

*Report on the*

# **Market Analysis**

*For Crop Post Harvest Project (CPHP), Orissa*

*A Joint Effort of*

**Centre on Community Development (CCD)**

**&**

**International Development Enterprises, India (IDEI)**

*Presented to*

**DEPARTMENT FOR INTERNATIONAL DEVELOPMENT  
(DFID)**

**INTRODUCTION**

There are about 16,50,984 tribals in South Orissa. These tribals fall below the poverty line and live in extremely tough conditions in interior hills. They have very small patches of owned land (from a tenth of an acre to 2 acres) on which they grow cereal crops such as paddy, jowar, bajra, etc. These tribals have also been practicing shifting cultivation on the hill slopes. In the last decade, there has been an increasing shift on growing horticulture crops on these slopes.

While the tribals (mostly *Saura*) have a rich natural capital (usually a tribal has one hill for cultivation with suitable climatic and soil conditions), their social and economic networks are very weak. They grow a wide variety of horticulture crops like pineapple, mango, orange, lemon, banana, cashew, jackfruit, etc. However, since they are physically distanced from markets, they are unable to sell the produce themselves. They sell the produce to the local traders who in turn sell it to other traders for onward sale in and outside Orissa. Sometimes, businessmen from outside have tried to enter the hinterland of the tribals on the hill-tops, but due to the lack of proper communication facilities, it has never been possible. The outside traders depend on the local traders for the procurement of horticulture crops from the interior villages. Hence, the tribals lay on the most *Disadvantaged* end of a long marketing chain.

In Orissa, cultivation of horticultural crops is gaining popularity through some leading farmers who are growing horticultural crops on non-agricultural land for commercial purposes only. However, there are some pockets that are covered under one principle horticultural crop. Some of these examples are:

District	Popular Crops
Gajapati, Rayagada	Pineapple
Gajapati	Mango
Angul, Deogarh	Litchi
Phulbani	Turmeric
Koraput	Ginger
Keonjhar	Vegetables

However, cultivation practices are yet to be developed in order to make the crops more marketable. Improvement in the quantity and quality of the crops, can facilitate the development of local agro-processing units in a large way.

## **BACKGROUND OF THE STUDY**

Given the above brief description of the area and the people, International Development Enterprises, India (IDEI) with its vast experience in rural marketing, working with the poor, appropriate technology innovations, particularly in Crop Post Harvest (Tomato Packaging in Himachal Pradesh), decided to make attempts to develop appropriate systems for Value Addition of the local horticulture crops and possible market linkages for providing higher returns to the tribal growers of the area.

A quick assessment was done on the livelihood system of the tribals in order to develop a concept note and formulate a project proposal. After several rounds of discussions with the local horticulture growers, local NGOs, technology support institutions and the donors, a project proposal came into shape with the objective of:

*“Integrating markets, products and partners: An action-research attempt to explore and develop a management system for linking tribal communities to markets through Value Addition”.*

The project had a multi-disciplinary coalition approach in which a grassroots NGO, Centre for Community Development (CCD), IDEI and Orissa University of Agriculture and Technology (OUAT) were involved.

After the completion of Livelihood Analysis, there was a need to understand the role of the various social and government institutions in the lives of the local tribals. The Institutional dynamics with the community and with other institutions has also been studied.

## **MARKET ANALYSIS FRAMEWORK**

The Market Analysis aimed to study the Current market Scene for raw and processed foods at the district, state and national level. The key points that were needed to study were mentioned in the Log Frame of the project are as follows:

- Various players in the market and their roles.
- Infrastructural bottlenecks in access to markets.
- The return that the growers get on their produce.
- Value Addition in fresh, processed and semi-processed forms.
- Demand versus supply at each market level.

## **INVESTIGATIVE TEAM**

The team involved in the Institutional Survey is presented in Annexure I. The team had several rounds of discussions for drafting the framework of the study. Thereafter, the staff was briefed on how to conduct the survey, which areas to cover and what information to seek.

- Personal Interviews (PIs) through a Semi-Structured Questionnaire for Fruit Juice Stalls, Fruit Merchants, Agro-Processing Plants.
- Focus Group Discussions (FGDs) with the horticulture crop growers of the project area.
- Non-Formal Discussions with Fruit Drink Retailers in urban and semi-urban cities.
- Secondary Sources were also utilized for assimilating information on the Horticulture Production, Food Processing and Packaging from various sources like Internet, Journals, Library, Publications, etc.

## TIME FRAME OF THE STUDY

The study was initiated in the month of December 2003 and the different phases of the study have been as follows:

- **December, 2003:** Framework and Planning
- **January and February, 2004:** Execution of the study
- **March, 2004:** Compilation and Reporting

## METHODOLOGY

A) **Primary Sources:** information from primary sources was collected by the means of:

1. Structured Questionnaire
2. Focus Group Discussions (FGDs)
3. Key Informants like the Lead Fruit Merchants, main Fruit Traders, etc

B) **Secondary Sources:** literature regarding the Horticulture produce market of India and Orissa was also consulted. Also, information regarding the processed food industry was assimilated from various journals, publications, internet, etc.

## OBSERVATIONS

The main source of income is from the horticulture crops cultivated on the hilltops and the agricultural crops like cereal and paddy, cultivated on the plain land and the hilly slopes. The main crops of the area of the sampled 15 villages and the land they are cultivated in can be understood from the following table. Some of these horticulture crops are being inter-cropped with other high value crops. Example, Cashew plantations are inter-cropped with pineapple or orange trees.

High Land Crops	Medium Land Crops	Low Land Crops
<ul style="list-style-type: none"><li>▪ Ragi</li><li>▪ <i>Gonga</i></li><li>▪ <i>Kangu</i></li><li>▪ <i>Jona</i></li><li>▪ <i>Burigudi</i></li><li>▪ Kandul</li><li>▪ <i>Suana</i></li><li>▪ Pineapple</li><li>▪ Cashew</li><li>▪ Turmeric</li><li>▪ Mango</li></ul>	<ul style="list-style-type: none"><li>▪ Ragi</li><li>▪ Maize</li><li>▪ Ginger</li><li>▪ Pineapple</li><li>▪ Jackfruit</li><li>▪ Lemon</li><li>▪ Guava</li><li>▪ Mango</li><li>▪ Papaya</li></ul>	<ul style="list-style-type: none"><li>▪ Ragi</li><li>▪ Paddy</li><li>▪ Vegetables</li></ul>

## **Horticulture Crops**

As already mentioned, horticulture forms the main livelihood opportunity for the tribals. The orange plantations in the area is believed to have started more than 100 years back. The Gram Panchayat Loba, has the highest area under orange cultivation and from here this practice had spread to other villages. The Rayagada Orange is of superior quality and fetches a price of Rs 1 to 2 per fruit. Market arrivals begin in the first week of October, peaks around middle of November and ends in the middle of January.

Pineapple is an important fruit in the area and which has been cultivated by the tribal for over 100 years. The common variety is 'Kew' and this variety is sweet with a high juice content. Another variety is 'Queen' variety, which is slowly gaining popularity. It's fruit has a longer shelf life and thus can avail a better price in the market.

Hill Bananas are another favorite of the tribals with 3-4 varieties dominating the market. The crop is available year-round. The small red variety has local demand but is not a favorite among outsiders. The Green variety is also present in significant quantity with little outside demand. The small sized Yellow colored variety is in high demand and is comparable to the best varieties of banana in the country.

Jackfruit is one of the important food items of the local people. Traditionally they eat ripe jackfruit and utilize the seeds in cooking. Jackfruit, both in the ripe and raw form and its seeds can be put to a number of uses.

Cashew is also popular in the area. It not only helps in soil conservation but also the fruit fetches a good price in the market. However, mono-cropping of cashew has invited a lot of disease and pests. Thus its advisable, that cashew be inter-planted with other crops.

## **Volume of Production of Horticulture Crops**

The Investigative team found a lot of anomalies in the figures provided by the Horticulture Department and that provided by the local villagers. Also, for our own records, it was necessary to have close approximation of all relevant information regarding the volume produced of all major crops, including horticulture crops, Non-Timber Forest Produces (NTFP), spices, etc.

Thus a Sample Size of 74 villages and 310 households was selected in the Rayagada and R. Udaygiri blocks of Gajapati district. The criteria for village selection was as follows:

- The particular village should have considerable production of horticulture crops, NTFP, spices, etc.
- The produce should be *Marketable Surplus* and not used consumption by the villagers.
- The village should be accessible in order to carry out the survey.
- The village should be linked with an output market.

In order to carry out the Survey, two Questionnaires Formats were prepared (shown in Annexure II and III). These formats were translated in *Oriya* for the convenience of execution. Two methods were employed for information collection.

1. *Structured Personal Interviews* with individual horticulture crop growers. The respondents were selected at random and 310 such interviews were held in the sample villages. The growers were interviewed on the crops that they were growing, quantity produced, average income obtained from these crops and the amount of On-farm losses.
2. *Focused Group Discussions* were also held in the selected villages, in order to cross-check information and get cumulative figures for the village. Thus, 74 such FGDs with the crop growers were held in these villages. Care was taken to avoid having same respondents for FGD and Personal Interview. For this, another format was prepared wherein information regarding the types of crops grown, average household (HH) income from such crops, main output markets, amount of on-farm losses, etc was obtained.

Based on the data obtained and the requisite analysis, the crop volume are as follows:

**CROP INFORMATION**  
(Blocks: Rayagada, R. Udaygiri)

Hort. Crops, Spices, NTFP	Avg. price last 5 yrs (in Rs)	Avg. HH Income from the crop (in Rs)	Reasons for On-Farm Losses	Main Output Market
Pineapple	3 to 5	Upto 10,000	<ul style="list-style-type: none"> <li>▪ Hailstorms</li> <li>▪ Rats eat the unripe fruit</li> <li>▪ Cows trample young plants</li> </ul>	Behrampur, Aska, Cuttack, Parlekhmundi, Vizag, Raipur, Bhubaneswar, Kolkata, Ranchi
Lemon	0.10 to 0.25	Upto 1000	<ul style="list-style-type: none"> <li>▪ Excessive rain spoils the fruit</li> <li>▪ Harvesting in the morning, affects further fruiting</li> </ul>	Behrampur, Cuttack, Aska, Rayagada, Hinjilikota
Orange	0.80 to 2	Upto 6000	<ul style="list-style-type: none"> <li>▪ Excessive rain spoils the fruit</li> <li>▪ Very vulnerable to pest attacks</li> </ul>	Ramgiri, Mandalsahi
Guava	0 to 0.15	500-800	<ul style="list-style-type: none"> <li>▪ Monkeys, birds eat the fruits</li> <li>▪ Poor market price so at times not harvested at all</li> </ul>	Parlekhmundi, Behrampur
Cashew	15 to 35	Upto 15,000	<ul style="list-style-type: none"> <li>▪ Too much rain, hailstorm</li> </ul>	Parlekhmundi, Palasa, Vizag
Jackfruit	0 to 4.0	500 to 600	<ul style="list-style-type: none"> <li>▪ Poor market price, so not harvested at all</li> </ul>	Chandrapur, Kolkata, Madhya Pradesh
Tamarind	2 to 3	2000	<ul style="list-style-type: none"> <li>▪ Not much demand after the closure of TDCC, so at times dumped in pits</li> </ul>	Behrampur, Parlekhmundi, Andhra Pradesh, Chennai

Turmeric	20 to 30	3500 to 5000	<ul style="list-style-type: none"> <li>▪ Pest attacks</li> </ul>	Behrampur, Parlekhmundi, Chennai
Ginger	10 to 20	Upto 2000	<ul style="list-style-type: none"> <li>▪ Rodents dig up the tubers</li> </ul>	Behrampur, Parlekhmundi, Mandalsahi
Banana	0.50	300 to 500	<ul style="list-style-type: none"> <li>▪ NA</li> </ul>	Behrampur, Parlekhmundi, Mandalsahi
Mango	0.40	200 to 300	<ul style="list-style-type: none"> <li>▪ Excessive cold winters</li> <li>▪ Pest attacks</li> </ul>	Parlekhmundi, Mandalsai

### Total Production Quantity in Sample Area

Hort. Crops/ Spices/ NTFP	Total Quantity (Produced in villages surveyed)
Pineapple	2025 MT
Lemon	186 MT
Orange	575 MT
Guava	181MT
Cashew	1400 MT
Jackfruit	756 MT
Tamarind	2284 MT
Turmeric	1063 MT
Ginger	123 MT

### Market Analysis

Farmers of the area grow a wide variety of horticulture crops like pineapple, mangoes, orange, lemon, banana and other crops and produce like, jackfruit, tamarind and turmeric. Majority of these growers are physically distanced from the markets and do not market the produce themselves. They sell the produce to the Scheduled Castes (SCs), who in turn sell it to the local traders for onward sale in and outside Orissa.

Mandalsahi is the largest market for fruits and vegetables. Other market places include Jirango, Narayanpur, Rayagada, Laxmipur. The traders come from nearby cities like Behrampur, Srikakalum, Palasa, Parlekhmundi, Aska, etc. Over the years traders have stated coming from

far-off places like, Calcutta, Vijaywada, Cuttack, Bhubaneswar, etc to these local haats mainly for the procurement of pineapple and cashew.

Government agencies like ITDA, DRDA, Soil conservation Department, Horticulture Department, NABARD, etc are taking up initiatives to improve the infrastructure of the area, in terms of roads, electricity, telephone, communication facilities, market places, natural resource base, etc. These efforts will help in improving the marketing status within the area.

### **Cashew Processing**

In order to gain an understanding about the cashew industry, it was imperative to visit a Cashew processing plant in the area. One such profit-generating unit was located in the Nuagada Block of district Gajapati. The observations were as follows:

#### **Procurement**

- The raw cashew fruit is sold by the grower to either a local merchant at an average rate of Rs 37 per kg or directly to the processing plant at an average rate of Rs 35 per kg. The merchants and the unit owners have an understanding and the unit owner provides a margin of Rs 0.50 to 1 per kg of cashew. The Unit however, prefers procuring through the local merchants because it saves time and cost of sorting, weighing, transportation, etc.
- At any one time, irrespective of the season, the unit gets upto 40 bags of raw cashew from the adjoining areas, where each bag contains 60 kg of cashew pods. The farmers are paid up-front for their produce, as per the prevailing market rate.
- However, the pricing is crucial. At random, a sample of about 100 gm cashew is picked and the number of cashew pieces in that weight are counted. More the pieces, lesser the price paid, and vice-versa (more pieces means the weight of individual cashew kernels is smaller)

#### **Processing**

- The cashew pods are boiled in huge containers and steamed for about an hour. The cover then can be easily removed by cracking it. Steaming helps to remove the inner paper-thin layer. All these chore are done by women employed from the local areas. They are paid as Rs 5 for one kg of extraction.
- It is in the second stage of removal of the inner thin layer, that the worker has to be exceptionally careful because this time the cashew is most prone to damage. This time the cashew is sorted out into 7-8 varieties, depending upon the size, color, damage to the kernel, etc. The price of the kernel will fall sharply if the kernel breaks into half or smaller pieces or the bud of the kernel breaks, because then it becomes susceptible to pests. Based on these parameters, the price may range from Rs 8 to 350 per kg. Even the buds are sold at Rs 30 per kg. The premium variety is obtained in the scarce ratio of about 400-500 gm in each bag (i.e. 60 kgs).
- The final produce is packed in tins and dispatched to wholesale markets.

#### **Markets**

- The highest demand for cashew is in the Andhra Pradesh, Maharashtra, Gujrat and Uttar Pradesh, where the business-class communities purchase the most premium varieties, the other lower range varieties for them are equivalent to groundnut! Most of the good kernels are exported to the Middle-East countries, whereas the medium and low-end varieties are sold in the wholesale and local market respectively.
- On the date of the study, 5<sup>th</sup> January 2003, the wholesale market rate was Rs 300 per kg (off-season), whereas till the last month it was selling as Rs 230-250 per kg. Sales are maximum during the season



(February to March), because all cashew processing plants are functional during the season and meet the demand of the domestic and international market. The demand also peaks during Diwali and Dusshera time, when the dry-fruits sell at exceptionally high prices.

### Main Input Markets

<i>Haat</i>	<i>Haat Days</i>
Mandalsahi	Tuesday
Jeerango	Friday
Naryanpur	Wednesday
Laxmipur	Tuesday
Rayagada	Saturday
Ramagiri	Wednesday

### Main Output Markets

The main markets levels are:

- District Level Wholesale and Retail Markets
- State Level Wholesale and Retail Markets
- Inter-State Wholesale and Retail Markets
- Food Processing Units

The main output markets of various states are as follows:

- Andhra Pradesh : Palasa, Srikakulum, Vijaywada, Vijaynagram
- Orissa : Parlekhemundi, Behrampur, Aska, Cuttack, Bhubaneswar
- West Bengal : Kolkata
- Chattisgarh : Raipur

### Actors of the Market

The marketing chain of horticulture crops is complex and involves a number of intermediaries. This chain is illustrated in Annexure IV and the various Channel Members are discussed below:

- *Input Suppliers:* the input suppliers include; State Horticulture Department, Integrated Tribal Development Agency (ITDA), NGOs, private traders, shopkeepers, etc.

These suppliers provide agri-inputs, seedlings and seeds, short-term loans, knowledge and skills for horticulture cultivation.

- *Growers*: the small and marginal tribals of the area are the main horticulture growers. Some are dependent only on horticulture crops and some households also grow paddy and other minor cereals.
- *Local Traders*: they are the locals SCs and shopkeepers. They are the main link between the farmers and the wholesale agents. They contact the farmers in advance, make the necessary payments and fix the date and place for produce delivery.
- *Outside Traders*: some traders come from neighboring main cities and states for bulk procurement of produce for onward trading.
- *Wholesalers*: they are from important cities and towns of Orissa and other neighboring states. Wholesalers either come by themselves or send their agents who stay in the area and make the necessary arrangements for the collection and lifting of produce.
- *Food Processing Units*: in very rare cases, representatives from Food Processing Units of Orissa and other neighboring states come directly to the Mandalsahi market for bulk procurement of fruits like Pineapple, Mango, Orange, Lemon, etc. OMFED (Orissa Milk Federation) and the State Horticulture Department make bulk procurement of pineapple and orange from the area. OMFED has recently entered the market of Fruit RTS (Ready To Serve), Squash, Jams, etc and takes the required Raw Material to its processing unit in Bhubaneswar. They procure directly from the growers or the traders. A committee consisting of local grower, representative of local trader, OMFED representative and the village headman decides the procurement price. OMFED procured 10 Metric Tonn (MT) and 17 MT during 2001-02 and 2002-03 respectively. The average procurement price was Rs 3.28 and 4.09 respectively.
- *Retailers*: retailers from the district level market, important cities and towns of Orissa and the neighboring States come for fruit procurement. They include fruit shop vendors or the seasonal retailers who have temporary stalls on roadside.

#### Fruit Merchants

Aska, near Behrampur, is one of the major fruit trading markets of Orissa. The market not only caters to Orissa but also neighbouring states like Andhra Pradesh, Madhya Pradesh, Chattisgarh, etc.

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Mr. Raut, of *BCR Fruit Traders* was approached for gaining an understanding the fruit trading market. He has a large fruit godown in the fruit mandi of Aska and in Bhubaneswar as well. He

### **Supply Chain and Product Flow**

The traders and wholesalers coming from different places within Orissa and the neighboring states send their representatives well in advance to make the necessary arrangements for crop procurement. They contact the local traders or the village headmen and fix the procurement price, date and delivery of produce. At times, they also make advance payments for a specified quantity. On these specified dates, the farmers come with their produce at the pre-decided point. Sometimes the grower gets the entire produce in headloads and sometimes he has to employ additional labor for delivering his produce to the market place. The labor might be also involved for harvesting the produce. In case of pineapples, the growers sometimes have to employ labor for plucking of pineapples at the rate of Rs 0.25 per piece. Taking the pieces to the market costs an additional Rs 1 per piece.

The traders too, sometimes come directly to the village for procurement. They stay from a week to a fortnight until the procurement transaction is completed. The local traders too procure produce for supplying it to other wholesalers and retailers. Otherwise, they may take the produce directly to the urban market for retail sale. Some traders have permanent agents in the area. These agents procure the seasonal crops and continue supplying it to the bigger traders all year round.

The local traders sometimes extend credit to the growers for meeting the necessary production expenses. The amount is adjusted during the purchase of the produce.

In case of Pineapples, the rate is fixed piece-wise. If the size of the pineapple is small then two to three pieces are counted as equivalent to one. Traders also adopt a system called 'Salga', where the farmer has to give the buyer 5 free pieces for every 100 pieces purchased. These pieces could be either to make-up for the damaged pineapple pieces or the compulsory trade incentive.

Food Processing Units have occasionally procured horticulture crops, mainly through the Horticulture Department. In one case, horticulture department extracted juice from pineapples, which was then transported to the processing unit. The processed food products have a ready and profitable market, but the margins do not reach the growers.

The Mandalsahi *haat*, approximately 48 km from Parlekhemundi, is the hub of all marketing activity in the Mandalsahi area. The *haat* takes place every Tuesday, where people from nearby 35 villages come to the *haat* to sell and buy produce. The *haat* is a typical Rural Primary Market for most of the consumer items, but in the case of pineapples primarily, it is more like a Secondary Market.

### **Difficult Markets!!**

Munising village in the Rayagada Block is one of the tribal villages situated on a hilltop, with poor accessibility. The area is famous for its horticulture produces like pineapple, orange, guava, lemon etc. with pineapple being the principle crop of this village.

The inhabitants of the village are poor marginalized farmers who are totally dependent on pineapple cultivation for their living. Traders from Aska, Berhampur and nearby cities of Andhra Pradesh are making bulk purchases in the area at minimal prices and taking advantage of the ignorance of these tribals. Since these marginalized tribes have no market information and poor linkages with the market are in no condition to bargain.

To prevent the exploitation, three youth from the village, Biswambar Bhuyan, Satyajyoti Gomango and Arjun Gomango took up a challenge of putting an end to this exploitation and decided to sell their produce directly in the main market of Aska, transporting it through a mini van. They were successful the first time, even though they had to bear high over-head expenses. However, soon the local traders, through their influences in the outside market, started posing difficulties for them. At the time of unloading, the counting would be incorrect in order to give them the minimal prices, sometimes none of the traders came forward to accept their produce and the crop rotted for two to three days with no takers. With such hurdles, the overhead expenses exceeded the actual price of the produce and they had no choice but to come empty handed back to the village.

This was a rare example of entrepreneurship but due to the monopoly of the traders and poor marketing skills this unique effort was a failure.

### **Price Analysis of the Main Crops**

The price analysis of the main seasonal crops is shown below. The prices shown here are for a particular Mandalsahi haat day. The procurement and sale prices of a particular crop will

vary accordingly during the start and the peak season of the crop. It should be noted that for the traders, this is not a one time business. The brokerage is carried out every week in the same haat and on other haat days of the adjacent areas.

### **Pineapple**

*Peak Season:* May to July

*Produce Procurement Area:* Pottar, Loaba, Dumball and Talmunda Panchayats of the Rayagada Block.

*Main Output Market:* Behrampur, Aska, Parlekhmundi.

*Procurement cost:* Pineapples are loaded in mini-truck with a capacity of 3000 to 5000 pieces. Thus at a time the procurement cost may be close to Rs 18,000 for 3000 pieces at a time @ Rs 6 per piece ( this was the price observed during the study).

<i>Other Input Cost:</i>	Transportation	: Rs 2400
	Haat Spot Charges	: Rs 100
	RMC	: Rs 50
	Toll tax	: Rs 25
	NAC (Octroi)	: Rs 10
	Behrampur NAC	: Rs 10
	Labor Cost for 3 people	: Rs 300
	Miscellaneous Expenses	: Rs 100
	TOTAL	: Rs 2995 or Rs 3000 approximately

*Output Price:* the trader obtains approximately 200 additional pieces for every 3000 pieces depending upon the size of the pineapple. However, during sale, cost is recovered for each piece. The selling price may vary from Rs 5 to 10, thus an average price of Rs 8 is considered for calculations.

$$3200 \text{ pieces} * \text{Rs } 8 \text{ each piece} = \text{Rs } 25,600$$

*Profit Earned:* Output Cost – (Procurement Cost + Other Input Cost) = Rs 4600 approximately for each *haat* day.

### Case of a Pineapple Trader

*Landi* is the main pineapple trader of the Mandalsahi area and has been in this business from last 20 years. Thus, the growers of the area know him well and readily sell their produce to him. He goes to the doorstep of the growers and takes the ready quantity of the fruit through immediate cash payment. He belongs to Behrampur and has a Stall in Giri market, Behrampur. He simply unloads his truckload there and the interested retailers, merchants, etc come to him for purchases. He observed that this year the pineapple production has been lower as compared to the previous year, thus the demand for the crop is higher. Consequently, the prices are higher this year.

*Landi* was reluctant in admitting his profit figures and said whatever meager profit he earned was immediately reinvested in the trade for other fruits of the season and thus leaving him with little cash for savings.

Since he has been in the area for many years he has established a successful network of buyers and traders and has earned a positive reputation. He is confident that on demand, he can provide as many as 40,000 to 50,000 pineapple pieces per season. He had an odd experience a few years back when a man purchased two pineapples from him and promised to get back to him after getting the pieces qualitatively tested from the laboratory. If tests were satisfactory he would come to *Landi* with a business proposal. This had raised Landi's hopes and was disappointed when nothing materialized. He is still looking for such an opportunity.

### Guava

*Peak Season:* July to September

*Main Output Market:* Local market, Aska, Behrampur, Parlekhmundi

*Procurement cost:* Rs 15 for a headload consisting of about 400 small pieces of guava. 4-5 head load is packed in each gunny bag. Thus the price of each bag will range from Rs 60 to 75.

*Other Input cost:* Loading & Unloading: Rs 10

Tax	: Rs 2 per bag
Bus Fare	: Rs 25 per bag
TOTAL	: Rs 37 per bag

*Output Price:* Rs 100 to 150 per bag

*Profit Earned:* Output Cost – (Procurement Cost + Other Input Cost) = Rs 20 to 50

### Guava Growers

Chelligada is a tribal village, consisting of 600 households with a Thursday weekly *baat*, which forms a major centre for trading in the local community for regular consumption items, clothes, vegetables, fruits, animals, etc.

Interactions were made with Nabin Chandra Bhuyan, a local resident. He expressed that in the Kharif season, the merchants from Chandragiri area, make lease agreement for all guava plantations for a one year period at a fixed rate of Rs 40-50 per Tree. In summers, the lean period for the farmers, the merchants from Chandragiri and other places provide immediate credit to the growers and in turn affix the lease agreement.

During the guava harvesting season, August to September, the output of each tree is about 125 kgs. He has 90 trees. After harvesting the merchants are selling guava at the Behrampur market at Rs 5 per kg. The difference translates as total loss for the growers, but they are helpless in the extreme conditions. The growers admit that they do not have time or inclination to harvest the fruits themselves and sell it at the city markets, inspite of knowing the market rates.

*Peak Season:* July to September

*Main Output Market:* Behrampur, Aska

*Procurement cost:* Rs 15 to 20 is paid for every 100 kgs depending upon the size of lemon. Approximately 6000 to 7000 pieces are collected for each *haat* day. Therefore, to a particular trader the procurement cost would be Rs 900 to 1050. These are counted and packed in gunny bags separately according to their sizes, where each bag contains about 1500 pieces.

*Other Input cost:* Loading & Unloading: Rs 10

Tax	: Rs 8 @ Rs 2 per bag
Bus Fare	: Rs 100 @ Rs 25 per bag
Miscellaneous Cost	: Rs 200
TOTAL	: Rs 318 for 4 bags or Rs 80 per bag

*Output Price:* Rs 1200 to 1500

*Profit Earned:* Output Cost – (Procurement Cost + Other Input Cost) = Rs 300 to 400

### **Turmeric**

*Peak Season:* July

*Main Output Market:* Mainly the local market. The demand is poor because every household has its own patch of turmeric plants.

*Procurement cost:* Rs 25 to 30 per Kg. It is sealed in bags where, each bag contains 50 Kg of Raw Turmeric. On any *haat* day, the seller has about 3 bags of turmeric. Thus, the cost may vary from Rs 3750 to 4500.

*Other input cost:* Loading & Unloading: Rs 30 @ Rs 10 per bag

Tax	: Rs 2
Gate Tax	: Rs 12 @ Rs 4 per bag
TOTAL	: Rs 44

*Output Price:* Rs 30 to 32 per Kg. Thus, for three bags the price obtained may be close to Rs 4800.

*Profit Earned:* Output Cost – (Procurement Cost + Other Input Cost) = Rs 1000 approximately.

There is poor demand for raw turmeric. Even in the cities, raw turmeric purchase is close to nil because processed turmeric is available at almost same prices as that of raw turmeric. As compared to the Phulbani turmeric, the Mandalsahi turmeric is of better quality and can fetch more price in the market. Yet due to the lack of market linkages, the turmeric trade is poor in the region. A few years back, Gram Vikas, a NGO had set up a turmeric processing plant in the area. The growers were then getting a fair price for their produce and it added up as an

additional source of income. But within a short span, the plant closed and the local economy got affected. The reasons for the closure of the plant could not be obtained.

### **Cashewnut**

*Peak Season:* April and May

*Main Output Market:* Parlekhmundi, Behrampur, Aska, Palasa

*Procurement cost:* Since July was off-season for cashewnut, thus the present cost were ranging from Rs 35 to 37 per kg. Since one gunny bag has 50 kgs therefore procurement cost of each bag is Rs 1750. During the peak season the procurement price is Rs 30 -35 per kg.

*Other Input Cost:* Loading & Unloading: Rs 10 @ Rs 10 per bag

Tax	: Rs 2
Gate Tax	: Rs 4 @ Rs 4 per bag
TOTAL	: Rs 16

*Output cost:* Rs 40-42 per kg. Since each bag consists of 50 kgs thus the output cost would be approximately Rs 2000 per bag (50 kgs\* Rs 40 per kg)

*Margin:* Output Cost – (Procurement Cost + Other Input Cost) = Approximately Rs 250 per bag.

### **LOCAL MARKETS**

#### **Juice Stall, Palasa Railway Station, Andhra Pradesh**

Mr. U K Singh, is the proprietor of the Juice stall on the Palasa Railway Station. His prime business is selling the fruit juice but also sells fresh fruits and cashew nut. His shop is a fast selling hub for the juice of seasonal fruits like, pineapple, mango, grapes, orange, etc. As, it is the only juice stall on the station, it does brisk business.

His most selling item is the orange juice. He takes cartons of orange from the main fruit market of Palasa. The size and number of orange pieces in each carton may vary, ranging from 250 to 300 pieces per carton. The price ranges from Rs 250 to 270 per carton and the fruit is available from October till February. He says it is more economical for him to buy the smaller variety of orange, because only juice needs to be extracted. Unlike other places, *Mausami* is not very popular here. But small quantities are purchased from Orissa because of its high juice content.



## VALUE ADDED FRUIT & VEGETABLE MARKET

It was interesting to note that the market of value added fruits and vegetables is burgeoning fast in the cities. This undoubtedly is creating awareness among people for the concept of **Farm Level Processing**, which includes simple processing techniques like:

- **Picking** the fruit / vegetables directly from the plant, before it drops on maturity. This has several benefits like, the harvesting period of the particular fruit or vegetable can be controlled and thus prevent over-flooding of the produce in market during the peak season. This will check the variations in price during normal and excessive supply of produce. Picking also prevents excessive ripening of raw produce. If the fruit or vegetable is picked a few days before complete ripening, then by the time it reaches the bazaar, it will be mature and not over ripened. Consequently, the shelf-life of the produce also increases if harvested during the ripening stage.
- **Cleaning** is the single most important feature that determines the sale of produce in the urban markets. In small level and wholesale markets, uncleaned produce can easily pass, but for the city level markets, cleaning becomes important. This feature not only gives the produce a visually aesthetic appeal but can also be placed at a premium price.
- **Sorting** the raw produce in order of its size, shape variety, color, etc. This can help in availing a better price from the traders. However, this is possible only when the raw produce quantity is sufficiently large.
- **Grading** the produce in terms of variety. This is especially relevant for produce that is processed through machines, like cashew nut, etc. Grading will save efforts during the processing stage and can help in gaining a better price.

- **Packing** the produce such that it remains fresh for a longer time. This will also ease the storage and transportation process.

There are already some entrepreneurs and companies that have started catering to this latent demand of the consumers and have brought products in the market that are fresh, attractively packaged, in various varieties, easily available and with a longer shelf-life than the produce available at the ordinary grocery shops. Some of these cases are:

1. **FVM** Brand of Fruits, Vegetables and Mushrooms, Bhubaneswar

This brand was started by an entrepreneur, Mr. Siddhartha S. Dash of Bhubaneswar a few years back and today his brand is popular in Bhubaneswar and Cuttack. The product includes grocery items of fruits, vegetables and mushrooms. The collected raw material is cleaned, sorted, weighed and packaged into food-grade plastic bags. The items are then sold through his team of sales agents at FVM counters at the prominent city points or through door-to-door sales. Fresh raw produce from the city suburbs is collected through a commission agent, selected by the company, who represents the growers and gives the locally collected produce at a negotiated price. This model works out well and does not threaten the other larger fruit and vegetable traders of the market. The consumers are satisfied with the product because they get fresh, clean and packed fruits and vegetables, at their door-step at the market price or lower.

Mr. Dash shared some of his interesting experiences:

- Initially during sales, it was observed that if the women found all desired vegetables with them, but not onion and potato, they left without buying nothing at all! Consequently, Mr. Dash started packing onion and potato as well.
- He observed that the local mushroom vendors were procuring mushroom at Rs 50 per kg and selling at the same rate with no extra margin. He was surprised by this trend and decided to investigate. He later discovered that the vendors would soak the mushrooms in water and increase the weight of the produce, thus being able to extract a fair margin in the trade. This practice increased the weight of the produce, but shortened its shelf-life, thus compelling them to sell the entire produce on the same day.

2. **Purple Hills** Brand of Organic Dried Fruits, Tamil Nadu

This brand of products are prepared by M/s Kurinji Organic Foods (India) Private Limited, Tamil Nadu and are available at major supermarkets of Chennai, Hyderabad, Bangalore, etc. The product is available as dried and packaged, organically grown fruits like mango, pineapple, pear, banana, etc. It is available in various forms like small dices, oval pieces, tit-bits, etc and can be used in a variety of forms. Can be used as ready to eat fruits, or as breakfast cereals, etc. The product has a high demand and an established market of new-age consumers that are comfortable with processed and packaged fruits.

## **Fruit and Vegetable Market**

Efforts were made to study weekly haats in order to understand the market dynamics. *Haats* of Chelliguda, Ramgiri, Rayagada, Mandalsahi, etc were visited on the *haat* days and observations and interviews were made. Information was sought from both the buyers and the sellers. Each area had its own features; like the Mandalsahi *haat* would attract pineapple traders from faraway markets like Behrampur and Bhubaneswar and the Chelliguda *haat* would attract the guava traders of Cuttack and Behrampur. It also helped clear the common misconceptions like that the traders are always the exploiters or the growers get the best price for their produce. It is

interesting to observe the level of bargaining and negotiating that takes place. Every rupee spent by the poor is carefully thought and the best bargain is sought from it.

## PACKAGING

A survey was made at the Central Institute of Plastics Engineering & Technology (CIPET), Food Processing Division, Bhubaneswar, for understanding the packaging options available within the city. Some of the main observations are as follows:

- There are two main types of Plastic packaging technology available with CIPET. One is Injection Molding and the other is Blow Molding. CIPET has taken up many outsourced jobs by local companies, like cosmetic and processed food drinks, for the manufacture of plastic bottles.
- Plastic packaging (as Sheet and Film) is also available. This technology is not very expensive and many manufactures in Cuttack and Bhubaneswar can be identified for the same.
- The main factors that contribute to the cost of the plastic bottle are the
  - a) Raw material cost
  - b) Cost of the dye or mould
  - c) Type of machinery used for manufacturing
  - c) Labor cost

The mould can be prepared by CIPET or the client. The mould is capital intensive and can range from a Rs 20-50,000. Depending on these factors, cost of each bottle may vary from 60p to Rs 3.50.

- CIPET also has designing labs where computer generated images can be prepared as per the specifications.
- Bottle packaging is becoming obsolete because plastic packaging is cheaper, lighter and more durable (ie. Less damage during logistics)

## PROCESSED FOOD MARKET

Value Addition of horticultural crop can be done in form of jam, jelly, sauce, squash, pickle, etc. In Orissa few industrial units are preparing processed food products and are catering to the demand at State level. Some of these manufacturers and their brands are as follows :

Manufacturer	Brand of Processed Products
Orissa Milk Marketing Federation, OMFED	OMFED
M/s Aaren Foods Pvt. Ltd.	Havon
M/s Sabita Foods Pvt. Ltd.	Jooz
M/s Swastik Agro Foods Pvt.	N-Joi

Ltd.	
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Besides these, some Fruit Processing Training Centers, Self Help Groups/ Federations, private entrepreneur also prepare pickle, squash, jam, sauce, etc at the local level. These products are generally sold at the district level and need not be advertised. However, production and marketing of processed fruit products is still in a niche stage in Orissa.

Amongst the local brands of Ready To Serve (RTS) fruit drinks, *Havon* is the highest selling brand. It is available in various flavors, packaged in small bottles of 200 ml, each costing Rs 10. Unlike the national brands like *Pepsi* and *Coke Cola*, the bottles are not returned to the manufacturer but disposed off. The retailer gets a margin of Rs 0.80 per bottle, irrespective of the flavor. OMFED RTS is also popular but can not beat *Havon*. OMFED is more popular with the milk based RTS than the Fruit based ones. *N-joi*, a recently introduced drink of the flagship brand-*Parle*. It is positioned as a fruit based milk and sells at Rs 15 in tetra-packs only.

Many National brands of processed food products are easily available at block, district and state level market. They sell in higher quantities than the local brands, because of their quality, packaging, marketing strategy, etc. List of some of these manufacturers and their product category is given below:

- Kissan : Tomato Sauce, Tomato Ketchup, Jam, Squashes
- NOGA : Squash, Jam, Tomato Sauce
- GALA : Tomato Sauce, Squash, Jam
- Haldiram's : Squash, Tomato Sauce
- Magee : Tomato Sauce, Ketchup
- TOPS : Pickle, Tomato Sauce
- Prem : Tomato Sauce, Squash
- Havon : Jam, Squash, Ketch up, Tomato Sauce
- OMFED : Tomato Sauce, Squash, Pickle
- DRUK : Tomato Sauce, Pickle, Jam
- Priya : Pickles

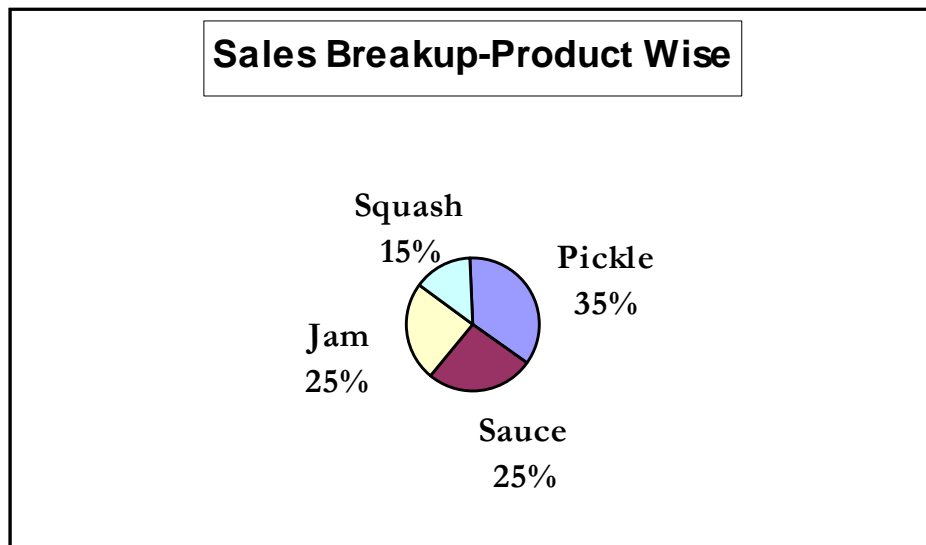
The comparative unit price of some of the processed products of different manufacturers is given below:

Brand	Product Category Pricing (in Rs.)
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	Squash (750 ml)	Jam (500 gm)	Tomato Sauce (1 Kg)
Kissan	58	52	75
OMFED	54	54	47
GALA	51	48	70
Havon	52	52	71
Jooz	--	45	58
Haldiram's	62	--	78
NOGA	50	47	65

It is estimated that the annual sales of the processed food products in Orissa is approximately **Rs. 3 to Rs. 3.5 Crore**, where Kissan stands to be the market leader with 60 % of the market captured. It has been in the market since long and is recognized by its quality, packaging and positioning. Since these products are slow moving items, a vast geographical market is required which Kissan is enjoying since long through its vast and efficient distribution network. GALA and NOGA are also gradually catching up and snatching market share from established players.

Out of this the revenue breakup as per the product class is estimated to be as follows:



**Excel Beverage Plant,  
Rayagada District**

- Mr. Romesh Rao, KB Pump Distributor of Rayagada District, when heard about the CPHP project, showed interest and invited the CPHP representatives to his own soft-drink manufacturing unit in Rayagada District headquarter. He wanted us to determine any linkage feasibility with his manufacturing unit.
- Consequently, on 4<sup>th</sup> December 2003, we visited the Excel Beverage Plant of the Rayagada district, situated on the Rayagada State Highway. Mr. Rao is one of the four managing partners of the beverage company.



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- M/s Aaren Foods Private Limited, Bhubaneswar
- M/s Sabita Foods Private Limited, Bhubaneswar
- Central Institute of Plastic Engineering & Technology (CIPET),  
Mr R Sivakumar, Manager (Processing),  
CIPET, B/25, Chandaka Nucleus Industrial Complex, Patia Bhubaneswar 751 024  
E-mail: [cipet\\_bbsr@sify.com](mailto:cipet_bbsr@sify.com)  
Phone No: (0674) 2320462, 2320413, Fax No: (0674) 2320263  
  
Head Office: CIPET, Guindy, Chennai 600 032
- M/s Kurinji Organic Foods (India) Private Limited,  
Periyakulum Road, Genguvarpatti, Theni District, Tamil Nadu 625 203
- M/s Foodworld Supermarket Limited,  
HAL, II Stage, Indira Nagar, Bangalore 560 017  
Phone No. (080) 51159268
- FVM Private Limited,  
27 (P), Behind Maharshi College, Sahid Nagar, Bhubaneswar 751 007
- Kishan Fruit Company, Fruit Merchant and Commission Agents,  
134, Ashok Nagar, Bhubaneswar  
Phone No. (0674) 2531760
- BCR & Sons Company, Fruit & Vegetable Merchant and Commission Agents,  
P Market, Berhampur  
Phone No. (0680) 2208461

**Annexure I**  
**Investigative Team of Livelihood Analysis**

*Centre for Community Development (CCD) Team*

- Mr A J Raju, Director
- Mr Dhananjay Pattanaik, Cluster Promoter
- Mr Jagannah Rao, Cluster Promoter

*International Development Enterprises, India (IDEI) Team:*

- Mr S S Barik, Area Manager
- Ms Priyanka Dikshit, AreaManager



## Annexure II

### Survey Format for Village Level FGD

Village, GP	Crop	Quantity In Kg.	Annual HH Income from the crop (Rs)	Price trend in past 5 years	On-farm losses per HH (Rs)	Output Market
	Pineapple					
	Lemon					
	Orange					
	Guava					
	Cashew Apple					
	Jackfruit					
	Others Tamarind, Turmeric etc.					
	Pineapple					
	Lemon					
	Orange					
	Guava					
	Cashew Apple					
	Jackfruit					
	Others Tamarind, Turmeric etc.					

### Annexure III

#### Survey format for Personal Interviews

1. Quantity

2. Annual Income from the Crop (Rs.)

3. Average Price

4. On-Farm Losses (Rs)

Farmer, village	Pineapple				Lemon				Orange				Guava			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

## Structure and Dynamics of Markets

