CHAPTER - 5

ORGANISATIONAL PROBLEMS OF FRUITS AND VEGETABLE BASED INDUSTRY IN ASSAM

- UNIQUE CHARACTERISTICS OF FRUIT AND VEGETABLE PROCESSING INDUSTRY.

- SPECIAL FEATURES OF THE FRUIT AND VEGETABLE BASED UNITS IN ASSAM.

- PRODUCTION: PURCHASE, STORAGE, QUALITY CONTROL, TRANSPORTATION, FOOD TECHNOLOGY, FPO REQUIREMENTS.

- FINANCE: FINANCIAL ASSISTANCE PROVIDED BY VARIOUS GOVERNMENT AND SEMI GOVERNMENT INSTITUTIONS.

- PERSONNEL: LABOUR, WAGES, TRAINING.
MARKETING: PACKAGING, LABELLING, ADVERTISEMENT, WAREHOUSING, MARKET RESEARCH, TRANSPORTATION, EXPORT MARKETING, CHANNEL OF DISTRIBUTION.
UNIQUE CHARACTERISTICS OF FRUIT AND VEGETABLE INDUSTRY:

The fruit and vegetable industry fall under the broad category of the agro based industries. The characteristics of the fruit and vegetable industry are as follows.

1. The fruit and vegetable based units have seasonality in their production cycle. This is because the supply of their raw materials are seasonal in nature. This factor compels food processing industries to procure most of their raw material requirements during the harvest season and a little after that so that they can process them during and after the season. The marketing of the processed products is however round the year as their demand is more or less continuous throughout the year.

2. This industry is engaged in the processing of the various fruits and vegetables which are highly perishable in nature. Hence they require greater care in handling, transportation, storage and processing.

3. Location is also an essential feature of the fruit and vegetable industry. Since the raw materials used are highly perishable therefore the location of these units should be in...


a close proximity to the availability of raw materials. The location should also be near the market to avoid higher transportation cost.

4. Another technical feature of this industry is that unlike other industries, the fruit and vegetable units face variability in the quality and quantity of their raw materials.

5. The manufacturer of the fruit and vegetable based units have no challenging attitude hence there is no cut throat competition among entrepreneurs of agro food products in the domestic markets.

6. The price of the raw materials do not remain steady throughout the year, hence it is difficult for the units to fix the prices of the finished products and contact with the party to supply the products throughout the year at a fixed price.

7. Moreover, the customers are not familiar with frozen foods so the demand for frozen food is very low in India. The customers have also a psychological feeling that frozen foods are not natural but synthetic and contains preservatives.

8. The domestic demand for processed foods is very low because Indians have the habit of eating fresh fruits and
moreover the prices of the processed fruits and vegetables are beyond the reach of the common man.

9. This industry also faces many difficulties in developing, the domestic market due to lack of infrastructural facilities including cold storage, suitable transport facilities and adequate food testing laboratories.

10. Besides, some companies do not have a strong information network for marketing their products.

11. Another characteristic of this industry is that government play supplementary role in fruit processing by providing facilities to the people at certain agricultural centres at a very nominal cost for consumers. However, such facilities are very limited and they are confined to only one or two products. Such services rendered at subsidised price create competition for the private enterprises.

**SPECIAL FEATURES OF FRUIT AND VEGETABLE BASED UNITS OF ASSAM:**

Assam which is one of the prominent states of the North eastern region is mainly an agricultural one. Its unique geographical and climatic condition has endowed this land
with a wide range of horticultural products. The rich and fertile alluvial soil of this region is good for the growth of vegetables and fruits. Almost every home in Assam whether in rural or urban areas has got some kind of fruit and vegetable cultivation though in a small sector. For example, Mango, Jackfruit, Areca nut, coconut etc. are found almost in every home. Moreover, vegetables like potatoes, Brinjals, tomatoes etc are also available throughout the state of Assam. So from this it can be said that Assam has a plenty of fruit and vegetables which serve as raw materials for the fruit and vegetable based units of the state. The special characteristics of the fruit and vegetable based units of Assam are as follows.

1. The supply of the raw materials required are seasonal in nature. Therefore the production of these units are subjected to the availability of the raw materials. Moreover, Assam is visited by severe flood havoc every year which damage the crops and create obstacles in the agricultural production of the state.

2. The units are mostly started by the women folk in their own household in an unorganised manner with their own limited capital. Hence the scale of operation of such units are small and could not cover a huge market.
3. Though there is an ample source of raw materials in the state yet the fruit and vegetable based units are very scanty in number. At present there are only 87 registered units all over the state. This is mainly due to marketing problem which is related to the financial and infrastructural problem.

4. Most of the units do not possess the FPO (Fruit products order) licence since the units are mostly started by the entrepreneurs in their own household, the space available for production is very small. But in order to get FPO licence certain minimum space is required (as per fruit products order 1955) which most of the existing units do not fulfill. As a result their products though of good quality is deprived of getting FPO licence. Hence they do not have government preference to market their products within the country and aboard.

5. Moreover, since the raw materials are seasonal in nature therefore the cost of establishment is very high during the off season which increases the maintenance expenses. Furthermore, during the off season when the production is not carried out incessantly the employees have to be paid the same rate of wages which further increases the cost. Besides this, rate of other overhead expenses are to be borne in the same manner

27 Directorate of Industries reports. 31-3-1998 Govt.of Assam.
as in times of availability of raw materials. This also increases the cost.

6. Instant food is not very popular in the North eastern region including Assam. There are a few urban areas in Assam with a very few middle class people having purchasing power. Furthermore, social life activities in Assam is yet to gain logical momentum with the lifestyle of the people of other region. Though women too in Assam is engaged in different types of services yet most of them have enough leisure time to prepare home made processed food items then to go for those found in the market.

7. There is a common thinking among the people that the fruit and vegetable based items found in the market having chemical preservatives are not good for health. As a result, they prefer the home made processed food.

8. In certain rare instances, there is also a capability of foreign uneatable particles found in the processed foods. This is because the items are often prepared in an unhygienic manner.

9. The processed food items are yet to penetrate into the North eastern market. For example, the mushrooms which are so popular in other states is yet to gain its popularity in this
10. Though Mushroom is regarded as vegetable meat and has a very nutritious food value yet people are suspicious as they think it to be a natural fungus harmful to eat. Moreover, mushroom cultivation is carried in a totally unorganised way in some parts of Kamrup, Nalbari, Nagaon, Karbi Anglong etc. Further, most of units engaged in mushroom cultivation are not registered ones and as such no official data are available as to its volume of production. Besides this, as people are suspicious regarding its consumption therefore the marketing of mushrooms become very difficult. However, the tribal belt of Assam mostly the District of Kokrajhar is a good market for mushroom. Furthermore, Government and the various financial institutions including the banks hesitate to give loans for mushroom cultivation because of its marketing difficulty as its nutritious food value is yet to be popular among the masses.

PRODUCTION:

For the success of any industry production should be carried on in a smooth and uninterrupted way. An uninterrupted production can be only carried on when the purchasing of the raw materials, machines and other
equipment required for production is done in an effective manner. Not only this the materials brought are to be stored in an adequate manner to avoid wastage and decay in case the raw materials are perishable in nature. Moreover, the production department has to see whether an efficient quality control process is adopted to test the quality of the finished products. The production activities comprise the following.

**PURCHASE:**

Every manufacturing process require materials, supplies and services. Before men and machines can start turning out products, materials must be on hand and there must be assurance of a continuing supply to meet production needs and schedules. The quality of materials must be adequate for the intended purpose and suitable for the process and the equipment used. If the material fails on any of these points the results can be costly and expensive production process, inefficient production, inferior products, unheeded delivery promises and unhappy customers. If a company wants to remain competitive and earn satisfactory profits it must procure materials at a lowest cost consistent with quality and service requirements. Efficient inventory management is also a contributory factor for economic and successful production.
In case of food processing industries, raw materials are mostly from agriculture and allied sectors. While processing the raw materials adequate quality, quantity and their availability at an appropriate time and their reasonable cost should be ensured.

The horticultural products such as various fruits and vegetables constitute the main raw materials for the fruit and vegetable processing industry. The supply of these raw materials are characterized by seasonality. Therefore the production is carried on smoothly during this season. Though the production is subjected towards different seasonal fruits and vegetables during different seasons, yet during certain seasons the production frequency curve comes to its lowest level. Moreover, the fruit and vegetable processing industry of Assam depends upon the local markets for the supply of raw materials. The quality, quantity and the price of the raw materials are often unpredictable and fluctuating. Furthermore, Assam is a state which has flood havoc every year. As a result the crops are destroyed by the seasonal floods which is a major setback faced by the agriculturists of the state which hampers the supply of the raw materials. Moreover, unorganised marketing stands on the way of proper co-ordination between the farmers and the processors.
STORAGE:

Storage is the function of receiving, storing and issuing of materials. In almost all industries raw materials represent a very large investment. It is therefore important that strict orderliness and method are employed to ensure accuracy in preservation and safety at all stages of raw materials movement and custody.

The raw materials of fruit and vegetable are mostly perishable and seasonal in nature. Therefore the raw materials are required to be preserved in cold storage to avoid wastage and decay. But the entrepreneurs of the local fruit and vegetable based units with their limited capital neither could afford to have their own cold storage nor the govt has come forward to help them in this regard. Moreover, though most of the units are started by the entrepreneurs at their own residential houses with sufficient space for production yet they are carried on in a unorganised way as is shown in table 5.1.
Table 5.1
Table showing the opinion of entrepreneurs in percentage regarding the space available for carrying production of the local fruit and vegetable based products.

<table>
<thead>
<tr>
<th>Space available for production.</th>
<th>Opinion of entrepreneurs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sufficient 67%</td>
</tr>
<tr>
<td></td>
<td>Insufficient 33%</td>
</tr>
</tbody>
</table>

Source: Field study.

The above table which depicts the opinion of the entrepreneurs taken during the survey through questionnaire served upon them shows that 67% of the entrepreneurs reveal that the space available for production is sufficient while 33% of them are of the opinion that the space available are insufficient. Though majority are of the opinion that space available are sufficient yet it is found during the field survey that most of the units are started in an unorganised manner. Though the government have provision for allotment of sheds in industrial areas yet the space of such sheds are hardly sufficient and the facility is not practically enjoyed by many fruit and vegetable processing units of the region. In reality,
political clout plays a dominant role for any new entrepreneurs to secure a shed in the industrial centres provided by the govt.

QUALITY CONTROL:

When referring to a product the term quality signifies the degree of its excellence. The term quality control means all those activities taken to maintain and improve quality.

It has been realised that inspection alone cannot build quality into a product unless quality has been designed and manufactured into it. Therefore quality awareness must begin at the very conception of a product and continue during the various stages of its development and manufacture and even during its usage to provide feedback from the users which is so essential for quality improvement.

The quality cycle begins and ends with the user. It starts when the user's need is analysed to design a product for its fulfillment. The cycle ends with the user because the final proof of good quality comes from the acceptance of the product by the user.

Quality control is an essential criterion for the
success of any production unit and in matter of food processing this is most important because any defect in quality of the food products would directly hamper the health of the consumers.

But the fruit and vegetable based units of Assam have not yet paid much interest in the quality control of the products, neither are they very conscious about their quality improvement. Most of the units do not process the FPO (Fruit products order) licence which is regarded quality standard for fruit and vegetable products. This is shown in table 5.2.

Table 5.2
Opinion of entrepreneurs in percentage regarding obtainment of FPO licence by the local Fruit and vegetable processing units of Assam.

<table>
<thead>
<tr>
<th>Obtainment of FPO licence</th>
<th>Opinion of entrepreneurs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes 45%</td>
</tr>
<tr>
<td></td>
<td>No 55%</td>
</tr>
</tbody>
</table>

Source: Field study.

As per table 5.2 most of the units i.e. 55% have not obtained FPO licence due to the strict norms put forward by the ministry of food processing for obtaining such quality standard licence. Only 45% of them have fulfilled the norms and have obtained the licence.
Therefore without FPO licence the products could not obtain ISO 9000 which is an internationally accepted quality standard and as a result the products could not be marketed both within and outside the country. Hence they remain concentrated on a particular locality. Further there is no appropriate laboratory for testing the quality of the products.

TRANSPORTATION:

Transportation plays a vital role both in production and marketing of any products. In case of production when the raw materials are bought from far away places there may arise a problem of deterioration and decay in the absence of cold storage vans. This may also lead to increase in transportation cost.

Moreover, machineries and equipment which are mostly bought from outside the state demand high transportation charges. High transportation expenses are also incurred in buying the packing materials. Furthermore, during the floods which occur every year the transportation of the finished goods and raw materials become very difficult both within and outside the state.
FOOD TECHNOLOGY:

The processing fruit and vegetable products which consist of Jam, Jelly, Chutney, Sauce, Pickles etc cannot be kept for a longer period of time without using adequate preservatives.

Preservation of fruits and vegetables both processed and unprocessed can be broadly classified into three groups.

(a) PHYSICAL METHODS:

1. Removal of heat by refrigeration or freezing:

The freezing preservation of vegetables are done as shown below.

```
Vegetable  ↓
Washing  ↓
Cutting  ↓
Blanching  ↓
Packing in pouches
```
Freezing

Storing in cold.

Chart 5.1, Freezing preservation of vegetables.

Fruits are also frozen in a similar way. They are chosen at proper stage of maturity with required brix - acid ratio and washed and prepared in unit packs and frozen in a blast freezer after which they are stored in cold. Fruit pulps can also be frozen in blocks of 25 kg in polythene bags and stored at -18°C.

2. Addition of heat:

Food products can also be preserved by application of heat as in the case of pasteurization, processing (canning, bottling, aseptic packing)

During pasteurisation the pulps/ Juices are heated to a temperature of 85°C which kills most of the organisms present. In processing all living organism/ spores are destroyed and the condition in the can or bottle do not favour the growth of organism. Fruit Juices are processed at temperature raising from 65°-68°C for 20-25 minutes as higher
temperature destroys the flavour. Vegetables which are low in acid and often high in protein contain spore bearing bacteria. So they are processed under pressure in steam.

<table>
<thead>
<tr>
<th>Fruits</th>
<th>Vegetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Washing</td>
<td>Washing</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Cutting</td>
<td>Cutting</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Pulping</td>
<td>Blanching</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Pulp</td>
<td>Filling in cans</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Heating to 85°C</td>
<td>Addition of brine</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Filling in cans</td>
<td>Exhausting</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Sealing</td>
<td>Sealing</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Processing</td>
<td>Pressure Processing</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Cooling</td>
<td>Cooling</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
</tbody>
</table>
3. Removal of water by dehydration, drying or concentration:

Preservation by drying depends upon reducing the moisture content to the point at which the concentration of dissolved solids is so high (70% or above) that osmotic pressure will prevent the growth of micro organism. The amount of drying necessary depends upon the composition of food.

Fruits/ vegetables

\[\downarrow\]

Washing

\[\downarrow\]

Peeling/ Cutting

\[\downarrow\]

Pretreatments

\[\downarrow\]

Preservatives

(sulphuring, suphiting)
4. Irradiation:

In this method the food products is exposed to ultra violet or ionising radiations. This method is commonly used for onion sprout inhibition.

B. CHEMICAL METHODS:

Fruits and vegetables can be preserved by addition of preservatives in sufficient concentration to present the growth of micro organism. The common preservatives used sugar, salt, vinegar, and chemical preservatives like potassium meta-bisulphite and sodium benzoate. Sugar used in concentration of 70% or more will preserve most fruits in the form of jellies, jams etc. It acts by osmosis and not as a true micro-organism poison. Salt acts both by osmosis and as
micro-organism poison hence it is much more effective than sugar. About 15% salt is sufficient to preserve most products. Acetic acid acts as a micro-organism poison and is much more active than salt. About 2% acetic acid will prevent spoilage. The flow sheets below shows the use of sugar, salt and acetic acid in fruit and vegetable preservation.

Fruits

↓

Washing

↓

Peeling and cutting

↓

Boiling with required amount of sugar.

↓

Addition of pectin and critic acid

↓

Boiling to raise the Brix to 68°

↓

Addition of colour and flavour

↓

Filling in bottles

↓

Storing

Chart- 5.5. Preparation of Jam.

Vegetable / raw fruit
Washing and cutting

Addition of salt

Curing

Addition of spices /oil

Packing

Storing

Preparation of pickles.

Vegetables

Washing, cutting and pricking

Addition of salt, sugar and acetic acid solution.

Filling into jars

Curing
Packing

Chart 57 Preservation of vegetables using acetic acid.

Use of potassium meta bisulphite and sodium Benzoate as preservatives has been widely practised to prevent the spoilages of most of the acid food products. The amount required varies with the pH value (measure of acidity or alkalinity of a solution). Chart 5.8 and 5.9 represents the preparation of fruit squash and tomato ketchup.

Fruit

↓

Peeling

↓

Pulping

↓

Juice / Pulp

↓

Addition of sugar syrup critic acid, flavour, colour and preservatives (potassium meta bisulphite)

↓

Bottling

↓
Storing

Chart 5.8 Preparation of squash

Tomatoes
↓
Washing
↓
Juice extraction
↓
Tomato juice
↓
Cooking with sugar, salt, spices
↓
Addition of acetic acid, preservatives
  (Sodium Benzoate)
↓
Ketchup/Sauce
↓
Hot filling in bottles
↓
Air cooling
↓
Labelling
C. FERMENTATION:

Micro-ogramism may be used for the preservation of food as well as for their decomposition. Fermentation may be defined as the decomposition of the carbohydrates by microorganisms or enzymes as contrasted with purification.

Alcoholic fermentation by yeast results in the decomposition of the simple hexose sugars into alcohol and carbon dioxide. Acetic fermentation resembles alcoholic fermentation and is brought about by vinegar bacteria. Lactic fermentation is extensively used in the preservation of sauerkraut, dill pickles, fermented string beans etc.

REQUIREMENTS FOR FRUIT PRODUCTS ORDER LICENCE:

There are five categories of licence under Fruit products order-1955, depending upon the annual production
in metric tonnes. The details of the different categories are shown below in the Table.5.3

Table 5.3

Table showing detail information of FPO requirement in terms of annual production in metric tonnes.

<table>
<thead>
<tr>
<th>Category</th>
<th>Minimum Manufacturing area (carpet area) in sq metre (flyproof)</th>
<th>Minimum storage area (carpet area) in sq metre.</th>
<th>Optimum internal height of the manufacturing area.</th>
<th>Annual production in metric tonnes</th>
<th>Annual licence fee in (rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large scale</td>
<td>300 sq.mt</td>
<td>300 sq.mt</td>
<td>14 ft.</td>
<td>No limit</td>
<td>1500</td>
</tr>
<tr>
<td>Small scale</td>
<td>150 sq.mt</td>
<td>150 sq.mt</td>
<td>14 ft.</td>
<td>250 M.T.</td>
<td>600</td>
</tr>
<tr>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small scale</td>
<td>100 sq.mt</td>
<td>100 sq.mt</td>
<td>14 ft.</td>
<td>100 M.T.</td>
<td>400</td>
</tr>
<tr>
<td>(A)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cottage scale</td>
<td>60 sq.mt</td>
<td>60 sq.mt</td>
<td>10 ft.</td>
<td>50 M.T.</td>
<td>250</td>
</tr>
<tr>
<td>Home scale</td>
<td>25 sq.mt</td>
<td>25 sq.mt</td>
<td>10 ft.</td>
<td>10 M.T.</td>
<td>100</td>
</tr>
<tr>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source :- Office of the FPO Ministry of food processing, govt of India, Six Mile, Khanapara, Guwahati.

Besides satisfying the area and height requirements for the relevant category the building should be
a) of permanent structure with RCC, Tin sheets or Asbestos roofing.

b) Well lighted and ventilated.

c) independent with independent approach from the main road. It shall have no direct communication with residential portion.

d) Location in a clean and hygienic place with surroundings clean and open free from open drains, garbage. Cattle sheds etc.

Manufacturing premises should be made flyproof by providing fine mesh on windows external doors, ventilators and openings. Walls should be plastered and white washed. Inner surface of the walls should be made impervious and moisture content upon 1.5 metre height by tiles cement plastered or enamel paint. Floors should be cemented, proper drainage facility should be provided. There should be exit doors (fly proof frame) with auto closing device which open outwards. Moreover there should be provision for free flow of tap water in the manufacturing area. Further the water should be chemically and bacteriologically tested in a recognised laboratory. The water sample for analysis should be drawn by a representative of the laboratory or a local health inspector and mention to this affect is made in the water analysis report.
FINANCE:

Finance is the most essential criterion for the success of any business. It is required at every step of the business may it be for the initial establishment or for modernisation and innovation of the business.

Finance is a major problem faced by the fruit and vegetable based units of Assam. These units are mostly constituted by the entrepreneurs as sole proprietorship concerns with their own capital. Therefore these units always have problems due to lack of finance for which they could not compete with the products from outside the state. Even though various schemes for providing financial assistance to the fruits and vegetable units are introduced by the various government and semi government institutions and some of the units have received such assistance yet the amount of such assistance is very negligible which is not sufficient for proper development of the units. This is shown in table 5.4

Table 5.4
Opinion of entrepreneurs in percentage regarding the financial assistance received from government and semi government institutions.

Opinion of Entrepreneurs
Sufficient       Insufficient
As per table 5.4 the conclusion of which is drawn from the field survey carried among the entrepreneurs of the local fruit and vegetable processing units, it is found that 9% of the entrepreneurs surveyed are of the opinion that the financial assistance received from the govt and semi govt institutions is sufficient while majority of the entrepreneurs i.e 91% are of the opinion that the financial assistance received is insufficient.

Moreover, the rate of interest of such finance is very high and the moratorium period of such finance is very short. Further, financial support requires well thoughtout project formulation together with quotations of plant from recognised dealers which the entrepreneurs hardly fulfils. Besides this, most of the units are started by the women folk as household units and as part time activity therefore the entrepreneurs of such units cannot give full proof documents relating to business entity and establishment such as registration, assets and other incidental documents fulfilling the norms of financial lending which the financing houses demand for lending finance. Furthermore, since the machineries are not locally produced therefore quotations have to be collected mostly
from outside the state which naturally has the problem of cost escalation during the time when the project is finally cleared.

FINANCIAL ASSISTANCE PROVIDED BY VARIOUS GOVERNMENT AND SEMI GOVERNMENT INSTITUTION

Both the central and the state government has provided many financial schemes for the development of the fruit and vegetable industry. The government of Assam has increased subsidy upto 35% on investment in all food processing industries.

For providing regular purchase from the farmers and adequate link between the farmer and the processor the government has provided re-imbursement facility in every purchase made by the processor in a given year upto Rs. 10 lakhs for a period of 3 years. Financial assistance is also provided by the Assam financial corporation as term loans. Besides this, Assam Small Industries Development Corporation, Assam Industrial Development Corporation, Agricultural and Processed Food Products Export Development Authority and other institutions provide financial assistance to the units in different forms. Detailed discussions made in chapter 6.
Moreover, special incentives are provided to the agro and food processing industries which are as follows:

i) Additional state capital investment subsidy of 5% subject to a ceiling of Rs. 5 lakhs for agro and food processing industries.

ii) 50% of the cost payable for getting FPO licence/ AGMARK/ Trade Mark for the products for food processing industries subject to a ceiling of Rs. 1 lakh.

However, even after such numerous financial assistance and incentive by the Government and the semi Government institutions the food processing units in Assam have not shown much progress. This is because in Assam a common allegation is that the central funds are not properly utilised. The same is witnessed in release of subsidies and incentives owing to the fact that unscrupulous traders along with corrupt officials share a part of it without any purposeful objective. Moreover the support measures adopted by the various Public Sector Undertakings (PSU's) are not fully implemented because many such undertaking are at present in their dying stage.

PERSONNEL:

An industrial or commercial organisation comes into existence when a number of persons join hands. These people
work to achieve organisational goals. Human resource is of paramount importance for the success of any organisation. It is concerned with the people working in the organisation. Personnel management aims at getting the best result out of the workers. It deals with the obtaining and maintaining of a satisfactory and a satisfied workforce. It is the recruitment, selection, development, utilization of and accommodation to human resources by the organisation.

**LABOUR:**

Labour is always and everywhere the largest factor of production and labour income always constitute the large part of national income.

Labour represents people employed or capable of being employed in a productive activity. Labour can be divided into two types

- a) Organised labour and

- b) Unorganised labour.

The former one is characterized by enforcement of law, security of job, strong bargaining power, better working
conditions, uniform wages and so on. The latter is characterized by absence of job security, discriminatory wages, poor working conditions, low bargaining capacity, irregular, disguised and under employment.

The fruit and vegetable based units of Assam enjoys availability in the supply of unskilled labour. There is a dearth of skilled labour required by the fruit and vegetable industry in this region. This is shown in table 5.5

| Type of labour available locally for the fruit and vegetable processing units. | Opinion of entrepreneurs |
|---|---|---|
| | skilled | semi skilled | unskilled |
| 18% | 37% | 45% |

Source: Field study

As per the field survey carried among the entrepreneurs of the local fruit and vegetable processing units, majority of the entrepreneurs are of the opinion that the labourers for such industry are mostly unskilled which is opined by 45% of the entrepreneurs surveyed while 18% of them are of the opinion that labourers are skilled ones. Again 37% of them are of the
view that labourers are mostly semi skilled ones. These units which are started by the entrepreneurs in their household are mostly unorganised therefore there is no organised workforce in these units and as such they experience a frequent labour turnover which causes inconvenience in the smooth running of the units. Besides the labourers being mostly unskilled do not have the technical knowhow of operating the machines. Again since the units are mostly run as household units by the entrepreneurs therefore the production which is carried on a part of the residential house of the entrepreneurs in a minimum space in more or less congested manner is quite unhygienic for the health of the workers.

**WAGES:**

Wages is the remuneration paid by the employer to his employee in return for the services rendered by the latter to the former. Wages are usually paid in terms of money soon after the completion of a certain amount of work or a certain period of service like one day, one week, two weeks or one calendar month. Thus wages can be defined as a monetary compensation paid by the employer to the worker in return for the contribution he makes for the achievement of the objectives of the organisation.
The wages payable to the workers of the fruit and vegetable based units of Assam differ from unit to unit. There is no uniform standard rate of wages payable to the workers of such units. In some units wages are paid on the basis of fixed monthly salary and in some, payment is made on the basis of daily wages. This is shown in table 5.6

Table 5.6
Opinion of entrepreneurs in percentage regarding the payment of wages made by them to the workers of the fruit and vegetable processing units of Assam.

<table>
<thead>
<tr>
<th>Mode of payment of wages by the entrepreneurs of the local fruit and vegetable processing units.</th>
<th>Opinion of entrepreneurs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Monthly fixed salary</td>
</tr>
<tr>
<td></td>
<td>64%</td>
</tr>
</tbody>
</table>

Source: Field study.

As per table 5.6 based on the survey work among the entrepreneurs of the fruit and vegetable processing units of Assam, 64% of the entrepreneurs surveyed prefer to pay wages to workers as fixed monthly salary, 27% of them pay as daily wages and 19% of them pay on the basis of more work and
The workers of the fruit and vegetable based units of Assam are often exploited and are paid with poor wages; This is because the scale of operation of such units are very small and their magnitude of profit is also very low. As such they cannot pay high wages to the workers. Moreover, no additional benefits are given to the workers along with their wages.

TRAINING:

Training is the transfer of defined and measurable knowledge or skills. It involves the development of the workforce to meet the future challenges in the organisation.

So far as the training aspect is concerned the fruit and vegetable based units of Assam have received a very good Government support in this regard. The standard of such trainings as per the entrepreneurs are quite satisfactory. Moreover such trainings have given an added advantage to the entrepreneurs in receiving loans, grants and subsidies from the Government and semi Government institutions. Therefore the entrepreneurs of the local fruit and vegetable based units have not suffered much so far as the training programmes are
concerned and most of them have availed the opportunities of such programmes conducted by the Government. However, the entrepreneurs have not yet started any separate training programmes on their own to train out their workers and the local people.

MARKETING:

Marketing is the sum of all those activities that are related to the free flow of goods from the points of production to the points of consumption. It includes the handling and transportation of goods from the place of production to the place of consumption.

Assam which is the gateway to the North east India has an abundance of horticultural products which serve as raw materials to the fruit and vegetable industry. But the growth of this industry is not proportionate to the availability of the raw materials in this region. This is because of many reasons. Among the various reasons the most vital one is the marketing problem faced by the units. Though the products have a ready market which is of course limited in size yet there are many other marketing problems faced by the units.
PACKAGING AND LABELLING:

The units face a lot of problems with regards to the packaging and labelling of the products. Containers for packing are not available within the state and are to be purchased from outside which increases the expenditure. Regarding labelling, most of the units prefer ordinary labelling because of its low cost. Moreover, the quality of the offset printing of labels done locally are not of good standard. Hence the outside products are more attractively presented so far as packaging and labelling are concerned.

ADVERTISEMENT:

The products of the local fruit and vegetable based units are hardly advertised. As a result, even the local people are not much aware of the products manufactured in the state. It is because of this that the sale of the products are very low compared to the outside products which are rigorously advertised.

WAREHOUSING:

The units also face a problem of storing the raw materials and the finished products. Most of the units are
started by the entrepreneurs in their own residential houses with minimum space. As a result there is always a problem of storing the raw materials and the finished products. Moreover due to the financial crisis the entrepreneurs could not afford any cold storage facilities. Further the sheds allotted by the government in the various industrial estates are also not sufficient for production and storing purposes.

MARKET RESEARCH:

The local fruit and vegetable based units have not shown much interest in conducting any kind of market study for their products. Further no test marketing is done before the launching of the products in the market. However, some units have employed persons for door to door sales of the products who bring certain feedback information regarding the acceptance of the products which to some extent helps in making an analysis of market study. But no services of experts are taken in this regard.

TRANSPORTATION:

Transportation plays a vital role in the marketing of the products. Regarding the marketing of the local fruit and vegetable based products of Assam transportation expenses
become very high due to the non availability of the packing materials which are to be purchased from outside the state. Further as the retailers are scattered here and there, therefore, producers have to bear high transportation charges while catering the needs of the individual retailers.

**EXPORT MARKETING:**

The products of the local fruit and vegetable units are hardly exported to the other countries. This is because most of the units do not possess the F.P.O. licence. Though a very few negligible number of firms have exported their products on a sample basis yet however the local products are to satisfy the needs of the domestic market fully. Further the entrepreneurs should be rigorously trained to cope up with the various guidelines regarding hygiene conditions which are to be maintained in order to export the products to different countries.

**CHANNEL OF DISTRIBUTION:**

Channel of Distribution is the path through which the products pass to reach from the producer to the ultimate consumer.
So far as the local fruit and vegetable based products are concerned the units providing these products have a very small scale of operation and as such these products do not have a very large channel of distribution. The most common channel adopted by these units is the producer→retailer→consumer channel. The entrepreneurs give the products to be sold by the retailers in their own locality. Sometimes it is seen that door to door salesman are also employed by the entrepreneurs to sell the products. A few entrepreneurs also have their own retail outlet for selling the products.

Therefore, the fruit and vegetable based units of Assam are besieged with many problems. These units suffer a lot due to the lack of auxiliary support but however they do not have much infrastructural hurdles. This was found while carrying out the survey work among the entrepreneurs through the distribution of questionnarie which is also proved in the hypotheses no.5 which runs as follows.

That the fruit and vegetable processing industry suffer heavily due to the lack of infrastructural and auxiliary support.

Table 5
Opinion of entrepreneurs of fruit and vegetable industry in percentage showing the power supply for carrying production in the local fruit and vegetable industry.
Opinion of entrepreneurs

<table>
<thead>
<tr>
<th>Power supply for carrying production</th>
<th>Sufficient</th>
<th>Not sufficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>73%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Source: Field study.

Table 5.8
Opinion of entrepreneurs of fruit and vegetable industry in percentage showing the transportation system available for the fruit and vegetable industry.

Opinion of entrepreneurs

<table>
<thead>
<tr>
<th>Any problem with the transportation system</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: Field study.

Table 5.9
Opinion of entrepreneurs of fruit and vegetable industry in percentage showing the cost of transportation of the fruit and vegetable industry.

Opinion of entrepreneurs

<table>
<thead>
<tr>
<th>Opinion about the cost of transportation</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>45%</td>
<td>37%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: Field study.
<table>
<thead>
<tr>
<th>Table 5.10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion of entrepreneurs of the fruit and vegetable industry in percentage showing the entrepreneurship training received by them.</td>
</tr>
<tr>
<td><strong>Opinion of entrepreneurs</strong></td>
</tr>
<tr>
<td>Whether received any training</td>
</tr>
<tr>
<td>or not</td>
</tr>
</tbody>
</table>

Source: Field study

<table>
<thead>
<tr>
<th>Table 5.11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion of entrepreneurs of the fruit and vegetable industry in percentage showing the standard of the entrepreneurship training.</td>
</tr>
<tr>
<td><strong>Opinion of entrepreneurs.</strong></td>
</tr>
<tr>
<td>Satisfactory</td>
</tr>
<tr>
<td>Opinion of the entrepreneurs</td>
</tr>
</tbody>
</table>

regarding the standard of the training programme.

Source: Field study.

<table>
<thead>
<tr>
<th>Table 5.12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion of entrepreneurs of the fruit and vegetable industry in percentage showing any preference obtained for getting (loans, grants, orders) after receiving the entrepreneurship training.</td>
</tr>
<tr>
<td><strong>Opinion of entrepreneurs</strong></td>
</tr>
<tr>
<td>Received any kind of assistance (loans, orders, grants)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Source: Field study.

The above tables show the information gathered from the survey work conducted among the entrepreneurs of the fruit and vegetable industry about the infrastructural support received by the units. As per table 5.7, majority of the entrepreneurs, i.e., 73% are of the opinion that the power supply to the processing units are sufficient. In case of transport, table 5.8 and 5.9 shows that although majority of the entrepreneurs are of the opinion that there is no problem in the transport system yet according to them cost of transport is high or moderate. Only few are of the opinion that the cost of transportation is low. Further majority of the entrepreneurs have an optimistic opinion regarding the training programmes. They are of the view that they have received advantages in the form of grants, loans and orders as the result of the training programmes which is shown in the table 5.10, 5.11, and 5.12.

Therefore the local fruit and vegetable industry do not suffer much due to the infrastructural support.
Table 5.13
Opinion of the entrepreneurs of the fruit and vegetable industry in percentage showing government assistance received by them to promote their sale.

| Opinion of entrepreneurs as to whether any govt or semi govt. institution have helped them to promote their sale. |
|---|---|
| Yes | 27% |
| No  | 73% |

Source: field study.

Table 5.14
Opinion of the entrepreneurs of the fruit and vegetable industry in percentage showing financial assistance received from any govt or semi govt institutions.

| Opinion of entrepreneurs regarding whether any financial assistance received from any govt. or semi govt. institutions. |
|---|---|
| Yes | 64% |
| No  | 36% |

Source: field study.

Table 5.15
Opinion of the entrepreneurs of the fruit and vegetable industry in percentage showing the financial assistance received from the Government.

Opinion of entrepreneurs.
Opinion of entrepreneurs regarding the financial assistance received from the govt.

Source: Field study.

Table 5.16
Opinion of the entrepreneurs of the fruit and vegetable industry in percentage showing the credit facility given to the retailers.

<table>
<thead>
<tr>
<th>Opinion of entrepreneurs as to whether the credit facility is given to the retailers by them.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Opinion of entrepreneurs</td>
</tr>
</tbody>
</table>

Source: Field study.

Table 5.17
Opinion of the entrepreneurs of the fruit and vegetable industry in percentage showing maximum credit period given to the retailers.

<table>
<thead>
<tr>
<th>Opinion of entrepreneurs regarding maximum credit period to the retailers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 week</td>
</tr>
<tr>
<td>Opinion of entrepreneurs</td>
</tr>
</tbody>
</table>

Source: Field study.
Table 5.18
Opinion of the retailers of the fruit and vegetable industry in percentage showing as to which of the products give a greater credit facility.

<table>
<thead>
<tr>
<th>Opinion of retailers as to greater credit facility.</th>
<th>Local products</th>
<th>Outside products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion of retailers</td>
<td>Nil</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: Field study.

The auxiliary support includes the marketing support, the credit facility and the financial assistance provided to the local fruit and vegetable industry.

As regards to the marketing support received by the fruit and vegetable industry from the govt and semi govt institutions as per table 5.13 majority of the entrepreneurs have received no such support. Only a few, i.e. 27% of the total entrepreneurs surveyed have received such assistance. Further table 5.14 and 5.15 shows that although most of the entrepreneurs have received financial assistance from the government yet the assistance received is not satisfactory. Similarly as per table 5.16, and 5.17 though the entrepreneurs give credit facility to the retailers while selling their products yet the periodicity of such credit is very short compared to the prod-
ucts from outside the state. This is due to the shortage of working capital required for the smooth running of any fruit and vegetable industry.

Therefore from the above tables which are drawn from the field study among the entrepreneurs and retailers, a conclusion can be drawn that fruit and vegetable industry suffer heavily due to lack of auxiliary support.