# Feasibility Study

# Fresh Fruit & Dry Fruit

***in District Chitral***

**15 December, 2014**

*Prepared by*

FCG Human Capital (Pvt.) Ltd.

*Funded by:*

Peoples' Partner to THRIVE

# PREFACE

This Fresh Fruit and Dry Fruit feasibility study is one of a series of five such studies developed for the Chitral Area Development Project, a project of THRIVE Pakistan. The purpose of the assignment was to identify a number of key products in Chitral and three neighboring valleys and to provide the necessary information to enable small-scale business operators wishing to enhance their incomes in sustainable ways. This feasibility study is intended to be a significant contribution of the CIDP project for the communities of Chitral.

The feasibility study has been prepared for those potential entrepreneurs and businesspersons who want to start a new business or to expand an existing business in Chitral and the surrounding valleys. The feasibility study provides all of the relevant information required to establish a successful Fresh Fruit and Dry Fruit business.

In addition to outlining socio-cultural ideas about honey, financial information and a business plan, the study provides key recommendations for creating brands and boosting sales. A tabulated format in Microsoft Excel with all details is also part of this study: it contains all of the relevant calculations and links required to operate the business models.

The information, costs and numbers used in the feasibility study were collected from actual sources and resources from Chitral in 2014. Potential users of this feasibility study are expected to reconfirm current prices and to conduct a short assessment or validation of this feasibility study, prior to starting a business or investing in the sector.

We would like to take this opportunity to convey our sincere thanks to all the stakeholders involved, including the FCG Human Capital Team, the Thrive Management team, and the local Support organization of Chitral all of whom provided excellent support and input in numerous ways.

The feasibility studies are available at the CIDP (THRIVE) website, the Chitral Chamber of Commerce website and the Chitral Agriculture and Horticulture Departments.

The "CIDP Team" wishes the users of this document and those who initiate businesses the best of luck and success in their business endeavors.

**The THRIVE and CIDP Teams January 2015**

# DISCLAIMER

This feasibility study was conducted by FCG Human Capital Private Limited for the Community Improvement Development Project (1st May, 2009 – 31st December, 2014) for THRIVE Pakistan. The project was funded by Norwegian Government. The facts and figures used in the feasibility were collected during the assessment in the fourth quarter of 2014. The users of this feasibility study are expected to re-evaluate the prices, costs and resources prior to establishing the enterprise. The user is solely responsible for all costs incurred while establishing a business based on this study.

Every effort has been made to ensure that the costs quoted are accurate and that all details of establishing or expanding a honeybee-focused business have been taken into account. Individual inputs and results will vary depending on factors such as the value of the Rupee, the number and market strength of competitors, the demand for honey and its by-products in different places, the availability of skilled workers and natural factors such as the health Fresh Fruit and Dry Fruit and environmental and climatic conditions.

# CONTENTS

# Background

The THRIVE CIADP Project in Chitral commissioned FCG Human Capital (Private) Limited to conduct a Value Chain Analysis (VCA) of fresh and dried fruits in Chitral District in 2014. In a VCA an 'enterprise' is considered to be a part of an integrated chain which links all of the stakeholders, from the initial producers to the ultimate consumers. The VCA provided detailed information about quantities of fruits produced, production intensities in different locations, levels of input by men and women, post-harvest processing, transportation, and issues related to marketing.

This Feasibility Study shows how local entrepreneurs can increase their returns at different stages of the fruit value chain. It provides information and suggests processes that will lead to improvements in production, post-harvest processing, packaging and marketing. The Feasibility Study addresses both the 'big picture' - such as strategies and export marketing - for the District and the potential for establishing small and medium enterprises related to fresh and dried fruits.

## Results and Recommendations

The results of the VCA show that there is a strong potential for enhancing existing businesses and creating profitable new businesses selling fresh and dried fruit and their by-products. There is a strong demand for new information that will enable fruit producers to reduce losses caused by pests and crop diseases; improve post-harvest processing (i.e. better storage, packing and transportation methods for fresh and dried fruits) and establish stronger links with markets. There is also a need for effective 'branding', so that produce from Chitral becomes better known and consumers are willing to pay fair market prices for it. Financial arrangements should be strengthened to enable the fruit producers to get better returns for their labour.

In terms of addressing overarching issues, and to achieve maximum results in the long term, there is a need for Strategic Planning – in the short, medium and long term - if the entire sector is to improve. Those strategies should (i) outline the desired levels of public and private (including NGO) involvement, so that needed support is provided and 'free enterprise' is encouraged; (ii) decisions are made on whether cooperative and collective farming should be encouraged; and (iii) there is a focus in the short term on support to marketing. The strategies would also try to ensure that an integrated approach to improving the sector is implemented.

There is also a need to generate a realistic estimate of the percentage of expansion in three and five years for household-based enterprises; create ways and means of combating competitors' responses to the entry of local producers in existing businesses and support the formation of Producers' Associations. These Associations would be responsible for ensuring quality products and linking producers to transportation and marketing outlets.

The District Government should strengthen its research and extension services.

An Advisory Board should be created, to guide the Producers' Associations and the individual entrepreneurs. The Board would have Committees of paid experts/advisors in areas such as: orchards, business development, finance, transportation and marketing. The Board and its Committees would be responsible for making well-informed recommendations to the Government, Producers' Associations and the individual producers.

## Opportunity Rationale

Chitral is rich in fruits, and is well known for the flavor and nutritious quality of those fruits: apples, pears, cherries, apricots and apricot kernels, walnuts, pomegranate, mulberries, figs, grapes, amlok (a wild berry) pistachio, peanuts, pine nuts and oranges are all produced in good quantities in the District.

Chitral District is located in an ecological niche for several agricultural products that have high value in all the provinces of Pakistan. Many of these products are grown in the "off-season" for down-country markets and fetch high prices. The minimal use or the absence of pesticides and fertilizers is also valued, which could lead to establishing niche markets for organic products. There is excellent scope for both mass marketing (apricots, grapes and walnuts, all produced in great quantities) and for niche marketing (for example, chemical-free organic dried fruits).

There is no doubt that the overall economy and the fruit producers of Chitral would benefit if (i) waste was reduced from the present 64% (or 95% if the use of fruit as fodder is included) and (ii) more, and more profitable, enterprises were established and maintained. The establishment of new businesses would create jobs for men and women at all points in the value chain.

Women are skilled in home-based work, collecting, storing, drying and packing the fresh and dried fruits. The exception is Booni, where women play no part in harvesting or processing the fruits. Transportation and marketing is only done by men.

**Limitations:** The amount of waste, limited post-harvest processing, the lack of sophisticated packaging and the lack of recognizable brands limit sales and mean that products from Chitral are not sufficiently recognized by consumers in Pakistan. At present most local people in Chitral are only engaged in the input-supply stage of fresh and dried fruits: they cultivate the trees, harvest the fruits and collect wild berries and pine nuts but do not transport the fruit beyond their local markets or out of the District.

Local producers are keen to increase their sales but they lack facilities and equipment to modernize production and improve yields.[1]

Bad weather and the lack of affordable credit are major problems for the producers. On a wider level, it is also noted that poor roads limit the capacity of the marketing infrastructure.

A major loss of potential income and employment results from the producers' lack of knowledge of value-addition by-products, such as foods, confectionary, cosmetics, perfumes, medicines and dental products. Also, most of the fresh and dried fruits are processed, packed and 'branded' in Peshawar, Islamabad and Lahore for in-country distribution and for export. This value-addition benefits the middlemen in those cities instead of in the places of origin.

There is almost no Government support – in extension services, research, disease-control, pest management, fertilizer use, packing, marketing, hygiene and safety - to this sector of the economy. The only capacity-building is available from one or two large NGOs.

## The Business Environment

### Production Details:

**Fresh fruits:** apples, pears, grapes and mulberries are grown in all four CIADP project areas: Drosh, Booni, Chitral and Mastuj, although amounts produced vary. The whole of Chitral District is famous

[1] An NGO survey in 2007showed that almost every household in some of the valleys of Chitral grew various fruits but had no knowledge of effective and profitable value-extraction from these products.

for its dried apricots.[2] The average seasonal apricot production capacity of a single family ranges from 750 to 800 Kg, from about 10 trees. No peaches, plums or cherries are grown in Chitral (most of the cherry producers are located in Mastuj), and pomegranates are not grown in Booni or Mastuj. Small amounts of oranges are grown in Booni and Chitral. (Full details are shown in the VCA.) Mastuj and Booni have the highest number of producers of apples and pears, and grape production is concentrated in the Drosh Valley. Plums are only grown in Drosh and Booni.

**Dried Fruits:** Dried apricots, walnuts and almonds are grown in all 4 project areas, although amounts vary. Mulberries are grown in Booni, Chitral and Mastuj. Pomegranates are grown only in Chitral and Drosh. All other dried fruits and nuts - peanuts, amlok, pistachio, figs and raisins - are produced in much lower quantities. (Full details are in the VCA.) The introduction of new technology or de-hydration techniques can add value with increased profits and income.

**By-Products** are an important, but so far unexplored, source of value addition. These have an extended shelf-life and can command premium prices in local, national and international markets. Making by-products such as apple, grape and pomegranate juices, medicines, jams, edible and cosmetic oils, pickles and walnut 'milk, is a small scale, home-based activity. There is great potential to expand this area, and local producers know they would benefit from it.

**Storage procedures and packing materials:** The majority of the fruits are stored in the producers' homes, using plastic bags and sheets, and cardboard boxes, with a few drums and some wooden crates being utilized. These storage methods are the primary cause of post-harvest losses although some care is taken to store the fresh fruit with a good air flow to reduce spoilage. The dried fruit requires air-tight packing to guard against fungus and bacteria. Sometimes sprays are used to control diseases. Plastic bags and cardboard or wooden boxes are used to transport fruits to the market. The fresh fruits are sold in plastic shopping bags and the dry fruit is sold in clear plastic bags. Storage and preservation is an immediate area for programmatic intervention, where training and material support can significantly reduce the loss of value and improve livelihoods.

**Dehydration equipment:** This is extremely expensive and not available locally. However, if it could be provided or invested in by the Producers' Association or possibly a Local Support Organization, it would be a major boost. 58% of the producers say they require dehydration machinery (the figure is 89% in Booni and 100% in Mastuj), especially for apricots. However, electricity is available only in Chitral city and the larger villages.

**Market forces:** The fresh and dry fruit is mainly sold within Chitral District, including in the major markets of the area valleys. A few farmers sell their products to Peshawar and Dir, Upper Dir and Timer Garah. 98% per cent of the fruit is sold through middlemen. This is because of lack of knowledge and exposure and because of the costs and potential risks involved.

Fresh fruits must be sold as soon as possible to avoid waste. The producers' poverty and their need for quick returns, as well as the short shelf life of the fresh fruits, the contractors' buying power and knowledge of wider markets, combine to force low prices locally. Producers can 'hold out' for better prices for dried fruit, but their need for income limits their negotiating options. The 'window' for selling the produce is very short, given the short summers and harsh winters.

By far the majority of the fresh and dried fruit is sold locally, with 'exports' to down-country markets being very limited. With the exception of Drosh, tourists account for the second-largest market (approximately 47% in some place) across the District. They pay higher prices than local purchasers and pay cash.

2 Pakistan produced 192,500 tons of apricots in 2012, and was sixth among the world's producers, with 4.9 per cent of the export market share[22] according to FAOSTAT[22].

**Other crops:** Some fruit growers are switching to other cash crops such as potato, tomato and vegetables, since these have a higher profit margin and yield harvests faster. The instability in the fruit prices also drives many fruit growers to cash crops.

**Financing:** Producers in need of credit have to go to private lenders who charge exploitative rates.

There is a need to establish links and co-ordinate with the Provincial Government, the Agricultural Bank, Micro Finance banks and the private sector to make affordable credit available and to raise funds for capacity building. A rigorous, District-level cost analysis is needed for every stage of value chain enhancement and expansion.

Fund raising would consist of:

- Creating funding proposals for NGOs with an interest in Chitral, in fruit production and in enterprise development for men and for women
- Examining innovative fund raising initiatives (including internet-based methods) for business development
- Establishing links with telecom firms and investigate social media 'crowd sourcing' to raise funds.
- Establishing links with major INGOs (such as AKDN, SRSP and ICIMOD in Nepal).

**Competition:** Competition is fierce, as the varieties, quality and sizes of products available in the local and urban markets are almost the same. Price wars often result. Although there is an abundance of local fruits in the local markets, dried fruits from other areas of Pakistan are also sold in these local markets.

## Knowledge and Skills Environment

The **Capacity Needs** Assessment indicates that household production requires only the most basic skills but there is a great demand for new skills in line with market opportunities and for new skills. Training in every stage of the value chain has been minimal so far, in relation to the scale of the need and demand. Training institutes operate in Chitral but not elsewhere in the District.

There is a broad demand for knowledge and skills in the following areas:

- Business-management skills (for men and women), including the strengths and weaknesses of competitors and the ability to create feasible business plans (see the Checklist in Annex 1);
- Financial planning that takes account of local and country-wide factors;
- Up-to-date tree care, pruning and pest management;
- Improved fruit collection and grading;
- Training in pine nut collection and roasting;
- Use of fruit dehydration technologies (household scale for women and larger scale for community organizations;
- Information on new varieties of fruits and on new by-products;
- Training on making and selling by-products such as jams and juices, edible and cosmetic oils and natural remedies. These can be for household use, for direct marketing and for sale to retail and wholesale vendors;
- Local, District-wide and 'down-country' marketing skills;
- Sorting and quality packing standards (for women);
- Import/export standards and requirements for the rest of Pakistan, and for the UK, US, EU and China.

The demand for information, training and equipment varies across the four areas, as shown below: it is striking to see that the Mastuj has the highest demand for information and skills overall, and the highest demand for improvements from women.

- Drosh = business skills and machinery
- Booni = enhanced production skills, use of machinery and by-product knowledge
- Chitral = business skills, use of machinery and marketing
- Mastuj = production, marketing, sorting, packing and packaging and by-products.

# FINANCIAL FEASIBILITY

# (FRESH FRUIT)

## Capital Requirements

The following capital requirement covers three stages of investment. The development stage is used to buy or rent land (especially during the off season, when they it is necessary to purchase the fresh fruits from local producers), machinery, equipment and fixed assets. The second stage is to manage the expenses prior to starting the business, such as processing, marketing, and surveys, while the third stage is directly linked with production, the purchase of raw materials i.e. fresh fruit, paying salaries of staff and managing overheads such as utilities and rents.

| Sr. | Investment Item | Amount (Rs.) | Percent |
|---|---|---|---|
| 1 | **Fixed Assets** | | |
| | 1.1 Machinery | 170,400 | |
| | 1.2 Fixed Assets | 19,600 | |
| **Sub-Total** | | **190,000** | |
| 2 | **Pre-Operating Expenses** | | |
| | 2.1 Pre-Operating & Marketing | 37,250 | |
| **Sub-Total** | | **37,250** | |
| 3 | **Working Capital** | | |
| | 3.1 Over heads | 123,300 | |
| | 3.2 Raw material | 994,450 | |
| | 3.3 Salaries | 162,000 | |
| **Sub-Total** | | **1,279,750** | |
| **TOTAL** | | **1,507,000** | |

An amount of Pakistani Rupees 15, 07,000 would be required to start the business. One major cost is for "Raw Material" (i.e. fresh fruit) can also be obtained on credit from the local producers. If the costs still seem high and credit facility (from local producers) is not available or affordable, the production targets can be reduced.

| Source | Amount | Use |
|---|---|---|
| Equity | 1,507,000 | Working Capital |
| **Total** | **1,507,000** | |

## Production Plan

The enterprise will be economically viable, if the above production plan is followed for fresh fruits. The plan assumes that people interested in establishing fresh fruit enterprises will not engage in purchasing trees. The plan also assumes a three or 4-month operating schedule, during the summer months.

- The most viable options will be to collect, process, pack and sell the fruits.
- The mapping of similar fruits (which is identified for this feasibility study) should done, a quality analysis of the fruit should be completed to know which producer is producing good quality food. This producer can be contract to supply the good quality fruit.
- The potential entrepreneurs addressed by this feasibility study are not expected to produce at an international level of quality at this stage. The quality of processing and packing material should be in line with local standards.
- In order to establish profitable businesses no heavy machinery for packing and processing (e.g. sorting, grading, pulping, polishing) should be purchased at this stage. This will keep the prices in line with local expectations.

| # | Products | Production | | | | Unit Rate | Total Sale |
|---|---|---|---|---|---|---|---|
| | | Qty. | Nos | Month | TOTAL | | |
| 1 | Apple (Kala Kola) | 2,000 | 1 | 4 | 8,000 | 55 | 440,000 |
| 2 | Peer | 2,000 | 1 | 4 | 8,000 | 60 | 480,000 |
| 3 | Peach | 500 | 1 | 3 | 1,500 | 0 | 60,000 |
| 4 | Grapes | 500 | 1 | 3 | 1,500 | 130 | 195,000 |
| 5 | Plums | 2,000 | 1 | 4 | 8,000 | 35 | 280,000 |
| | | | | | | | **1,455,000** |

## Markets, Machinery and Expansion

The feasibility plan is developed to meet the demand in local and nearby markets. The outreach and product range can be increased in later phases of the business, based on success and demand.

The market/sales point for the fresh fruits and by-products is either in the local markets, the nearest villages, cities, or towns as well as Upper Dir, Timergarh and Peshawar. As noted above, tourists can be a significant market for these products. At this local level, it is proposed that entrepreneurs use the simplest traditional methods (which are low cost and easily available in the market) for packing. The cost of machinery for international standard packing is not recommended for local people, keeping in mind their economic status.

The local producers can, if it is feasible in the future, develop a business plan for expansion to meet international standards.

## Fixed Assets and Machinery Required

All of the basic and required assets to start the business with minimum investment are listed below.

| Sr. | Description | Units | Price | Total |
|---|---|---|---|---|
| 1 | Weight Machine | 1 | 10,000 | 10,000 |
| 2 | Knife | 1 | 100 | 100 |
| 3 | Counter | 1 | 5,000 | 5,000 |
| 4 | Chair | 1 | 3,000 | 3,000 |
| 5 | Locks | 2 | 500 | 1,000 |
| 6 | Calculator | 1 | 500 | 500 |
| | | | **Total cost** | **19,600** |

## Machinery

In Chitral, traditional Grading methods are in use. Another grading method is through grading machine, which is much better than the traditional methods.

| Sr. | Machinery | Units | Price Per Unit | Total |
|---|---|---|---|---|
| 1 | Fruit Grader | 1 | 170,000 | 170,000 |
| 2 | Packing Machine | 1 | 400 | 400 |
| Total Cost: | | | | **170,400** |

## Materials

There are two types of materials[3] required in any business, i.e. direct and indirect material. The indirect costs are those which are essential in any case, while the direct cost is associated with the quantity and number of units produced.

| Raw Materials | Unit Price of Materials | Quantity Needed | | Nos./ Months | Total Cost |
|---|---|---|---|---|---|
| | | Nos. | Rate | | |
| Direct Materials | Apple | 2,000 | 35 | 4 | 280,000 |
| | Peer | 2,000 | 38 | 4 | 304,000 |
| | Peach | 500 | 25 | 3 | 37,500 |
| | Grapes | 500 | 100 | 3 | 150,000 |
| | Plums | 2,000 | 25 | 4 | 200,000 |
| Indirect Materials | Packing Box Apple Printed | 50 | 60 | | 3,000 |
| | Packing Box Others Printed | 100 | 40 | | 4,000 |
| | Packing Box Apple Wooden | 50 | 75 | | 3,750 |
| | Packing Material | 200 | 30 | | 6,000 |
| | Nails /kg | 10 | 500 | | 5,000 |
| | Plastic Tape | 20 | 60 | | 1,200 |
| **Total Material Cost** | | | | | **994,450** |

## Human Resources

There are two types of labour categories involved in production. Direct labour is required throughout the project from start to end to manage each and every activity. It is advised that this labour category should be managed by the owner, or his relatives who are local people, to save on their accommodation, food, travel and other living costs.

The indirect labour can be hired when required, e.g. at the time of fruit collection, packing of fruit in boxes, transporting fruits to markets and selling in the market.

| Category | Titles | Nos. | Months | Monthly Salary | TOTAL (Per Year) |
|---|---|---|---|---|---|
| **Indirect Labour** | Manager (Marketing Person) | 1 | 6 | 15,000 | 90,000 |

[3] The vendors' information for each material is provided in Annex 01.

| | | | | | |
|---|---|---|---|---|---|
| **Direct Labour** | Picking Labor | 1 | 4 | 9,000 | 36,000 |
| | Packing Labor | 1 | 4 | 9,000 | 36,000 |
| **Total** | | **3** | **14** | **33,000** | **162,000** |

## Overhead costs

The overheads are calculated on an 'assumption' (first year) basis: the cost for the next three years can be added with 10-20% increments. An estimated cost of transportation is added in the overheads. This will vary and will be based on the type of vendors, suppliers and distribution channels adopted by the entrepreneur. The cost of transport can be included in the direct product costs.

| Sr. | Items | Monthly | Annual |
|---|---|---|---|
| 1 | Repair and Maintenance | 1,000 | 4,000 |
| 2 | Electricity | 500 | 6,000 |
| 3 | Telephone | 500 | 6,000 |
| 4 | Transportation | 25,000 | 75,000 |
| 5 | Depreciation | 300 | 300 |
| 6 | Refreshment | 3,000 | 12,000 |
| 7 | Rent | 5,000 | 20,000 |
| | **Overhead per Product Unit** | **35,300** | **123,300** |

## Pre-Operating Expenses

The pre-operating expenses are required to manage the expenses prior to start a business, i.e. market searches, and surveys if needed. If the search for locations is already done the cost can be reduced. For an existing business only additional promotion and expansion cost would be required.

| Sr. | Items | No. | Rate | Amount |
|---|---|---|---|---|
| 1 | **Survey** | | | |
| | Market Search | 1 | 25,000 | 25,000 |
| 2 | **Promotion (Banners, Flyers, Stalls)** | | | |
| | Banners (to place are shops and road side) | 25 | 50 | 1,250 |
| | Flyers for Outlets and Shops | 2,000 | 3 | 6,000 |
| | Stickers Small | 5,000 | 1 | 5,000 |
| **Total Pre-Operating Expenses** | | | | **37,250** |

## Profit Analysis

The profit is calculated on a one-year basis. The profit may increase from the second year, as most of the costs will be either reduced or removed - i.e. establishment, pre-operating expenses, fixtures, and assets.

| | | |
|---|---|---|
| **Gross Sales** | | **1,455,000** |
| Less: Returns & Allowances | - | |
| **Net Sales** | | **1,455,000** |
| Less: Cost of Goods Sold Materials | 994,450 | |

| | | |
|---|---|---|
| Labour | 162,000 | |
| Overheard | 123,300 | |
| Promotion | 37,250 | |
| **Gross Profit** | | **138,000** |
| Less: Administrative and Selling Expenses | - | |
| **Operating Profit** | | **138,000** |
| **Net Profit before Tax** | | **138,000** |
| Less: Estimated Income Tax | | NA |
| **Net Profit After Tax** | | **138,000** |

## Break Even Analysis

There are three stages to arrive at the break even point.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **1. BEP - Sales** | **Annual Sales** | **X** | **Annual Fixed Cost** | **1,455,000** | **x** | **190,000** | **1,577,461** | **Rupees** |
| | | **-** | **Annual Variable Costs** | **1,455,000** | **-** | **1,279,750** | | |
| **2. BEP - Production** | **BEP Sales** | | | | | **1,577,461** | **28,681** | **Units** |
| | **Unit Selling Price** | | | | | **55** | | |
| **3. BE on Investment** | **Net Profit** | | | | | **138,000** | **9.16** | **Profit Margin** |
| | **Total equity** | **X** | **100** | | | **1,507,000** | | |

# FINANCIAL FEASIBILITY

# (DRY FRUIT)

## Capital Requirements

The following capital requirement covers three stages of investment. The development stage is used to buy or rent land (especially during the off season) it is necessary to purchase dry fruits from local producers), machinery, equipment and fixed assets. The second stage is to manage the expenses prior to starting the business, such as processing, marketing, and surveys, while the third stage is directly linked with production, the purchase of raw materials i.e dried fruits, paying salaries of staff and managing overheads such as utilities and rents.

| Sr. | Investment Item | Amount (Rs.) | Percent |
|---|---|---|---|
| 1 | **Fixed Assets** | | |
| | 1.1 Machinery | 865,400 | |
| | 1.2 Fixed Assets | 42,200 | |
| | **Sub-Total** | **907,600** | |
| 2 | **Pre-Operating Expenses** | | |
| | 2.1 Pre-Operating & Marketing | 37,250 | |
| | **Sub-Total** | **37,250** | |
| 3 | **Working Capital** | | |
| | 3.1 Over heads | 469,000 | |
| | 3.2 Raw material | 1,883,700 | |
| | 3.3 Salaries | 420,000 | |
| | **Sub-Total** | **2,772,700** | |
| | **TOTAL** | **3,717,550** | |

An amount of Pakistani Rupees 3,717,550 would be required to start the business. One major cost is for "Raw Material", (i.e. dry fruit) can also be obtained on credit from the local producers. If the costs still seem high and credit facility (from local producers) is not available or affordable, the production targets can be reduced and "Apricot" with its machinery can be incorporated in the second phase of the project. The cost of human resources, machinery, tools and fixtures will also be reduced if Apricot is removed from the list.

| Source | Amount | Use |
|---|---|---|
| Equity | 3,717,550 | Working Capital |
| **Total** | **3,717,550** | |

## Production Plan

The enterprise will be economically viable, if the above production plan is followed for both fresh and dry fruits. The plan assumes that people interested in establishing fresh and dry fruit enterprises will not engage in purchasing trees. The plan also assumes a three or 4-month operating schedule, during the summer months.

- The most viable options will be to collect, process, pack and sell the fruits.
- The mapping of similar fruits (which is identified for this feasibility study) should done, a quality analysis of the fruit should be completed to know which producer is producing good quality food. This producer can be contract to supply the good quality fruit.
- The potential entrepreneurs addressed by this feasibility study are not expected to produce at an international level of quality at this stage. The quality of processing and packing material should be in line with local standards.
- In order to establish profitable businesses no heavy machinery for packing and processing (e.g. sorting, grading, packing) should be purchased at this stage. This will keep the prices in line with local expectations.

| # | Products | Production | | | | Unit Rate | Total Sale |
|---|---|---|---|---|---|---|---|
| | | Qty | Nos | Month | TOTAL | | |
| 1 | Apricot (Dry) | 3,000 | 1 | 4 | 12,000 | 200 | 2,400,000 |
| 2 | Wall Nuts | 1,200 | 1 | 4 | 4,800 | 250 | 1,200,000 |
| 3 | Mulberry(Dry) | 500 | 1 | 4 | 2,000 | 110 | 220,000 |
| 4 | Apricot Nuts | 200 | 1 | 4 | 800 | 280 | 224,000 |
| | | | | | | | **4,044,000** |

## Markets, Machinery and Expansion

The feasibility plan is developed to meet the demand in local and nearby markets. The outreach and product range can be increased in later phases of the business, based on success and demand.

The market/sales points for the fresh/ dry fruits and by-products is either in the local markets, the nearest villages, cities, or towns as well as Upper Dir, Timergarh and Peshawar. As noted above, tourists can be a significant market for these products. At this local level, it is proposed that entrepreneurs use the simplest traditional methods (which are low cost and easily available in the market) for packing. The cost of machinery for international standard packing is not recommended for local people, keeping in mind their economic status.

The local producers can, if it is feasible in the future, develop a business plan for expansion to meet international standards.

## Fixed Assets

All of the basic and required assets to start the business with minimum investment are listed below.

| Sr. | Description | Units | Price | Total |
|---|---|---|---|---|
| 1 | Iron Stand | 2 | 10,000 | 20,000 |
| 2 | Weight Machine | 1 | 10,000 | 10,000 |
| 3 | Knife | 2 | 100 | 200 |
| 4 | Counter | 1 | 5,000 | 5,000 |
| 5 | Chair | 2 | 3,000 | 6,000 |
| 6 | Locks | 2 | 500 | 1,000 |
| | | | **Total cost** | **42,200** |

## Machinery

In Chitral, traditional drying methods (i.e. air-drying) are in use. Another drying method is Sulfur Drying, but this not only changes the taste and colour of the fruit but also leads to health problems. A drying machine is introduced in this feasibility plan, which can be used as a replacement for Sulfur Drying: it also is not associated with any health or product quality problems.

| Sr. | Machinery | Units | Price Per Unit | Total |
|---|---|---|---|---|
| 1 | Fruit Washer | 1 | 310,000 | 310,000 |
| 2 | Fruit Grader | 1 | 170,000 | 170,000 |
| 3 | Nut Cutter | 1 | 25,000 | 25,000 |
| 4 | Plate Stand | 1 | 10,000 | 10,000 |
| 5 | Dryer | 1 | 350,000 | 350,000 |
| 6 | Packing Machine | 1 | 400 | 400 |
| | | | **Total Cost:** | **865,400** |

## Materials

There are two types of material[4] required in any business, i.e. direct and indirect material. The indirect costs are those which are essential in any case, while the direct cost is associated with the quantity and number of units produced.

| Raw Materials | Unit Price of Materials | Quantity Needed | | Nos./ Months | Total Cost |
|---|---|---|---|---|---|
| | | Nos. | Rate | | |
| **Direct Materials** | Apricot | 4,000 | 50 | 4 | 800,000 |
| | Walnuts | 1,200 | 200 | 4 | 960,000 |
| | Mulberry(Dry) | 500 | 70 | 3 | 105,000 |
| **Indirect Materials** | Packing Box Printed | 100 | 40 | | 4,000 |
| | Packing Material | 100 | 15 | | 1,500 |
| | Plastic Tape | 20 | 60 | | 1,200 |
| | Bag for Walnuts | 30 | 200 | | 6,000 |
| | Plastic Packing Bags | 3,000 | 2 | | 6,000 |
| | | | | **Total Material Cost** | **1,883,700** |

## Human Resources

There are two types of labour categories involved in production. Direct labour is required throughout the project from start to end to manage each and every activity. It is advised that this labour category should be managed by the owner, or his relatives who are local people, to save on their accommodation, food, travel and other living costs.

The indirect labour can be hired when required, e.g. at the time of fruit collection, packing of dry fruit in boxes, transporting and marketing.

[4] The vendors' information for each material is provided in Annex 01.

| Category | Titles | Nos. | Months | Monthly Salary | TOTAL (Per Year) |
|---|---|---|---|---|---|
| Indirect Labour | Manager | 1 | 12 | 18,000 | 216,000 |
| | Marketing Person | 1 | 4 | 15,000 | 60,000 |
| Direct Labour | Processing Labor | 3 | 4 | 9,000 | 108,000 |
| | Packing Labor | 1 | 4 | 9,000 | 36,000 |
| **Total** | | **6** | | **51,000** | **420,000** |

## Overhead costs

The overheads are calculated on an 'assumption' (first year) basis: the cost for the next three years can be added with 10-20% increments. An estimated cost of transportation is added in the overheads. This will vary and will be based on the type of vendors, suppliers and distribution channels adopted by the entrepreneur. The cost of transport can be included in the direct product costs.

| Sr. | Items | Monthly | Annual |
|---|---|---|---|
| 1 | Repair and Maintenance | 5,000 | 20,000 |
| 2 | Electricity | 1,000 | 12,000 |
| 3 | Telephone | 1,000 | 12,000 |
| 4 | Transportation | 120,000 | 360,000 |
| 5 | Depreciation | 1,000 | 1,000 |
| 6 | Refreshment | 6,000 | 24,000 |
| 7 | Rent | 10,000 | 40,000 |
| **Overhead per Product Unit** | | **144,000** | **469,000** |

## Pre-Operating Expenses

The pre-operating expenses are required to manage the expenses prior to start a business, i.e. market searches, and surveys if needed. If the search for locations is already done the cost can be reduced. For an existing business only additional promotion and expansion cost would be required.

| Sr. | Items | No. | Rate | Amount |
|---|---|---|---|---|
| 1 | **Survey** | | | |
| | Market Search | 1 | 25,000 | 25,000 |
| 2 | **Promotion (Banners, Flyers, Stalls)** | | | |
| | Banners (to place are shops and road side) | 25 | 50 | 1,250 |
| | Flyers for Outlets and Shops | 2,000 | 3 | 6,000 |
| | Stickers Small | 5,000 | 1 | 5,000 |
| **Total Pre-Operating Expenses** | | | | **37,250** |

## Profit Analysis

The profit is calculated on a one-year basis. The profit may increase from the second year, as most of the costs will be either reduced or removed - i.e. establishment, pre-operating expenses, fixtures, and assets.

| | | |
|---|---|---|
| **Gross Sales** | | **4,044,000** |
| Less: Returns & Allowances | - | |
| **Net Sales** | | **4,044,000** |
| Less: Cost of Goods Sold Materials | 1,883,700 | |
| Labour | 420,000 | |
| Overheard | 469,000 | |
| Promotion | 37,250 | |
| **Gross Profit** | | **1,234,050** |
| Less: Administrative and Selling Expenses | - | |
| | | |
| **Operating Profit** | | **1,234,050** |
| | | |
| **Net Profit before Tax** | | **1,234,050** |
| Less: Estimated Income Tax | | NA |
| **Net Profit After Tax** | | **1,234,050** |

## Break Even Analysis

There are three stages to arrive at the break even point.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **1. BEP - Sales** | **Annual Sales** | **x** | **Annual Fixed Cost** | **4,044,000** | **x** | **907,600** | **2,887,072** | **Rupees** |
| | | **-** | **Annual Variable Costs** | **4,044,000** | **-** | **2,772,700** | | |
| **2. BEP - Production** | **BEP Sales** | | | | | **2,887,072** | **14,435** | **Units** |
| | **Unit Selling Price** | | | | | **200** | | |
| **3. BE on Investment** | **Net Profit** | | | | | **1,234,050** | **33.20** | **Profit Margin** |
| | **Total equity** | **x** | **100** | | | **3,717,550** | | |

Annexure 01

# LIST OF VENDORS

# AND

# SUPPLIERS OF MACHINERY AND EQUIPMENT

Machinery related to this business is mostly imported from China but there is only one local supplier in Gilgit- Baltistan for the drying system Machinery.

The contact details are as under:-

1. **Hajat Engineering Works**
   Hajat Meer
   Gilgit (GB)
   0342-5119166

## Local Traders/ Vendors

| S # | Name | Area | Contact # | Category | Product |
|---|---|---|---|---|---|
| 1 | Meer Uddin | Bhooni | 0943-470508 | Trader | Fresh / Dry Fruits |
| 2 | Iqbal Uddin | Chitral | Nil | Trader | Fresh / Dry Fruits |
| 3 | Haji Ghulam Hameed Dry Fruits | Chitral | 0943-412801 | Trader | Fresh / Dry Fruits |
| 4 | Niaz Ahmed | Chitral | 0302-8060180 | Trader | Fresh / Dry Fruits |
| 5 | Raheem Bux | Chitral | Nil | Trader | Fresh / Dry Fruits |
| 6 | Faseeh Ullah | Garam Chasma | 0344-9706998 | Producer / Trader | Fresh / Dry Fruits |