CHAPTER - IV

AGRICULTURAL MARKETING AND PROCESSING IN MIZORAM
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A. NEED FOR AGRICULTURAL MARKETING IN MIZORAM

Agriculture marketing basically means movement of agricultural produce from farm to consumers or manufacturers. It includes initial processing such as cleaning, sorting, grading, quality control to simplify sale and to meet consumers’ requirements, packing for reduction of wastage, and to simplify handling and transportation. Prices are determined through free market process by negotiations at different stages and the prices represent the balance between the consumers’ ability to pay and the farmers’ need for incentive to produce. Agricultural marketing also includes marketing of inputs and services needed by the farmers such as fertilizer, insecticide, animals feed, farm machinery, equipment, etc.

The economic development of the people in Mizoram and the progress of Mizoram as a whole will depend very largely on agricultural development. Mizoram has virtually no minerals and has no good prospect for industrial development due to lack of resources such as power, raw materials and difficulty of communication and its remote location. But Mizoram, in spite of its hilly terrains, has a good prospect of producing various kinds of fruits, commercial crops, cereals, floriculture, wood and medicinal plants. The tropic of cancer passes through the middle of the state. Land-man ratio is also favourable for agriculture activities as Mizoram is the most thinly populated in the whole country except for Arunachal Pradesh. The future of Mizoram, therefore, depends on development of agriculture, which includes animal husbandry and fisheries. But producing plenty of crops will not be good enough for development of the states unless the produces the produce or processed products are marketed systematically. We may, therefore, say that the welfare of
the people of Mizoram and the development of the state as a whole depends on the creation of a proper and efficient marketing system of agricultural produce and the processed products. We must have a clear concept of marketing and a definite long-term policy.

4:1 The Present Status of Agricultural Marketing in Mizoram

(i) There has been a widely held but erroneous concept in Mizoram that the Government is basically responsible for the actual marketing of the agricultural produce. There is also a misunderstanding of the important roles of the middleman. These perceptions are prevalent among the politicians, among the farmer-producers, among the general public and even among the more knowledgable persons in key posts of the Government. The first concept has its root in the socialist ideology. In India also some public agencies for marketing have been created as a consequence of our policy of mixed economy. It is also true in a limited sense that some democratic countries do have some public marketing system run by a government agency or a cooperative basis normally under special circumstances while the vast majority of the market is in the hands of the private people. But the public system of marketing has been found to be highly unsatisfactory. The number of socialist/communist countries practicing the public system has been reduced drastically recently and even in India our public undertakings are being privatized one after another. In short, the experiment of public ownership and operation of farming, manufacturing, and marketing has been found to be unfeasible, inefficient, unprofitable and is being discarded everywhere. Regarding the public marketing agencies in India, the Expert Committee on Strengthening and Developing of Agricultural Marketing appointed by the Government of India, in its report of June, 2001 has stated that the performance of the public marketing agencies established by Govt. of India such as NAFED has remained “faulty and inefficient” even after decades of its operation.
(ii) In Mizoram also, we may look into the performance of the Mizoram State Cooperative Marketing & Consumers Federation and Mizoram Agricultural Marketing Corporation (MAMCO). The former was formed as the State apex body of the Co-Operative Marketing Societies for marketing of agricultural foods and other minor products of small farmers and individuals. But it is doing nothing in agricultural marketing and it never made sustained efforts in this regards in the past. What they do now is irrelevant to what was intended at the time of its establishment. Their present activities can be done much better by private entrepreneurs. MAMCO which was formed in 1994 did try to do some agricultural marketing but invariably ended in fiasco every time they tried their hands in this business. They did not bring relief to the farmers inspite of hundreds of lakhs of rupees spent by them in taking up the marketing of ginger on a few occasions. Instead of making profit from such business transactions or at least maintaining no profit no loss status, they incurred huge financial loss amounting to hundreds of lakhs of rupees. They failed to realise even 10% of the amount they spent for buying ginger.

(iii) The Government has been restricting free flow of any agricultural produce to other states viz the Mizoram Agriculture Produce (Prohibition of Movement) (Amendment) Order 1999. This order seems to be the latest of several such orders, the first of which was probably issued in 1991 expressly to prevent the free movement of squash (chow chow) from the areas of production (Sihphir and nearby villages) towards Cachar District via Vairenge in Mizoram. The latest order prohibits 138 items of cereals, fruits, vegetables, flowers, and other cash crops to be sent out of Mizoram without permit and without payment of fee. Similarly, the inflow of these items is controlled. The said order and its preceding ones are issued based on the provision of Section 7 of the Eastern Bengal Frontier Regulation, 1873, which has
prohibited any person who is not a native of Mizoram, from acquiring "any interest in land or the product of land" beyond the inner line, i.e. in Mizoram, and that this prohibition may be extended to any class of persons, including the "natives". This archaic regulation issued probably due to other "regular" acts, orders, etc. not being available as agriculture produce is being available as agriculture produce is being traded freely in India. This order of 1999 is intended, it is said, to protect the Mizo farmers and the traders. However, rather than promoting the cause of the farmers and traders, the order has placed difficulties for them in selling their produce outside Mizoram and has become an obstacle in creating a cadre of genuine Mizo traders or middlemen to deal in agriculture produce. It may be said that permit is issued generously and that the fee is also not much. But the time consumed and the troublesome formalities may be a real discouragement for a simple farmer from a village. This is proved by the selling of "challans" at the Vairengte Check Gate or elsewhere by the permit holders to genuine and actual traders or producers. Besides, the very essence of the order seems to be given all kinds of help including facilities and subsidy in different forms while duties are collected from imported goods.

(iv) The Government, unfortunately, continued this policy of control and monopolisation of the market instead of helping and promoting private traders. In fact, it would appear to be questionable to the legal authority of the Government for exercising such control on purely private properties. The contractors, appointed by the Government for ginger marketing for the whole of Mizoram recently, could not buy all the available quantities nor able to pay the initial contracted price to the producers, while nobody, including the farmers themselves were allowed to sell to other traders. The irony was that those appointed contractors were not professional marketing men. Even those gingers purchased
by them were not sold to other marketing centres like Kolkata or exported to other countries like Bangladesh but disposed them off to dealers at Bagha Bazar or nearby places.

(v) The most serious and long term adverse effect of this order is the curbing of entrepreneurs in marketing agro produce. The original intention of the order may not be for such misuse, but the Government, its agency or the Government appointed contractors, have often become the sole traders and have monopolised the trade in the past. When there is extremely low rate of ginger everywhere, Government or its agency decides that the private entrepreneurs may take part in the marketing of ginger. This is a strange state policy on trading and is contrary to the normal policy elsewhere. Actually, state should allow private people to trade freely and profitably. However, when the price is low and the farmers are not getting their fair due, then the Government should intervene.

(vi) The important point being emphasised in this para is that the policy and practice of monopolising trade in agriculture produce by the Government is a wrong policy. The Mizo people are known for their acumen entrepreneurship in trade and commerce and they have dominated commercial activities in Mizoram. But there is no Mizo trader worth mentioning in this field of marketing of agricultural produce. This is probably the worst consequence of the wrong Government policy. Even after three decades of surplus production of ginger, for example, there is no genuine Mizo dealer in ginger. This vacuum should be filled up by reversing the present policy of the Government and by patronising and helping the private traders to take up this important task of agriculture marketing, because the welfare of the farmer-producers depends on the successful marketing of their produce. So far the
Government's monopolisation has resulted in huge loss of scarce fund, scandalous activities, disappointment and loss to the farmers, and most of all the complete stagnation and complete confusion in the agriculture marketing.

4:2 The Necessity of Middlemen in Agricultural Marketing

(i) Another important misunderstood aspect in the agriculture marketing is the roles and the necessity of the middlemen. The officers of Mizoram even at the highest echelon fall to understand the need of middlemen. They think that once there is enough production hordes buyers will come and fetch this produce from the producers. This may be true to a limited extent for manufactured products or for some special crops like oranges or hatkora. But for other agriculture produce such as fresh ginger and chillies, we have seen during the last three decades that such simple idea is not working. Middlemen who will buy the commodities from the farmers and then market the same in other marketing centres or export them abroad are absolutely necessary. Crops, which may be marketed without middlemen, are likely to fetch better prices with the help of professional marketmen. To work as an effective middlemen a person should understand the importance and knowhow of post-harvest processes including cleaning, packing, transportation and a thorough knowledge of the market fed by constant flow of information through modern information channels. Not to speak of the producer in the village, but an educated man in urban area may not be able to handle such marketing management. Opening of exporting channel requires expertise, deligence and a natural talent in management. There had been some loose talks against some traders at Bagha or near by places in relation to marketing of ginger, chillies, etc. But had these traders not been there how can the producers sell their
produce when none of our Mizo entrepeneurs are ready to take up this important role of middlemen by buying these commodities from the villages and disposing them off at Silchar, Kolkata, Delhi or export them to other countries. It may be true that these traders had exploited the weakness due to this missing link in the marketing to the disadvantage of some Mizo sellers, but they somehow took up the roles of the middlemen even if unsatisfactorily. The solution lies in having our own entrepeneurs to take up this important job. MAMCO or any Government agencies may not be able to function effectively as middlemen of traders. There are numerous such dealers or middlemen in Meghalaya, Tripura, or elsewhere but not in Mizoram. There are about a hundred import/export licence holders in Karimganj and about 50 in Dharmanagar which are very close to Mizoram. Probably there is not a single such licence holder who is actually utilising such licence now in Mizoram at least not for agriculture marketing.

(ii) Let us have a glance at the actual scenario of agriculture marketing. In a wholesale market of manufactured goods, the big dealers actually buy and sell the goods at a pre-agreed rate in bulk. But for fresh agriculture produce there are only commission agents in the terminal markets such as Kolkata or Delhi dealing in a commodity in bulk. For example, there are no big buyers and sellers of fresh ginger in Kolkata who will buy in truck loads at a pre-agreed rate of price but we have only commission agents who will deal with the bulk of goods entrusted to him by performing a sort of auction on behalf of the middlemen or trader for a fee (which is normally 7% of the proceeds plus handling charge of Rs 3.50 per bag of 60kg of ginger). This commission agency system is adopted because of the highly perishable nature of the agriculture produce and the fluctuation of rates. Therefore, the middleman from Mizoram generally buy the goods from the villagers and transport
them to Aizawl or Vairengte to Silchar and to Kolkata market, and then entrust the goods to a commission agent. The flow of goods also is to be regulated as an excess supply within a short period may in no time lower the rate of the price. Because of the high risk the margin of profit in agriculture marketing is also high.

(iii) Exporting fresh produce is even more challenging as it requires careful and thorough post-harvest process of cleaning, sorting, grading and packing. But overseas market normally offers much higher price and the quantity involves is always substantial. There fore, the seemingly high investment in post-harvest treatment, in transportation and additional expenditure paid for the best quality of the commodity is worthwhile. As of now, none of our agriculture produce has been exported abroad except to Bangladesh (that also by people from outside Mizoram) in spite of some attempts on the part of the private people and on the part of the Government even as recently as during current year. The reasons may be attributed to lack of post-harvest treatment and the complex nature of the opening of the export route. But the real reason seems to be lack of concerted efforts on the part of any Mizo businessmen. They seem to be hitherto more interested in easier but more profitable investments where there are virtually no risk including Government contracts and supplies, and that the main attempts were made by Government agency which is unsuitable for such venture. For example, in 1997, an agency in Delhi procured a contract of exporting 2,000 tons of ginger from MAMCO. Obviously the samples sent earlier must have been approved by these intending buyers. But MAMCO could not export even a single ton of ginger in spite of the commitment of the buyers who came not only upto Delhi but all the way to Aizawl and some even upto Mamit in their eagerness to buy fresh ginger from Mizoram. In that year, there were thousands of tons of
ginger purchased by MAMCO and which could not be resold but were rotten all over the place. The attempt or intention of exporting ginger had ended in a very sad note. The reason is simple, MAMCO simply could not handle the basic requirement of export. This also has illustrated the inefficiency, incapability and un-reliability of a public sector undertaking to do the actual trading and the need to have entrepreneurs to undertake this business.

4:3 The Importance and Urgency of Changing the Policy of the Agricultural Marketing in Mizoram

From what have been stated above the need for a new policy is obvious. Let us however, examine some more aspects why a new policy is urgently needed.

Agriculture produce and the processed products will be the main determinants for the economic development of the people of Mizoram. There is no minerals in Mizoram. Mizoram is in a remote corner of India and has no facilities, resources, no good communication system and has many other disadvantages for industrial development. However, Mizoram has many advantages relating to the development of agriculture and to harvest the richest of the produce of the land for making it an affluent state. But the realisation of such dream depends on the marketing of the agriculture produce and the products thereof.

It has been seen all over the world and India, from the many experiments and actual practices that the Government departments or its undertaking can not be depended upon to work efficiently, profitably, dedicatedly, and to bring real benefits to the small producers or to the consumers. One of the most difficult and complex establishments is commercial undertaking such as trading and the Government organisation is simply unsuitable to carry out such activity successfully. Therefore, the Government of Mizoram should abandon its practice of taking up
the actual trading or keeping tight control of the marketing of agricultural produce, and rather encourage and leave this business to the private entrepreneurs to take up this business.

Normally trading in agricultural produce is freely done anywhere in the world except some communists countries in the past. In India trading in agricultural produce is done by private people including in the state of West Bengal which has been trying to control this market through the archaic Eastern Bengal Frontier Regulation 1873. This regulation has been applied to Mizoram since 1930. It is meant for the protection of the Mizo. It is difficult to understand why such an extremely good intentioned regulation has been used for restricting the export of Mizoram produce and for placing impediment to the private people for the opportunity of marketing agriculture produce.
IV - (B)
MARKETING AND PROCESSING OF MIZORAM’S
AGRICULTURE & HORTICULTURE PRODUCES
B. MARKETING AND PROCESSING OF Mizoram's Agricultural & Horticultural Products

4:4 Marketing

Marketing is the key to successful farming. Marketing is the weakest link in the producer consumer chain. The progress of agriculture and horticulture industry in Mizoram has been imbalanced. The marketing facilities, infrastructure institutions and technologies did not keep pace with the expansion of area and increase in production, despite the fact that even these aspects have been slow to grow. Marketing as a subject and technology has not been properly understood. Most of the growers and people think that marketing merely means carriage and transport of produce for sale in a market. This is not so anymore. In early days it was simple and effortless. Buying and selling used to take place by producers and consumers face to face even as a barter system. The operations were restricted to nearby common place. The production strategy was confined to meet the needs of nearby population. Later on when production and demand increased days were fixed for conducting of market operation-sales and purchase, at convenient places. Modern marketing system is the performance of all business involved in the flow of goods and services from initial production point to ultimate consumer. Marketing moves product from the farms to the consumer and brings the money back. During this process the commodity moves several channels and is handled by several agencies. Marketing operations start from stage of harvesting when the crops fruits or vegetables are harvested (picked) at the appropriate stage of maturity. The maturity standards for harvesting and picking are different from eating. These may even
vary far local, short distance and far off markets involving long time and haulage. Ultimate aim is to pick at such a stage of maturity that the produce after passing through all the channels and handlers is delivered at optimum taste and flavour to the consumer at the same time there are no bruises or damage to the individual fruit.

4:5 The Modern Marketing System

A modern marketing system should cover and take care of the perishable commodity at all the stage through which it passes from harvesting tree(picking) to the consumer. The important stages are:

(a) Picking
(b) Assembly in the packing shed,
(c) Sorting and grading,
(d) Packing
(e) Transport to the forwarding centres,
(f) Loading,
(g) Transport,
(h) Unloading in the distribution market,
(i) Storage,
(j) Sale in market to:
   (i) retailers
   (ii) bulk purchasers
(k) In case of:
   (i) transport by retailer to his retail shop.
   (ii) above unpacking, regarding, packing, loading transport and unloading in other markets and sale to retailers.
4:6 Special Problems of Perishables Products

It would really be a remarkable achievement if a perishable agriculture or horticulture produce is made to reach the consumer at its best taste, flavour, colour and condition. The fruits and vegetables are made of living tissue and are therefore, particularly perishable. These are composed of thousands of living cells which require oxygen to function properly. The respiration process continues throughout as in the case of human beings. Rates of respiration vary for different fruits and vegetables. Higher the temperature more the rate of respiration and quicker the deterioration. Most perishable crops have higher rate of respiration. Attempt of an efficient marketing and handling system should be to minimise the rate of deterioration, spoilage and wastage. In nutshell the tissues and (finally the fruit) must be kept alive and healthy throughout the marketing chain from farm to consumer table.

4:7 Existing Marketing System

The produce is either sold in the local nearby town/market or sent to distant market within the state. Only a few commodities are sent outside the state.

(i) Local sale for internal consumption

Under this system the produce is sold in roadside stalls or in the nearby town or city. Sheds on roadside are set up by the sellers who are either producers or local women. The stalls in the towns and cities have generally been constructed by the Government. Several sellers use the same shed-local demand which is met by these sale points. The producers get maximum returns under this system. The producers’
share in consumers(buyers) payment may be 80 to 90%. This system should be encouraged and handling and storage is made more scientific and efficient. This will prevent spoilage and wastage. Another advantage is the employment of local people, mostly women. A quick survey revealed that the products are being sold at fairly good prices even in the interior. For instance pineapple was being sold at the rate of Rs. 30 for three pieces, banana at the rate of Rs. 20 per dozen, cucumbers (big ones fully ripe) Rs. 2-3 each, raw oranges (still unripe) Rs. 4-5 for 5, lemons Rs. 15 for 6 fruits. These rates are much higher than many distant markets. That shows that there is demand. Some forest produce like edible palm, fruits passion, fruits spiced with chillies in small polybags is another forest produce being sold. Ordinarily these will not find place in metropolitan markets.

(ii) **Town and city markets**

Surplus produce from these areas is brought to towns and cities and sold to meet the requirement of the town/ city population. There is busy fruit and vegetable market at Aizawl which sells a wide range of commodities by the small scale retailers many of which are producers. In addition to fruits and vegetables juices (hotkora) honey, fish and other products are also sold here.

(iii) **Long distance marketing**

The nearest market for Mizoram is Silchar. Only a few products are sent to Silchar. These are chow chow. (squash), ginger, chillies (green) and banana. Only bulk arrivals is of chow chow which start from May and end in October. In period of June to September about 400 quintals arrive daily while it may be 200 quintals in May and October.
The grower is exploited by the middlemen who join hands to make capital out of unorganised growers. Ginger consignments sometime go to Guwahati. Silchar is also market for Manipur and Tripura products. There is no coordination between the three and consequently all suffer. There is no scope for fair deal unless the growers of each state organise themselves and bargain from a position of strength and there is a close coordination between the three state. In fact even Megalaya suffers from where a good quantity of high quality vegetables come.

The importance of long distance marketing cannot be overemphasized. Future planning has to take this into consideration. For example chow chow production is more than 50% of the entire vegetable production (24728 out of 45978 tonnes in 1992-93) because of its large scale market in Silchar.

(iv) International trade

In the absence of systematic border trade agreement, official figures for export and import of perishable across the 404 kms border with Myanmar and 318 Kms border with Bangladesh are not available, However, it is a common knowledge that middlemen do come to Mizoram and bargain for the purchase of fruit crops. The main commodities are orange ginger and chillies, hotkora is also purchased. Other produces also cross the border in small quantities. There are all conjectures sources revealed that majority of the produces goes to Bangladesh.
(V) **Common marketshed**

The people of the three adjoining countries (Mizos, Bangladeshis and Myanmerese), have historical links in culture, production and trade. Production planning, marketing and trade got interlinked as a common economic zone. Boundaries of the countries came much later. Still trade continues. Then came barriers and check posts to control and prevent illegal trade. This has given a serious set back to perishable agriculture and horticulture, industry in Mizoram. Marketshed areas have changed from next door to over thousand of kilometers of rugged roads, time consuming, expensive and waste prone system. Disappointment of the people is evident. Any marketing or production system has to keep these factors in view. This is what has been programmed under the project. However, it will be desirable and more advantageous to the people of the areas if we can market those produce across the border.

(vi) **Production - marketing gap**

Production of fruits is 66674 metric tonnes and vegetables (2000 - 2001) and vegetables 40030 Metric tonnes (2000 - 2001). There is no firm evidence of the marketing of such a huge commodity excepting ginger, chillies. Nothing excepting chow chow vegetable, and part of orange seem to be going out of Mizoram. The production estimate of the Department of Agriculture and Horticulture thoroughly looked into and base for reliable statistics established. The figures now quoted may be very much on the high side and information collection system may be defective. There should be regular area census and yield determining surveys, otherwise even the best planning may go haywire.
(i) Excessive wastage and loss in quality

Emphasis on expansion of area and increased production under Mizoram's new agriculture and horticultural thrust requires strong marketing support and development of modern setup which should be technically sound. The stages or channels through which most of the products pass is mentioned earlier. The ultimate objective is that the produce after passing through so many stages and channels should be on the consumers table in garden fresh condition (at optimum taste and flavour). At present about 25-30% of the produce goes to wastage and a substantial percentage deteriorates in quality. Some of the factors responsible for such situation are:

(a) A lack of understanding of the maturity standards (picking and eating),
(b) Use of poor quality packing material,
(c) Lack of grading and standardisation,
(d) Packing of fruits of different maturity in the same lot,
(e) Packing too tight or too loose,
(f) Long or rough trans-shipment, loading, unloading, rough handling etc.,
(g) Exposure to variations in temperature, sunshine, rain, etc..

(ii) Maintenance of garden freshness

Understanding and knowledge of the behaviour of different perishable item under different handling conditions is necessary. Broadly, quality maintenance requirements are;
(a) Harvest at optimum maturity.
(b) Pre-cool to remove field heat, if necessary.
(c) Provide proper refrigeration throughout marketing (if possible).
(d) Provide careful handling to minimise moisture loss.
(e) Provide careful handling to avoid mechanical injury.
(f) Handle rapidly to minimize deterioration.
(g) Provide protective containers and packing.
(h) Use approved preservative chemicals or treatments.
(i) Enforce good sanitation procedures.
(j) Sell when the market wants your product.

These are only broad outlines and may change under different conditions. Several steps will be required to be taken for achieving the objectives mentioned above. These include provision of basic facilities, infrastructural development and organisational set up.

(iii) Training on maturity standards

This is one of the basic requirements for delivery of high quality product. The maturity standards will vary for different fruits/vegetables. Again in most of the products there will be different picking (or harvesting) forms for immediate consumption nearby market and distant markets. As is well known, many products continue ripening even after harvesting if picked at the right stage. The produces and the extension workers and in fact the entire technical wing of the Horticulture Department must thoroughly understand implications of this technology. The quality at the consumers end will be directly related to subsequent handling at the farm and off farm levels.
(iv) Grading

Division of the produce in different size and quality grades is another important stage or channel through which produce has to pass. Other things being equal, properly graded consignments, according to the standards and specification fixed for each kind and variety will get not only better price but also eliminate the necessity of opening the boxes or other packages if this is well-known in the market.

Since the production on large scale for outside marketing is now being taken up it will be desirable that grading (quality and size) is done in bulk by the organisation dealing with the marketing operations. The producers role should mainly be confined to divide his produce to A, B and C categories with visual observation. The category ‘A’ will be wholesome first class produce with all the qualities of a high grade fruit. The ‘B’ will be slightly lower grade or say medium quality and the ‘C’ grade is that which cannot be easily sold in a good market. This is for the purposes of deciding the payments to be made to the growers. Higher grade will get better prices. This will be kept in view even if the commodities are to be procurred by Govt. or agency. All the growers will be trained in respect of broad grades. The growers will be supplied returnable plastic or other types of boxes by the organisation handling procurement and marketing.

(v) Establishment of collection and forwarding centres (CFC)

The collection and forwarding centres will be set-up wherever there is sizeable production. The producers will bring their produce to such centres where it will be weighed according to standards fixed and an
acknowledgment issued. Part payment can also be made at this stage. The final payment will be made after selling the entire produce.

(vi) Grading, pre-cooling and packing facilities.

The produce collected in the collection sheds will be further graded according to specified quality and size grades. In the initial stage the sorting and grading will be carried out manually by the skilled labour. Subsequently machinery can be installed if the size of production so warrants. The produce is then packed in standard packages suiting the produce and sent to the terminal market directly without change of trucks as far as possible.

The entire production will thus be pooled. There will be no identity of individual growers after supplying to collection centre. However, a grower who has supplied large percentage of higher grade produce will get better returns as this will be recorded in the register both at the time of arrival and sale rates obtained quality and grade wise. If necessary the produce can be stored for sometime. The storage conditions must suit each kind and variety.

The collection grading and packing centre will have and appropriate building or shed which could handle produce without exposure to rain and sunlight both of which are injurious. It will generally be a shed and a store-cum-office room. Since it will be operative only for a few months for horticulture -- products these need not be costly structures. It would be desirable to use these for other purposes during off season so that overhead charges are reduced. For the time being a provision of 20 collection centres can be made. These should be well spread and can
be increased if needed.

Under the existing marketing system in terminal market there are too many sellers and few buyers. Thus, these markets have become buyers markets where the sellers (growers) compete with each other to sell their produce. The buyers, wholesalers and retailers are few and many times (rather most of the time) they join together to exploit the situation at the cost of the growers. The farmers (or producers) have no say in the rates, mode and method of handling of their produce and allied aspects. What further accentuates the situation is almost absence of the producers from the markets. The marketing is an off farm activity and cannot be attended to by the producer himself in far off places. Each consignment represent a farmer. In fact these markets have become middlemen oriented and operated markets particularly where the market (s) has not been regulated (Silchar). These problems are required to be overcome in a modern marketing system.

An example of the exploitation of the producers of Mizoram is the chow chow marketing. Inspite of the fixation of rates or procurement price by Govt. of Mizoram, the commission agents of Silchar join hands and agree to pay not more than Rs. 1.50 per Kg (wholesale) of chow chow even though the actual or intensive sale rate in the market may be Rs. 2.00 or so. This again is the result of too many individual growers keen to sell and internally one organisation to purchase.

(vii) Transport

Another example of exploiting the producer is the cartel of the transporters. They charge both ways (Silchar to Aizawl and back). While coming to Aizawl and charge about Rs. 10,000.00 on the plea that they
do not get load on their way back. However, they do bring load in many cases. For instance about 17000 metric tonnes of chow chow alone was produced in Mizoram in 2000 - 2002. This needs about 2800 truck trips at the rate of Rs. 8000 per truck load. In any case this is another case of exploitation and dishonesty which the growers and transport companies have very little or no record of despatch of goods from Aizawl to Silchar. The fact is that chow chow and some other commodities do go to Silchar.

Co-ordination and pre-planning of transport at Govt level.

The Govt. of Mizoram transport huge quantity of provisions to meet the requirements of the Mizoram people. Most important is the foodgrains. About 1000785 tonnes of foodgrains were brought in 1991 and 112576 tonnes in 1992. Thus an estimated over 12000 trucks (trips) must have been used for this purpose. The Govt. of Mizoram should plan their operations in such a way that most of the commodities are brought in during harvesting season of important crops and provide these trucks load during return trips. The rates will be substantially reduced even if it is left to market forces provided the bulk of the movement is undertaken when trucks are required for transport of horticulture produce. It would even be better to insist that load be carried back when paid for two traffic. At the minimum they can charge halting charges for a day or so.

(viii) River transport

River transport is another alternative which needs to be persued in the interest of the state of Mizoram. Presently the cargo movement to Kolkata takes 20 days which does not suit perishables. The transit time can be reduced to one week (7 days) provided navigation through
Bangladesh is allowed at night. Another possibility is the induction of high speed hovercraft (40 knots). This will deliver the consignments in 48 hours or so. The matter has to be pursued with the Central Inland Water Corporation of India. Agreement and arrangement with Bangladesh would also be necessary.

(ix) **Group action by producers**

The producers will continue to be exploited, till they organise themselves and deal with the situation with a position of strength. They cannot deal with it in individual capacity. What should they do then? The first choice is to do nothing and go on being exploited. In that case building of a modern horticulture industry will remain a distant dream. The second alternative is to be more vigilant and have a better supervision of the products in the terminal market. This again is not possible for him as he has to deal with many agencies like local transport, inter-state transport and sale in the terminal market. It must be understood that the marketing system comprises of many specialists. The commission agents and wholesalers know their jobs well. They can at once judge the condition and quality of the produce and pay accordingly. All these functions cannot be performed by individuals. The only way out is to organise the marketing operations as a group action.

The group action involved the pooling of the entire produce in one lot (according to quality grades) handle and sell these after grading and packing in the best possible markets. The low grade produce can be kept back for processing or other uses as that not only involves creating excesses or gluts in the markets without much sales value. When total arrivals are more, the prices fall. Only the good
marketable quality should be sent.

The group action involves either the federation of cooperative or the corporation which has been formed to protect the interest of the growers. How the producers and state will be benefitted from group action? This is a very pertinent (million dollar) question. A couple of examples based on practical experience may be cited as follows:

(a) Looking at the situation when an organisation will come in the market by station that they have huge quantities to sell there will be lakhs of tonnes in future that let us say for the time being one lakh tonnes of chow chow (squash) and other products. This will need over 12000 truck trips in a year involving a turnover of about Rs. 240 lakhs in a year. The trucking companys or unions will be competing each other in getting the business. The rates will then be competitive and only one side trip. This is the first advantage of group action.

(b) The organisation dealing with agriculture and horticulture products shall closely coordinate with the food and civil supplies department and other Govt. organisations engaged in bringing the huge quantities of foodgrains and use trucks for two way traffic. The freight will ultimately become cheaper for both sides because of regular traffic and mass engagement.

(c) The organisation handling huge quantities (on behalf of the producers) will engage full truck loads, which individual growers cannot do (and are exploited). What is important is that it will decide which market is
the best based on its market intelligence and study of market profiles and needs. The goods will be sent direct to these markets and eliminate the role of Silchar commission agents as distributing of products to other markets. The present system involves more middlemen, more handling charges, higher spoilage and deterioration in quality.

(d) In fact the markets and dealers in such markets will compete with each other for dealing with such organisation handling produce in bulk. They will reduce even the commission charges to 50%. This is the practice now. The organisation will recover all its expenses of marketing from the rebate given by the commission agents.

(e) By ensuring despatches to the markets which need produce directly according to their requirements, the produce will fetch better rates. At the same time the glut conditions created in Silchar which is the only distribution market now will cease. They will compete with others.

(f) Feed back from such operation will be of immense value. The organisation can hold back the products if prices fall down and prevent fluctuation of prices and rates.

These are but few important advantages in handling the produce collectively. This needs to be organised at the earliest.

The distance between Kotgarh-Thanedhar (Himachal Pradesh) belt and farmers at the foot of the hills is about 150 Kms. Charges per truck load (450 standard cases of about 10 tonnes) is Rs. 5000/- on the other hand freight between Aizawl and Silchar road which is less mountainous than HP roads is Rs. 10,000/- these days. Why such a difference? Govt.
of Himachal Pradesh allows all trucks whether registered in HP, or not whenever there is need for quick transport of apple or even potato. This creates competition amongst trucks.

All the apple consignments booked from Himachal Pradesh have guarantee to be delivered at the terminal market anywhere in India, if these are booked through HP Horticulture Produce Marketing and Processing Corporation. If the truck meets any accident and the fruit is damaged the loss is made good. Why can't it be done for Mizoram if we have a similar organisation?

There are many other benefits of an organised attempt. A few important ones are mentioned in brief:

(i) Market intelligence, market information and study of market profiles can be easily done by one organisation than many running on parallel lines.

(ii) The interests of the producers of Mizoram at larges can be better looked after in other markets by one central agency.

(iii) Bulk supplies to big organisation can be negotiated and supplied in time by one central unit. The institutions include supplies to army, para military forces, Border Roads Organisations (located in Mizoram and even adjoining areas), hostels, hospitals, schools, etc. Direct supplies will reduce middlemen in between.

(iv) If the situation so warrants and prices can afford even special fully loaded air cargo or even spare capacity in the existing flights can be used. This again can be done if Mizoram's sole marketing corporation can handle it.
(v) Hiring of a limited coldstorage space if required in terminal markets can be done.

(vi) Far transporting in bulk or by high speed boats to Kolkata via Bangladesh, the whole boat can be hired.

(vii) Growers need credit for production management. This can be against the produce to be sold in the market after harvest. The Govt. agency selling produce can easily do it and there will be no problem for recovery as it will be deducted from the sale proceeds.

(viii) Setting up of the marketing infrastructure and support services like grading, collection and forwarding centres, precooling, etc. as explained earlier.

(x) Storage

Storage of perishable agriculture and horticulture produce is best done under refrigerated conditions. Each produce has its own special specific requirements of temperature and rotative humidity (RH). The atmosphere controlled (AC) is an improvement over ordinary refrigerated stores. The composition of air inside the chambers is maintained according to requirements of the produce. These are specially suited for low temperature injury sensitive crops. The main role of cold storage is the reduction in rate of respiration and prevention of the attack of storage diseases.

The refrigerated stores are very costly these days. The fluctuating and interrupted energy supplies are other bottleneck. In fact long interruption is harmful than no storage. It is therefore not yet recommended unless conditions are favourable and stored products can absorb the
cost in the market sales. It is suggested that for the time
any new units excepting the one that has already been setup. If need be
some space in the existing cold storage in Silchar can be hired for regu-
lated and extended period of marketing and supplies. Such necessity
will only arise when the apex marketing organisation is established and
is handling sufficient quantities of produce.

(xi) Ventilated or air cooled stores

Storages without the use of energy can be used or tried on pilot
basis in the cooler area. The site is selected on cool and shady side.
Generally double walls area provided with a space in between which is
filled with paddy husk for insulation. The inlet is generally on the botton
of the room on the side from where the wind blows normally. The outlet
is provided on the opposite side of the room. If power is available for
even part time exhaust fan should be provided on the outward side. It
will help in air draft and better circulation.

The produce is stored in open top boxes which can be placed on
one another. The floor should be open for about a foot and the arrangement
of boxes should allow air circulation freely. About 3 tonnes of produce
can be stored in such a air cooled store. Two such air cooled stores be
built in the first instance and if successful be tried on a large scale.
This will be temporary storage which can reduce the ambivalent tem-
peratures outside by 8-10°C or even more. These are not meant for
long storage.
(xii) **Zero energy cool chambers**

Since the cost of setting up of conventional cold stores has gone up very high as also the cost of operation, it may neither be desirable nor possible to construct many of these and therefore, it is suggested that zero energy cold stores as designed by the Indian Agriculture Research Institute (IARI), New Delhi may be popularised amongst farmers. These are reported to be very good for short-term on the farm storage and are particularly suited for Mizoram climate. These are reported to be inexpensive to construct and with practically no running cost.

(xiii) **Agriculture & horticulture link roads**

In certain circumstances link roads to the production centre may be a necessity. These should at least be unuseable for small trucks which are now available in the market. A provision of about 50 kms of link roads in each plan (total 100 kms) may be considered sufficient at this stage.

(xiv) **Market intervention**

It would be worthwhile to purchase a part of agricultural and horticultural produce at a predetermined price at peak time of harvest, store it (where facility of cold storage is already available) and then to release it subsequently. These can then be sold to distant markets. This way the marketing organisation may have a good grip over the price situation and post harvest quality control. The fixation of procurement price even at collection centre or assembly market handling storage are
very complex and complicated operations. However any organisation dealing with marketing or agricultural and horticultural has no justification for its existence if it can not efficiently handle these aspects in a competent manner. The marketing organisation should have at least a target for 60% of the total produce sold from the hinterland of a specific market. The handling of produce in this way is necessary to create a real impact in the market, other advantages would be as follows:

(i) Off take of the part of the produce at peak harvest time and thus avoiding glut and fall of prices.
(ii) Maintenance of post harvest quality control for reducing spoilage and post harvest losses.
(iii) Providing experience and confidence to the staff.
(iv) Creating a distinct impact in the market and generation healthy competition for the trade.
(v) Laydown a sound base for the future exports.
(vi) Immense demonstration value to farmers and others.
(vii) Better deal, terms and conditions from the wholesalers/commisssion agents.
(viii) Projection of better image produce.

The Government of Mizoram had proposed that the market intervention scheme for provement of ginger for the 2001-2002 season on the basis of 100% grant be sought from Ministry of Agriculture, Govt. of India. The proposed quantity was 3800 mt. at the rate of Rs 3000/- per mt. so that the poor tribal farmers may recieve Rs 7/- per kg for their produce.
The matter is under consideration of the Govt of India for funding. There is considerable internal demand within Mizoram. It is necessary to create or promote facilities and infrastructure for local sales in addition to processing. This requires strengthening the network of roadside sales, saleshead in the town and a chain of outlets within cities like Aizawl and Champhai etc. The majority of the retail sales take place in one place though there are other outlets. What is required is to encourage educated youth (women and men) to set up small shops for sale of fresh and processed fruits and vegetables as also a juice bar.

4:9 Marketing Organisation (s)

Role of the Department of Horticulture

Marketing is ordinarily a commercial activity and as such it should be entirely dealt with by a thoroughly competent, efficient and technically qualified people. Trade and Commerce Department is the nodal department for the entire marketing operations, but will not deal with the commercial operation directly. The Department of Agriculture & Horticulture should be also responsible for crop forecasting, production estimates on which will depend the preparation for handling and marketing and market intelligence at all India level and sales promotion by getting media support. They will also conduct studies on the profiles of important markets.
Cooperatives societies' role in marketing.

Involvement of grower is essential not only in production but also in marketing. However, there appear to be large overdues which can be overcome shortly. All these societies are based in villages and can normally undertake handling of produce up to collection centre. It will not be possible for all these societies to undertake marketing on an appreciable scale. If this be so, these will be running on parallel lines competing with each other in the terminal markets. One of the basic requirements of marketing is dealing from a position of strength through group action.

4:10 Marketing of Product other than Agriculture & Horticultural Product

(i) Cotton

Cotton is grown in an area of about 555 ha. and the production in 1999-2000 was only 445 metric tonnes with yield of 0.35 per ha. The production and yield had not improved much during last one decade. In fact there is declining trend. At present cotton is used within the states for fabrics and marketing 'Rizais' (quilt) which are very common in the state. There is not much scope and then since cotton lint (cotton minus seed), is a bulky and fluffy material, its transport will cost more than normal. Modern grinding and pressing facilities are not possible. No attempts should, therefore be made to expand the area and production of cotton. Local use needs to be promoted for using the entire production.
(ii) **Sesamum**

Sesamum was grown in an area of four thousand ha. in 1992-93 with a production of 3086 tonnes. Yield is about 0.94 tonnes per ha. which is considered not bad under the condition it is cultivated. Since it is a non perishable commodity and is in demand in the rest of the country, its marketing should be tied up with durable horticulture crops. The Govt. can handle the produce within the state by procuring at predetermined procurement centres and procurement prices. These can then be transported in bulk to consuming area negotiating prices. Quality control and grading specification should be introduced according to Agmark specification. A check at the Vairengte barrier showed that sesamum is even now being sent outside the state in small quantities. Exact figures are not available as no record is kept. The post harvest cleaning, grading, packing and marketing may be organised in an integrated manner and arrange for sales in the best possible markets.

**4.11 Marketing Linkages of Forest Products.**

The terms of reference indicate five forest products for marketing linkages. These are teak, tung, bamboo, cane and broomstick. Total area under forests of all categories in Mizoram is 15,755 sq.km/ with large number of kinds and specifies. These are broadly divided into three categories, tropical wet evergreen forests, sub-tropical semi-evergreen forests and mountain sub-tropical pine forests. Interestingly, the forests have also wild fruit species such as Juglans regica (walnut), Emblica opiccinaly (amla) Punus and pyrus species (pyrus pashia chalthee-wild pear). This indicates the agro-climatic suitability for these horticulture
species. The following are the forest commodities:

(i) **Teak**:

Teak plantation is of recent origin. This is being planted in selected suitable areas, either alone or mixed with Gomari. In all about 20,000 ha. have been covered. It has a long gestation period and the wood will be suitable for timber after 60-70 years. Teak is a very high value timber needed for house building, house furnishings, and furniture. Its demand is much more than supply. Similar situation is likely to continue in foreseeable future. In fact, the country may even face serious shortage of timber. Wood necessitating introduction of substitute materials (iron, aluminium, plastic, etc.) which have already appeared in the market. Probably there will, therefore, be no problem of the marketing of teak wood.

(ii) **Bamboo**:

Bamboo are very important items amongst forest of Mizoram. These are used for house building and other house-hold uses on a large scale. It is also used on a wide scale for small and cottage industries. So far eighteen species of bamboos have been identified. Marketing of bamboos does not post a serious problem. However, since it is grown in abundance in the entire North Eastern Region which is situated far away from main consuming markets of the country, major problem may be freight charges. The best use would be paper mills based on bamboo in the adjoining states has to be taken into consideration. It has to be long range project involving environment. Species in Mizoram is Calamus opp.
(iii) Cane:

The cane, furniture and handicrafts are becoming more popular in the national market. A very vigorous publicity campaign is required for promoting cane based handicrafts. This also requires imaginative and innovative designers to develop new designs for furniture in general and decorative handicrafts in particular. A Handloom and Handicraft Wing created in the Industries Department and Mizoram Handloom and Handicraft Corporation Ltd. collect designs and patterns from other states, assess and evaluate the consumer's liking and preferences and developed new patterns accordingly. This gives employment to local people. There is tremendous scope for marketing of imaginative cane products.

(IV) Broomstick:

Broomstick is used in most of the houses in Mizoram. The collection of broomstick is done by the farmers and other rural people. However, they are exploited by the middlemen and do not get incentive prices to enable them to exploit local resources. The marketing of broomstick be organised efficiently and the people collecting the same be given suitable and reasonable prices. For this purpose an organisation should procure broomsticks at predetermined prices. The procurement should be throughout the state. These should then be collected at a central godown in Aizawl, properly graded and tied in bundles of convenient sizes. These can then be sold through auction or negotiation to the agent or for marketing in the terminal markets, or sell the same in terminal markets. A study be conducted on the demand posi-
tion and prices in different cities and then consignment should be sent to consuming market directly. Efforts should be made to avoid city to city supplies as this will innovate more middlemen. Reduction of middlemen in itself decreases the prices for consumers market. It should be the seller’s market and not buyers dictating terms. Being durable it can afford to wait and transport to long distances in bulk. During 1987-88 only 150.50 quintals of broomsticks were collected as against 1540 quintals in the preceeding year. After that no further report or record is available.

4:12 Sericulture and its Products

Mizoram provides good potential for the development of sericulture. Agro-climatic conditions for growing of mulberry is also suitable, Eventhough mulberry based silk worm is most important, oak tasar, muga and eri are also being produced. They are taking four crops a year.

Govt. of Mizoram has created a separate department of sericulture which has twenty four Govt. farms by 2000 Besides, demonstration of technology and training some of these are also serving as seed production and extension centres. Private sericulturists are being encouraged. Multi-end silk reeling and twisting machines with a capacity of 100 kg. of cocoons and production of 10 kg. of raw silk per day have been introduced.

Starting with 800 private rearers in 1979 - 80 the number increased to 2531 in 1982-83, 3200 in 1986 - 87, 5020 in 1987 - 88 and down to 3105 in 1997 - 98 and again to 3161 in 1999 - 2000. The number of rearers was
only 1605 in 1991-92 and 1204 in 1992-93. Thus, there appears to be declining interest. The production was as follows:-

![Table 4:1]

**Table 4:1**

**Production of Sericulture Products**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>Cocoons (Kg.)</td>
<td>19230</td>
<td>20375</td>
<td>19875</td>
</tr>
<tr>
<td>ii)</td>
<td>Cultivated area</td>
<td>1050 (ha)</td>
<td>1050 (ha)</td>
<td>3412.50 (acres)</td>
</tr>
<tr>
<td>iii)</td>
<td>Production of silk (Kg.)</td>
<td>1235</td>
<td>10000</td>
<td>1000</td>
</tr>
<tr>
<td>iv)</td>
<td>Cloth (in meters)</td>
<td>3695</td>
<td>407</td>
<td>750</td>
</tr>
</tbody>
</table>

Source: Statistical Handbook, 2002, Govt. of Mizoram.

There was decline in the production of cloth even though production of cocoons was more. The overall increase in production of cocoons, silk and cloth are discouraging which could be due to absence of marketing prospects.

Silk is a high value low volume commodity. It has demand within the state for cloth, quilts, carpets, rug and handicrafts. The present production does not pose a problem. The silk cloth can also be sold in other markets. However, the sale of cocoons produced by the farmers will be required to be attended to. There should be collection centres and market yards in the centre of growing areas where producers could bring their produce for sale. The Department may procure for the time being but as the production improves private trade having reeling and spinning facilities should be involved. There should be healthy competition between the Govt. agency and the private trade. Growers needs to be
ensured remunerative prices if this industry is desired to be expanded.

It would be desirable to continue to maintain liaison and close relationship with the Central Silk Board for the disposal of surplus yarn or cloth or even finished goods. The Silk Board can also provide technical guidance including designs for cloth and silk based handicrafts popular all over the world.

Table 4:2

PRODUCTION OF DFLS AND COCOON (2000 - 01)

<table>
<thead>
<tr>
<th>Sl.No.</th>
<th>Items / Varieties</th>
<th>Production of dfls</th>
<th>Production of Cocoons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mulberry</td>
<td>2,10,000 Nos.</td>
<td>41.14 MT</td>
</tr>
<tr>
<td>2.</td>
<td>Eri</td>
<td>35,000 Nos.</td>
<td>5.35 MT</td>
</tr>
<tr>
<td>3.</td>
<td>Muga</td>
<td>13,000 Nos.</td>
<td>90,000 Nos.</td>
</tr>
<tr>
<td>4.</td>
<td>Tasar</td>
<td>38,000 Nos.</td>
<td>1,50,000 Nos.</td>
</tr>
</tbody>
</table>

Source: - Statistical Handbook, 2002, Govt. of Mizoram.

Promotion:

Sericulture being a family oriented agro-based industry playing a significant role for reconstruction and upliftment of the rural economy, the State Government has made utmost attempt to bring maximum family towards sericultural farming and start silkworm rearing as their main and additional occupation by giving all necessary assistance to individual farmers. The state Government is implementing various Catalytic Development Projects (CSS) financed by the Central Silk Board and the state Government at 50:50 ratio.
Research & Training:

The state Government had established one Research & Training Institute at Zemabawk to impart training to matriculates for one year certificate course, and to conduct mobile training to farmers in far flung areas.

Processing and marketing:

Cocoon processing required highly technical hands in order to produce quality raw silk fabrics to catch viable markets. The state Government have set up one reeling factory at Zemabawk and another two small units at Kolasib and Zobawk. These units have been producing silk quits in abundance which have great potential and market value everywhere in the country. There is one silk weaving and dyeing unit at Aizawl where silk fabric of various design are produced. With a view to improve the marketing system, state Government has fixed cocoon purchasing centres at Aizawl, Serchhip, Champhai, Kolasib and Lunglei, from where the cocoons purchased are brought together to the reeling factory.

4:13 Role of Central Organisations

The North Eastern Council (NEC) under the Ministry of DONER was specially created for coordinated and integrated approach and development of the entire North Eastern Region (NER) including Sikkim. The NEC has done commendable work so far but more needs to be done.
The North Eastern Agriculture Marketing Corporation under the Ministry of Food Processing Industries is another central organisation created for promoting marketing and processing of horticulture produce. Unfortunately due to unavoidable circumstance it could not play an effective role expected of it.

The involvement of these two organisations in the development of agriculture and horticulture is essential. Small states like Mizoram cannot create costly infrastructure required for production, marketing and processing. It would also be waste of efforts and funds if every state creates such facilities independently. The coordination amongst the states in production planning and marketing is another important aspect to be taken care of establishment of high technology plant production units like modern nurseries and tissue culture labs, tissue analysis and post harvest handling labs, latest marketing information technology and publicity set up land even cold storages preferably be undertaken and financed by NEC.
A. **Role of NEC**

(i) Promote the integrated development of horticulture by providing leadership, technology, infrastructural, organisational and financial support.

(ii) Ensure balanced development of all important sectors such as production, post harvest handling, marketing & processing.

(iii) To act and function as a mini planning commission for the NER, should be sufficiently independent to function within the overall guidelines of the Planning Commission and respective Ministries.

(iv) Removal of regional imbalances within the states in the NER and ensure that future development is not only balanced (within the region) but also leads to an integrated industry as one unit in the region as a whole.

(v) Effective and useful coordination within the states so that the region emerges as one entity for development, marketing and processing of horticulture produce.

(vi) To determine and take care of the development of crops, technologies, etc. which are of special interest to the region and each state particularly if these which have a special place in India and abroad.

(vii) To prepare a policy and strategy paper for the development of horticulture in the region.

(viii) To prepare broad outlines and action plans for the development of horticulture on long term basis.
(ix) To carry out, finance or support studies related to the overall development of horticulture in the region.

(x) To arrange workshops, seminars, orientation courses and training of extension workers and growers through their own or outside experts.

(xi) Prioritisation of problems and constraints in order of merit statewise and regionwise and encouraging simple field oriented short time research projects for solving problems through ICAR, universities and other institutions.

(xii) Strengthening the institutional and infrastructural framework within the NEC and states.

(xiii) To supervise, evaluate, monitor the horticulture schemes of region for midterm corrections and learning lessons for future.

(xiv) Creation, maintenance of updated and reliable data base for area, production, productivity and marketing of horticulture crops.

(xv) To establish a central museum of horticulture depicting the history, potential and the current technology available for the modernisation of horticulture industry. It should have an auditorium for holding seminars, lectures, workshops with training facilities.

(xvi) To create a healthy competition for promoting modern horticulture technology and earmarking outstanding practices, success stories, etc through:
a. Crops shows and competitions.

b. Selection of the.
   a) best tree
   b) best orchard or vegetable plot.
   c) best processing unit.

(xvii) To provide funds for solving urgent problems which may not be on the programme of work of the research institutions.

(vxiii) Make full use of the modern media technology for fast development of horti-culture through technical films (video tapes), publication of easy to understand literature and other such steps.

'B' Role of Neramac

NERAMAC is by and large involved in processing activities. This is only confined to a processing plant at Nalkata which is being operated below capacity. Its role in marketing has been negligible. The NERAMAC can contribute substantially in the development of marketing and processing of horticulture crops. There is almost a vacuum like situation in these aspect as a result of which the horticulture industry in the absence of strong support in marketing and processing fields is not making satisfactory progress. NERAMAC should fill this gap and provide leadership and strong support.

The character of obligation and objectives of the NERAMAC should be broad based so as to enable this organisation to serve the industry's efficiently and contribute and participate in economic interation with the country. The contribution of the NERAMAC in this respect can be
crucial and vital. NERAMAC should henceforth act as more of a development promotion agency in the region as a whole. Some of the important obligations and functions of the NERAMAC are:

(i) To promote (a) processing of horticulture produce and
(b) marketing of the processed and horticulture products.

(ii) The NERAMAC charter should include all horticulture and allied products like fruits, vegetables, spices, ornamentals, herbs and medicinal plants, etc. It should not be limited to only fruits and vegetables.

(iii) Promotion and establishment of processing plants in private, cooperative and joints sectors (with NERAMAC as one of the joint owners) with NRI, Indian and foreign companies.

(iv) Coordination of all processing and marketing operations and activities with the NER.

(v) Assistance to needy small scale and medium scale units in respect of their product manufacture and marketing as follows:

a. Plan the production scheduled plant wise.

b. Provide and arrange funds for working capital and replacement of machinery if needed.

c. Procure in bulk and supply containers and raw materials like bottles, cans, sugar, chemicals, etc. on credit.

d. Ensure quality control through regular inspection.

e. Take responsibility for marketing the entire production.
(vi) To provide technology and training in marketing and processing to growers and processors.

(vii) Set up or help setting up modern marketing infrastructure and marketing support services which may include:

   a. Collection and forwarding centres.
   b. Pre-cooling, grading and packing house facilities.
   c. Modern and update market intelligence services.
   d. Organise efficient transport of the horticulture produce in collaboration with private sector.
   e. Organise studies on markets, marketing, supply and demand situation and other allied aspects.
   f. To vigorously promote export of fresh and processed products.

(viii) Ensure close coordination with national organisation and private sector organisations engaged in marketing and processing of horticulture produce.

(ix) For achieving the object set forth above, share capital base of the NERAMAC will be required to be increased considerably. In addition it may also have enough of working capital funds (recoverable) for promoting the marketing and processing in NER.

(x) The NERAMAC should also preferably be the nodal agency for the implementation of the central sector schemes in marketing and processing.
Establishment of Check Post for the Improvement of Data Base For Commodities Sent Outside Mizoram.

Reliability of data including method of its collection is necessary for creating a sound base for further planning. Mizoram, situated in the interior has many problems. It has only one main route for disposal of its surplus produce within the country. This inadequacy can be an asset at least for the markeable surplus at the check post.

Check Gate/Post

Government of Mizoram has already Police, Forest, Taxation, Food & Civil Supplies, Transport, AH & Vety and Trade & Commerce Check Gate at Vairengte. Their duties include recording quantities of the different kinds of products (other than timer) in a prescribed proforma. This will include commodity (kind), type of package used, number of packages and estimated weight in quintals/tonner, truck no. and destination should also be recorded. The information thus collected over the years will indicate the surplus production being sent to other parts of the country. This would be very valuable information. The staff will work all the 24 hours in 8 hour shifts. Thus, there will be no lapse in this respects. One years experience can reveal in adequencies and requisite changes can then be made. The data thus collected will help in cross checking the production figures of concerned departments keeping in view the internal consumption. Trade & Commerce Department has already received a computer set from Government of India for installation at Vairengte.
4:15 Establishing Modern Markets for Agriculture and Horticulture Produce.

Horticultural production in Mizoram is planned for improving the economic status of the people as also optimisation of the production and income per unit area (land). Thus, it is necessarily a production strategy far in excess of the local requirements for marketing (shipments) to other states in India and abroad. The existing marketing system do not meet this requirement at all. The methodology practices in vogue and facilities that are available not at all tuned to the above objective. Infact there are in many ways serious drawbacks and hinderances to a good efficient marketing system. Government of Mizoram has taken the right step in creating organisation like MIFCO for the processing. This will be a vital link between farming and livestock cooperative societies, other growers and ultimate markets.

4:16 Regulation of Silchar Market (Assam)

Major market for Mizoram’s perishable products is Silchar in Assam. This is not a regulated market and is operated by commission agents and their associations. They are taking full advantage of their location and are exploiting the growers of Mizoram. Regulated markets have to have representatives of producers on its Board. No body protects the interest of growers of this state in Silchar.
4:17 Processing

Processing is an integral part of horticulture industry. It is also a necessary adjunct and provides a great support to the horticulture production programe. So far as Mizoram is concerned bulk of the ginger and chillies production in future should be and will be dehydrated which is a part of processing. However, scope of processing of fruits and vegetables is commodity specific and its markets value will be in competition with similar products from rest of India. Unlike fresh fruits and vegetables their processed products are manufactured in the whole country unless the raw materials is not available elsewhere. The cost of production in the plains of India is cheaper as excepting raw material everything else (like sugar, chemicals, containers and even machinery and equipment) is brought from outside. The choice of processing factory and the products has, therefore, to be made with great care and thought. Mizoram is not a place for indiscriminate 'Text Book Type' replication of the industries from outside or in the plains. It must be remembered that under Indian situation it would be a rare phenomenon to create a large scale production base on the assumption that the bulk production will be utilised in the processing factory.

Food Processing Status in Mizoram

In all, Mizoram has at present four food processing units. An additional plant is under construction. The existing time units had unsatisfactory working and had been even non-functional for quite sometime. Old machinery, lack of insfrasrtuctural facilities and inadequate supply of raw materials and even wrong planning had often
bogged these units. The services of Central Food Technology Research Institute, Mysore (CFTRI) have been engaged in some projects for implementation and satisfactory operation. The situation of plants are as follows:

**TABLE 4:3**

**A. FOOD PROCESSING PLANT, SAIRANG**

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Sl.No</th>
<th>Raw Materials</th>
<th>Quantity in Qtls.</th>
<th>Value</th>
<th>Quantity of Products</th>
<th>Value of Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Preserved Juice</td>
<td>-</td>
<td>-</td>
<td>Pineapple Squash 10352 bts.</td>
<td>1.86</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Passion Squash 1476 bts.</td>
<td>0.47</td>
</tr>
<tr>
<td>2.</td>
<td>Guava (For Exp.)</td>
<td>9.50</td>
<td>0.028</td>
<td>Guava Pulp 1025 litres.</td>
<td>-</td>
</tr>
<tr>
<td>3.</td>
<td>Bamboo Shoots</td>
<td>125.00</td>
<td>0.25</td>
<td>A1T 15000 cans</td>
<td>3.90</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>134.50</strong></td>
<td><strong>0.278</strong></td>
<td></td>
<td><strong>6.25</strong></td>
</tr>
</tbody>
</table>

**Source:** Status of Mizoram Food & Allied Industries Corporation Ltd. on - going Project -2002, Aizawl.
### Table 4:4

**FRUIT JUICE CONCENTRATE PLANT, CHHINGCHHIP**:-

Trial extraction of fruit juices for concentration

<table>
<thead>
<tr>
<th></th>
<th>Pineapple</th>
<th>2080.97</th>
<th>Passion fruit</th>
<th>1266.46</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td>2.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pineapple juice</td>
<td>21740 liters</td>
<td>Pineapple juice Concentr. 1330 liters</td>
<td>4.35</td>
<td>0.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passion fruit</td>
<td>39230 liters</td>
<td>Passion concentrates 26240 liters</td>
<td>13.73</td>
<td>6.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3347.43</td>
<td>Juice Concentrates</td>
<td>60970</td>
<td>27570</td>
<td>45.18</td>
<td></td>
</tr>
</tbody>
</table>

Amount Rs. in lakhs.


### C. FRUIT JUICE CONCENTRATE PLANT, CHHINGCHHIP :-

With the instalation of passion fruit processing equipment viz. PASSY PRESS - 600 by M/s Penwalt Bertuzzi Spa, Mumbai on the 28th June 1997, the last phase of implementation of fruit juice concentrate plant, Chhingchhip was complete. Trial extraction and concentration of pineapple and passion fruit juice were undertaken with satisfactory results.

### D. PORK & POULTRY PROCESSING PLANT, ZEMABAWK :-

On the recommendation of technical consultant, Dr. D.M.Bailur, Mumbai, tenders were floated among reputed firms for setting up of pork & processing plant, Zemabawk. M/s Swadesh Constructions, Bhopal which quoted the lowest offer at Rs. 184/- lakhs were selected for MIFCO's contractors on turnkey basis for this project. Implementation of the project has been speeded up so as to get it ready for commissioning.
E. MUSHROOM CULTIVATION & PROCESSING PLANT, CHHINGCHHIP :-

The implementation of the project on Mushroom Cultivation & Processing Plant, Chhingchhip has had to be deferred due to non receipt of matching contribution from the State Govt. against the first installment of Rs. 29.80 lakhs received from the Govt. of India on 18.5.1993.

F. FOOD PARK, CHHINGCHHIP :-

The project cost of Rs. 806 lakhs had been approved by the project approval committee of the Govt. of India, Ministry of Food Processing Industries. This food park is to help establish food processing industrial estates/parks by providing assistance for common facilities such as uninterrupted power supply, water supply, cold storage/ice plant/ware-housing facilities, effluent treatment plants, quality control and analytical laboratory and measure processing facilities like fruit concentrates/pulp making unit etc.
Reference

6. Vanglaini, Daily Newspaper, Aizawl Dt. 9th & 11th Nov. 02.