

These are the elements of a Marketing Plan

Marketing Module 6
MANAGING RISK

MANAGING RISK

1. The concept of Risk management

Risk for farmers may come from the following areas:

- Production – weather (heavy rain or drought, winds, cyclones)pests and diseases fire, theft of product etc
- Marketing- market price downturn ,market oversupply ,losses in transport, losses in storage
- Financial— increase in interest rates on debt and credit, currency changes,.

Risk management involves attempting to prevent an undesirable event from occurring or planning to make the negative effects as small as possible. There are three ways the farmer can deal with risk. These are:

- deal with it if and when it happens – do nothing
- guess what may happen and try to avoid it –but growers can not control most risks;
- plan and take action in advance that will make the impact of the problem, if it occurs, as small as possible.

For example, if a field is likely to get very wet, then planting all the crops on a ridge to keep the leaves dry and drain water away from the roots is a sensible strategy. Alternatively a sensible strategy would be to plant a crop that thrives on very wet conditions (such as taro). In order to minimize risk, farmers need to make decisions or choices. To do this effectively they need to know both technical (soil conditions, weather patterns, knowledge on how to implement specific enterprises, etc.) and socioeconomic information. (on input and selling prices, yields, markets, etc.) However, often farmers find that the decisions they have made turn out not to be the best, because:

- conditions have changed from the time the decision was made and the crop or animal was finally harvested or sold;
- there are many factors or influences in agriculture over which farmers have no control.

For example, crop farmers must make some major decisions (such as what crops to plant and what seeding rates, fertiliser levels, etc., to use) early in the cropping season. The final yield and prices will not be known for several months, or even several years, in the case of tree crops. In addition, risks in farming activities can come from unexpected places such as drought, disease, low market prices, imports, etc.).

Risk management is about:

PLANNING FOR THE UNEXPECTED

PLANNING FOR YOUR POSSIBLE PROBLEMS

2. Information and Decision-Making

What prices and returns farmers think they will receive in the future for their crop is important in the decisions they make. What happened in the past is important and helps decide what may happen in the future. Farmers tend to remember the bad things and not the good things.

What happened last month is considered more important than what happened last year. The most useful tool a farmer can have to help in the management of risk is good information. There are several sources of information available to the farmer:

- Farm records: The best source of historical production and marketing information are—or should be—the farm records. Crop yield, livestock production, and cost information generated by farm records tell the farmer what can be achieved. Production records should give the farming family some idea how successful they were at managing risk in the past. These should also give some hints to what they should do in the future to be successful.
- Information from elsewhere: This includes information from the Agricultural Statistics Service, National Extension Service, and other government agencies. In addition consulting advisory services, newsletters, magazines, agricultural suppliers, and neighbours can all prove to be valuable sources of information for farming families.
- Production and market information: Historical yield and price information will be available from the MAF Statistics Service. This information can prove useful when compared to the data generated by farm records. It is important to

remember that national data is an average of many farms and may not tell the farmers exactly what they might get. Comparing historical farm yield data to that of similar farms in the same area should provide additional information on how the farmers can improve their performance.

What the market is doing will not tell the farmer about the risk, it will just give a trend that the farmer must decide whether it is good or bad news. Understanding the importance of these issues and good information about them could help the farmer avoid bad decisions in both the short and long run.

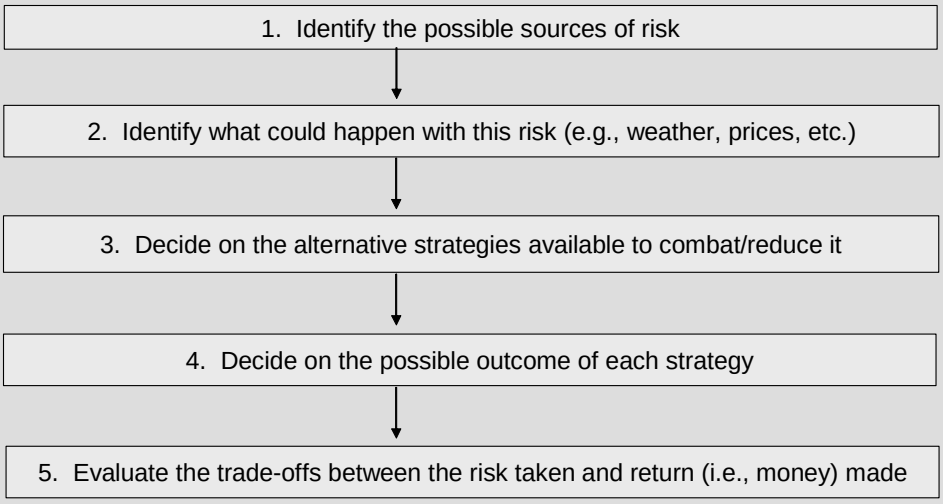
3. Farming Strategies to Reduce Risk

3.1 THE APPROACH

Farmers should make plans to cope with risk so that they can have some protection against the decisions they make today, not knowing what may happen tomorrow. Risk management strategies have many responses, which may reduce the chance of a bad event occurring and/or reduce the effect of the bad event, if it occurs.

Farmers can make taking risky decisions easier by thinking about different strategies and guessing the possible outcome of each. The process can be broken down into several steps as indicated in Figure 1

Figure 7.1: Steps Involved in Identifying Strategies to Handle Risk



3.2 RISK MINIMISATION

3.2.1 Production Responses

Five specific strategies used to deal with production risk are:

- Choosing low risk production activities: Farmers can manage their risk through the crop or livestock enterprises they chooses to implement. Farmers are likely to be aware of how specific crop yields are related to soils, management, and other factors on their own farm. For this reason, a crop enterprise may be considered high-risk by one farmer and low risk by another farmer. Some farmers may also undertake only part of a production activity as a means of reducing risk. For example, a farmer may breed pigs but may not fatten them.

Table 7.1: Risk Management Strategies According to Farm Operation Area

Area of the Farm Business	Strategies for Reducing Chances of Occurrence	Provide Protection Against Adverse Consequences
Production:	Choosing low-risk production activities	Diversification of production practices and crops
	Diversifying enterprises	Maintaining flexibility
	Geographical dispersion of production	
Marketing:	Obtaining market information	Forward contracting
	Spreading sales over time	Minimum price contracts
Financial:	Off-farm activities	Insurance against losses
	Maintaining liquidity reserves	
	Spacing investments	
	Acquiring assets	
	Obtaining limited amounts of credit	

- Diversification of enterprises: Implementing many enterprises (growing many crops, often in mixtures) is a risk management technique traditionally used by farmers. If one crop does not do well, another crop may do better, because different crops have different production cycles, different rooting habits, different demands on soil nutrients, etc. The money the farmer may make may not be as high as if they had specialised in growing just one crop, but production and marketing risks will likely be reduced. For most farmers, combining crops (crop mixtures, crop rotation and diversification) is not only a risk management

strategy but also good management: Farmers rotate crops to protect their soils and stop disease building up, a strategy which can reduce costs and potentially increase yield.

- Growing crops in more than one farm location: This production strategy may not always be suitable for small farmers. Growing crops in different places reduces the impact of localised weather, soil and pest and disease conditions.
- Diversifying production practices for the same enterprise**:** Farmers often choose different ways of doing things as a way of spreading risk. They may plant several varieties of a single crop; they may implement a plant protection programme to prevent pests (for example, bagging fruits). The additional cost of these approaches has to be compared against the potential losses that might occur without them.
- Maintaining flexibility: Farmers commonly try to maintain flexibility in their operations as a production response to risk. Increasing specialisation of livestock facilities and equipment limits flexibility. However, farmers are more likely to maintain flexibility in their marketing decisions than in the type and size of production activities. Often the costs associated with flexibility in production are higher than most farmers are willing to risk.
- Crop Protection Farmers may need to fence a field or have security guards in some circumstances to prevent theft of ripening crops

3.2.2 Marketing Responses

Fluctuation of product prices in the market place has increased farmers' awareness of price risks and highlighted the importance of good marketing skills. Farmers have increasingly attempted to improve their marketing knowledge and to develop new marketing skills. Four strategies to combat marketing risk are:

- Obtaining market information: Very often farmers do not know the national price for a product. Obtaining market information from friends, relatives and the radio is not difficult, but obtaining reliable information is. Getting market information is a starting place.

- Spreading sales: The technique of spreading sales (that is, selling a particular product several times during a year) is commonly used by farmers. This method of selling enables a farmer to avoid selling all of the production at the lowest price during the year. The more seasonal agriculture is (for example, rain-fed agriculture in drier areas) the higher the price variation is likely to be.
- Various markets: The Risk of not being able to sell all production can be reduced by using various target markets, such as combining direct sales with sales to traders and processors or to restaurants.
- Forward contracting. The practice of forward contracting, when available, can be used for all or part of the farm production. Some production contracts will also provide farmers with seeds, planting materials, chemicals and packaging which will offset some of the production risk. Forward contracting may result in the farmer getting a lower price than they would have if they had sold “on the day” but the market risk is reduced. The ability to guarantee the price the farmer receives allows them to plan ahead. If the farmer is happy with the gross margin made and feels that he can safely supply the quantities contracted, then forward contracting is a good risk-avoidance mechanism.

Marketing Module 7
ACTION PLAN

INDIVIDUAL ACTION PLAN

1. WHAT ARE THE KEY THINGS I HAVE LEARNED?

2. WHAT ARE SOME MAJOR ISSUES I WILL WANT OUR YOUTH GROUP TO DO/CONSIDER?

3. WHAT WILL I WANT TO KNOW MORE ABOUT?

4. SPECIFICALLY I WILL DO FOR EACH OF THE FOLLOWING:

- **Identify Market and Commodities**
  - **Commodity/ies----------**
  - **Markets ----------**
  - **Varieties----------**
  - **Prices ----------**
  - **Market information----------**
  - **Timing---------- ----------**
- **Identify Post Harvest Handling**
  - **Harvesting----------**
  - **P/H Handling----------**
  - **Value adding----------**
  - **Storage ----------**
  - **Transport----------**
- **Marketing Strategies**
  - **Selling options**
    - **Direct sales----------**
    - **Dealers----------**
    - **Agents ----------**
    - **Export market----------**
  - **Various markets----------**
  - **Contract farming----------**
  - **Co-operative Marketing----------**
- **Marketing Costs----------**
- **Marketing Plan----------**
- **Other----------**

Marketing Module 8

MARKET ADVISORY NOTES For Farmers of Fruit and Vegetables in Tonga

Prepared under Project TCP/TON/2901 Capacity Building in Farm Management Marketing and Agribusiness for Young Farmer Groups

February 2004

MARKET ADVISORY NOTE

For Farmers of Fruit and Vegetables in Tonga

Grow the Produce that the Market Requires

Farming is a Business

The business of commercial farming is to make a profit.
What is produced should be based on what the market requires:-

- What it requires in the product
- When it requires the product
- How it requires the product (graded , trimmed, packaged)
- Where it requires the product

Plan Your Marketing

A farmer must plan the marketing .of the farm production.
This means knowing

- The expected prices at the time of harvest
- Where will it be sold
- Post- harvest treatment- i.e. grading and packaging required
- How will transport be organized?
- Who will do the selling—traders ,yourself, agents or exporters
- The timing of marketing– high and low prices
- The expected costs of marketing -harvesting, packaging, transport and storage and fees

Use Market Information

Obtain your own information- using prices some else says they received may be misleading.
Use market reports – e.g. MAFF reports for Talamahu market in Nuku'alofa
Price trends--.Is there a long term trend
Seasonal Prices Is there a seasonal trend in prices?

Taking Advantage of Market Opportunities in Fruit and Vegetables in Tonga

Choose Commodities Wisely

New Crops – needs new knowledge
Grow those things you know or can get advice on.
Consider a mix of commodities to spread risks
The market already exists for crops such as root crops, watermelon, papaws bananas and pineapples and these can provide good returns
Tree crops such a paper mulberry pandanus mango avocado and breadfruit can provide good returns and are also good land border trees and have a good market

Coconuts are easy to market, are not perishable and provide shade for other crops

A range of products can give income stability

Have a long term view of long term crops e.g. vanilla prices will go up and down but over time the crop gives a good return.

Varieties

Choose your fruit and vegetable varieties carefully to grow what the market requires

Selling options

Choose your marketing agents and merchants with care
Build a relationship with your marketer

Transport costs

In Tonga the costs of freight can mean a profit or no profit.

Export Crops

There are many differences between domestic and export marketing
Overseas markets have high standards
Quarantine procedures must be met
Export markets require high quality produce – graded and well packaged
Export markets require regular supply –not start and stop
Reliability of supply may require farmers acting together and progressive plantings
Relationships with the importing agent are important -as markets can change quickly
Market information sources must be up to the minute

Expected Levels of Returns

The following comments on the possible markets for the various commodities should be considered in terms of these comments and the farmers own calculations of the expected levels of return and the expected costs in growing and selling the commodity

MARKET PROSPECTS FOR COMMODITIES

Squash

Squash or squash pumpkin will remain the principal economic crop despite problems experienced in 2003 with exports to Japan.

Squash is seen as a continuing viable export crop if there are adequate controls including effective quotas. The Government will apply a quota system to apply to future production. The Bank will lend around $2.5 million in 2004 to farmers for production credit. There will be a requirement for the farmer to register with exporters who have performed well in the past.

There could be a need to review arrangements for exporters and require some form of advance payment to growers on delivery of the crop.

There seems little prospect of any expanded plantings and new growers should link with established exporters before planting.

Root Crops

The traditional root crops –taro, yams, sweet potato, and cassava are an important food source for the farmer family and have a continuing strong demand on the domestic market.

With taro and yams continuing export growth is forecast. The main issue is freight costs from islands where there is no direct export shipping. Root crops are in general low value to weight commodities so the cost of transport is critically important in deciding whether to market them over any distance.

The product for export must be clean of soil

Tongatapu growers are in a position to consider growing for export to New Zealand and Australia. In general these exports should be made through established exporters.

A small opportunity for a limited number of Vava'u growers to grow for export to American Samoa exists.

The development of any export marketing needs to be carefully co-ordinated with merchants or importing agents to ensure that the market needs are met and that the market is not over-supplied. Plantings need to be done in a co-operative

manner by several growers with progressive plantings to give continuity of supply. This is particularly so with the small American Samoa market.

Japanese taro is a future possibility. The prospects for this will be shown from the results of current trial shipments.

The export of frozen cassava and frozen processed cassava chips to the New Zealand Australian and USA markets is a possibility.

Also sweet potato processed as sliced and frozen pre-packs could find markets in these countries.

Also a possible market for cooked and frozen taro could be found in Samoa.

These opportunities will depend on market research and subsequent shipping trials and the necessary blast freezers and cold rooms to handle the products.

Fruit

Pineapple

Pineapples are a major crop on the domestic market with nearly all supplies being of the rough variety. Vava'u and the Niuas produce very good quality pineapples.

Prices in Talamahu range from a high of $ 2.90 per kg in May /July to a low of $1.30 per kg in November/ December. Pineapple production can be adjusted through the use of hormone sprays.

Production for the domestic market should remain profitable.

Export markets are available in New Zealand and Fiji but strict quarantine requirements in relation to harvesting on maturity i.e. pick green and cleaning for mealy bugs need to be applied. More attention to post harvest handling is required e.g. leaving stalk at bottom to slow down deterioration. Further work on variety selection for export markets is required.

Papaws

Papaws are sold extensively on the domestic market. The crop can be to harvest stage within 10months.Sales in the capital market range from 70cents per kg to $ 1.40 per kg with lowest prices in May to July.

Papaws were previously a major export to New Zealand.. Papaws require heat treatment for fruit fly and variable results can be obtained resulting in consignments being condemned. If there are any nutritional problems in the growing period then the heat treatment can accentuate some defects such as tissue lumpiness.
The main variety for the New Zealand Market is the Hawaiian hybrid – Solo. Other varieties are Sunrise and Waimanalo. These varieties need to be used if exports are planned.

Bananas

Bananas are an important commodity traded on the domestic market. They will continue to be an important food crop and to have strong domestic sales.
There is only one exporter allowed to export bananas (Global Trade) and there is scope for farmers on Tongatapu to supply this company. For sales in to New Zealand there is a requirement for bananas and plantains to be harvested green to meet quarantine relating to fruit fly for bananas.

Mango

As a long term tree crop requiring little attention mangoes have a place on most farms. Mangoes can be sold readily in season and will provide additional income. Most mangoes are of the “common” type varieties.
Considerable quantities are sold in local markets in season with the peak season in December January when prices average around 50 cents per kg. Those able to be sold in August- October can average around $1.50 per kg.

There is a need for more research and selection on varieties especially for export development.
When improved varieties are available larger plantings of these varieties should be very attractive for some specialty growers.

Avocado

Avocado is a high value crop with sales of up to $2 each .Avocado is another long term tree crop which should be included in most farming systems as space allows. The difficulties with the tree can include root rot diseases.

There is already in place a quarantine arrangement with New Zealand for avocadoes.

Specialist growers with the right varieties could find this a profitable long term crop

Watermelon

There is a substantial market domestically for watermelon with over 400 tonnes traded annually in the Talamahu market. Peak supply is from September to February with highest prices in December and in July September. The price fluctuates between 80cents and $1.20 per kg. This market may still not be fully developed and more sales could be made with greater use in resorts hotels cafes and restaurants and perhaps in road side sales of cut iced melon.

Watermelons have been exported to the New Zealand in significant quantities but in recent year exports have been only of the order of $100000 A large share of the New Zealand market has been taken by Australian producers. The problems with previous marketing effort in this market included inadequate attention to quality control and packaging. Fumigation for fruit fly before export is required (watermelon is a host).

A post- harvest workshop will be held in May /June 2004 to train growers and exporters and MAFF staff in the handling of watermelons for the New Zealand market.

Varieties may need to be reconsidered as much of world trade is increasingly in seedless varieties.

There is a limited market of around half a container of watermelons per fortnight from Vava'u into this market. Production needs to be planned other several growers to spread supply.

Rock melons

There is some scope for expanded domestic production of rock melons. Subject to quarantine clearance for the New Zealand market longer term this could be a useful export crop for Tongan growers Rock melon is not a fruit fly host.

Limes/Lemons

Limes are grown and sold in the markets but general quality can be variable. There is a domestic market for good quality limes for sale to hotels and restaurants. The export market requires seedless varieties.

Vegetables

Cabbage

Cabbage is a profitable crop in Tonga particularly if the crop can be sold outside the main supply period in September to December when prices at times can be below $ 1per kg. In April/ May prices can average $ 3 to $4 per kg

Chinese Cabbage

There is strong demand in local markets for Chinese cabbage. If it can be grown outside the main supply period then it is a very rewarding crop. The main supply period for Chinese cabbage is June to October/November when price drops to around 80cents per kg. The peak price period is March/ April when supplies are short and prices average around $ 1.80 per kg.

Capsicum

Capsicum has a strong demand on domestic markets. Its production will be restricted to supply the domestic market for the immediate future because of fruit fly and the difficulties of heat treatment. There is a peak in supply in August to

December with a low price of less than $0.50 per kg. Highest prices are around $ 4.50 per kg. in July. Improved varieties are required.

Lettuce

There appears to be a strong domestic demand for lettuce especially in the tourist season (May to August) with sales to hotels and resorts and restaurants. The main supply period for lettuce commences in April/ May when prices begin to fall. There is another small production peak in February but generally prices from January to May average around $ 5 per kg and then begin to fall quickly to the $3per kg level and finally to around $ 2 per kg in August /October.

Carrots

Carrots are a good diversification crop. Prices of carrots in Talamahu market reach a high of $4.00 per kg in April to June with main supply prices in June to January of less than $ 2.00 per kg.

Tomatoes

Tomatoes will continue to be in good demand on the domestic market. The main supply season commences in May peaking in October November. Average prices are around $2.20 per kg with prices rising steeply after January to a high of $4.00 per kg in April/ May. If they can be grown for this period they are quite profitable.
Tomato exports are required to be treated for fruit fly for export markets. At this stage procedure for hot air treatment are not precise resulting in poor out-turn. A uniform grade in terms of size and ripeness is needed to ensure high quality from heat treatment. Tomatoes exports into Fiji may be possible if quarantine provisions can be met.

Beans

Beans in the tropics are subject to insect damage and require a rigorous spray program to ensure quality. If these production issues can be overcome beans are a

profitable crop. Supply into the market begins to increase gradually from April May and sharply from July to a peak in September/October. Prices in Talamahu market average around $ 2.00 per kg in the main supply period of August to December and as high as $ 4 per kg or more in January to May.

Onions/ Shallots/Spring-onion

Some onion crops are grown locally e.g. in Vava'u and sold into Nuku'alofa aimed for the December market when New Zealand supply is lower.

There are imports of onions of around 200 tonnes per year and there is scope for increased production to replace these imports.

Usually tropical onions can have high water content and require careful storage.

There seems to be a market opportunity for more production of spring onions, shallots and chives. Regular supplies on the Talamahu market average between $ 4to $ 8 per kg.

If quarantine and storage issues can be resolved there is a market in Fiji for onions.

Egg plant

Tonga has in the past supplied good quantities of eggplants into New Zealand. Domestic sales are presently limited as many consumers do not know how to prepare them. Promotion is required for expanded domestic usage. Sales into New Zealand have to be timed not to clash with local production. The market window is June to September.

Chillies

Considerable quantities of chillies are sold on the domestic market.

Fiji sells chillies into the New Zealand market. The varieties required for the New Zealand market are not widely grown in Tonga

There is a market in New Zealand for dried product. The use of small scale solar driers in remote areas could be investigated. This is a crop suited to women farmers.

Pele

Pele is a traditional plant which produces leaves all year round. The plants may require treatment for scale insects and mealy bugs, and this will be needed for export quality. Pele will be considered for a quarantine pathway, under regional programs.

Corn

Some sweet corn is sold in local markets but improved varieties are needed. New Zealand is currently importing from Kenya and Zimbabwe as pre-packs in the New Zealand off-season. For Tongan producers this would mean planting in October /November and could be planted as a squash rotation crop. More research on varieties and pre-packing facilities will be required.

Peas

The export of peas in the New Zealand off- season market is a possibility. Research on varieties suitable for Tonga is required.

Cucumber

Cucumber is a non -host for fruit fly and could be an export crop in the long term. There are trials under the Chinese project under shade house production to determine what periods they may be grown and to evaluate various varieties. The quarantine arrangements for export to New Zealand need to be established.

Okra

Fiji is currently exporting okra to New Zealand. It is a crop not widely grown in Tonga but could be a useful crop for some growers and for export.

Peanuts

There is a strong local market for fresh and fresh roasted peanuts sold in urban areas in local markets, road side stalls, near bus stations, etc.
The amounts being grown under the projects should be easily absorbed into local markets near the Houma, 'Eua; Ha'asini, Hamula, and Fangale'ounga (already growing peanuts) groups.

Longer Term Crops

Coconuts

Coconuts should remain an important part of the cropping system in Tonga.
Coconuts will continue to be a significant domestic food crop, with sale of both drinking and mature coconuts. The export market for copra has basically collapsed. There have been some significant exports of whole coconuts in 2003 by one company to New Zealand and Australia. This same company has commenced small scale processing of coconut oil and the manufacture of cosmetics based on coconut oil.
Many coconuts trees have not been replanted despite higher yielding and dwarf types being available. The role of coconuts in providing shade in vegetable intercropping may require more consideration and research in Tonga's farming systems and its land tenure system.

Breadfruit

Breadfruit is widely grown throughout Tonga. It also will remain as an important crop in Tonga. It requires careful handling as the fruit have a short post harvest life. Fiji is currently selling breadfruit into the New Zealand market. Breadfruit requires heat treatment for fruit fly.

Kava

Kava should be considered as one of the long term options in farm production. There is a strong domestic market for kava with some exports to New Zealand and USA and Australian markets In recent years dried kava powder has been exported in considerable quantities with values of exports in 2002 of around $ 600000.
As a dried product kava is also suitable for transport over a reasonable distance and is a crop that can be grown in the more remote islands.
The company processing kava is Lita Trading Co Ltd producing dried powder for sale on the domestic market at $20 per kg. Growers are paid around $ 14 per kg.

Pandanus

Pandanus is another of the long term crops which is highly profitable and which can provide farm income diversification and stability.
Pandanus is grown for leaves which when dried are used for the traditional *ta'ovala,* basket work and handicraft weaving .It is sold in a bundle as rolled ribbons. The whiter variety *Kie* sells for around $ 50 to 60 per bundle and the variety *Tofu* for $12 to $ 25 per bundle, depending on quality. The market for this commodity appears to be very strong and should be considered by most growers.
Some pandanus "nuts" are sold in markets for making ornaments.

Vanilla

Vanilla is an ideal smallholder crop to be grown in conjunction with other crops. The vanilla beans can be transported over considerable distance without many difficulties. It is a crop suited to remoter islands.
The vanilla market is largely supplied by Madagascar and Indonesia and is generally considered to be a cyclical market with supplies being affected by cyclones in growing areas. Subsequent higher prices encourage plantings and are followed by lower prices as a response to increased production.
Growers need to be prepared to accept some years of lower prices as prices recover.

Even at lower prices vanilla can provide a return as measured by gross margins higher than other crops suited for some areas.

Growers have been receiving around $ 40 per kg of green bean

Some growers are reported to have pulled out vanilla and replanted with kava following a recent downturn in price .It is a crop for which growers should take a long term view as in the long term vanilla should remain an attractive crop particularly suited to remote areas. MAFF has under consideration the use of nonu trees as a host for vanilla – to give diversification and income stability in any price downturn periods.

Hiapo (Paper mulberry)

Paper mulberry is an important social or cultural crop with strong demand for the bark for tapa. Demand can be higher in the November –December period. The bark of the tree is stripped and dried in ribbons and sold in bundles of twenty for between $ 60 to over $ 100 per bundle depending on the quality.

The crop requires a high planting rate and has a high establishment cost. Side branches need to be removed and the plantings kept free of weeds.

The crop may be able to be advanced and produce larger marketable trees in a shorter period by use of manures and fertilizers and at times watering. There is a need to consider the quality / size factor in determining varieties and the optimal harvest time. The crop can be attacked by scale insects and mealy bugs and may require spraying in the early periods to ensure good quality product.

As a dried product it is not perishable and so can be transported over distances and is therefore suitable for more remote areas.

It again is an important longer term crop which can add to farm incomes and diversification.

Nonu

A Japanese company (South Pacific Processing) is currently buying nonu from growers. This crop could be suitable for Vava'u and the Niuas. Post harvest handling requires that after harvest the fruit is fermented for three months and after squeezing the juice is pasteurized.

MAF could assist with marketing in these areas by arranging for the storage of the product after harvest and shipment to Nuku'alofa for processing.

Aloe vera

A Company (South Pacific Aloe & Botanical Co Ltd) has been involved with *aloe vera* production for some 10 years and last year introduced processing machinery to begin processing for export to the United States.

They currently have 96 acres under production including farmers growing to supply the company and believe the market is available to expand considerably.

The product –concentrated aloe vera juice -will be bottled into 1.5 litre bottles for sale as a health drink in the United States.

The plant can at present handle 1500 kg per day but this will increase to 3000 kg per day as production increases.

The harvested *aloe vera* must be processed within 10 hours of being harvested so this limits expansion to the island of Tongatapu.

The company is proposing to the TNYC for their support that young farmers be encouraged to grow *aloe vera* on the basis that:

- The company will sell planting material (suckers) at 60cents per plant (as compared to the present price of $1 per plant)
- The company would provide the harvesting crew at no cost to farmers
- The farmer would be paid 15c per kg for harvested product
- The company is not proposing any contracts with farmers.
-

With 8000 plants per acre and yields of five leaves per plant each weighing 800grams harvested 3 to 4 times per year net returns can average around $5000 per acre.

The growing of ***Aloe vera*** appears to be a possible crop for growers on Tongatapu. The high cost of planting material and crop establishment are key considerations for new growers. The advantage of the crop is that there are no requirements for spraying or chemicals. Weeding is required. Depending on the successful marketing by the company of the product and the processing plant meeting the high

HACCP standards for any food imports into the USA this could be an attractive diversification crop for Tongatapu growers.

Herbs and spices

Basil - There are niche markets in New Zealand as well as to the domestic market for basil for sale to restaurants and hotels

Lemon grass and all spices - These could be sold into the New Zealand market. These are also possibilities for more remote islands if a suitable solar drier could be found.

Livestock

Broiler chickens

There are imports of around$ 5million per year of poultry products. There are some locally produced chickens and also sales of spent laying hens. The key issues are the high costs of imported feed and of day old chicks – also imported from New Zealand. There is a large potential import replacement market if the feed and starter/ day old chicken supply costs can be reduced. However, current domestic retail prices of chicken ($9 up to $16 per chicken) indicate that sales can be made in the range of $ 8 to$ 12per bird sold live. There is a large domestic market during Christmas and other celebration times.