Chapter V

Marketing of Agro-Based Industries

Industrial Policy of U.P.

The State will actively promote the participation of the private Sector in the industrial and economic growth of the State. The State accepts its role in nurturing private economic activity and entrepreneurship. It recognises generation of wealth in the Private Sector as necessary for the overall prosperity of the State. It will, therefore, endeavor to forge a meaningful partnership with industry, in policy formulation and its actual execution and implementation.

Balanced development of Tiny, Small & Heavy Sector

Small and tiny sectors, play an important role in creating a large number of employment opportunities besides providing a wide range of goods and services. Therefore, the State shall create conditions for a balanced and harmonious growth of all segments of the Industrial Sector such as Heavy, Medium, Small and Tiny Sectors.
Strengthening of Traditional Industries

Traditional industries have thrived in the State, for centuries, and along with varied cottage industries, have been the backbone of the State's economy. They will be strengthened, augmented and made competitive in terms of quality, technology, design, packaging and marketing.

Promotion of Exports

Exports are not only vital to the national economy, but they serve to significantly enhance the professionalization of local industry and the competitiveness of its products. A facilitative atmosphere will be provided for the promotion of exports from the State and to enhance the competitiveness of exportable products.

Woo NRI Investment

There is a tremendous potential for NRI investments in the State. Through their entrepreneurial skills and abilities, Indians, specially residents of Uttar Pradesh and the neighbouring States, have made a mark in every field of human activity abroad. The State shall create an attractive environment for them to invest in the State. Procedures and systems shall be so modified, as to facilitate their investment.
Attract Foreign Investments

Foreign investment is necessary for projects requiring large investments, like power, roads, bridges etc. The State shall attract foreign direct investment and create circumstances, where Uttar Pradesh becomes the leading State in the country for foreign investments.

Assured security of life & property

In order to achieve the overall objectives of the New Industrial Policy 1998, the State shall ensure creation of an atmosphere of security to develop confidence in the entrepreneurs. Law & Order machinery will be toned-up in a way to be responsive to the needs of industry. Uttar Pradesh, has suffered from a stereotyped image, over the last many years, as an insecure State. However facts speak otherwise. The data published by the 'National Crime Records Bureau', authentically establishes, that in terms of rate of crime, Uttar Pradesh is one of the better States of the country. This is at variance. to the popular myth, that has been in circulation. The State assure security of life & property, to its entire population in general and those engaged in productive economic activities in particular. Nodal Police Officers, have been appointed in all districts to attend to the law & order needs of industry. A 'Special-Task-Force' has been constituted, to effectively check the activities of
identified criminals. Decision has been taken to organise Tripartite-
Meetings' between Magistracy. Police and Industry at the district level, to
address all the problems related to law & order, at the cutting-edge itself.

**Recognition-of the role of service sector**

Over the years, the tertiary sector has emerged, as an important
avenue of employment and economic activity. Its critical role as Service
Industry, has to be recognised, for faster economic development and
reduction of pressure on land. The State shall create an environment
conducive to rapid development of this Sector free from unnecessary
regulation.

**Interaction with Industry**

It is appreciated, that the process of industrialisation of the State,
should be a synergic effort of industry and Government. Governmental
attitudes, will change so as to perform a facilitative role. Industry will be
consulted and involved in the formulation and implementation of policy,
to the extent, that, industry will play the major role in determining the
parameters of industrialisation.
Formulation of Industry specific Tailor Made Packages

In order to respond to the needs of specific segments of industry, a tailor-made support package will be evolved on a continuing basis, in consultation with the industry itself. The State, shall also develop, a package of incentives and support services, to be extended for development of entrepreneurship in selected sectors, particularly in rural areas. Traditional industries and crafts, will be supported and strengthened by provision of inputs to enhance their viability and competitiveness.

Review of Tax Structure

The State, shall, also continuously review and revamp wherever necessary, the entire tax structure, so that it reflects the requirement and expectations of industry.

Preservation of Environment and Cultural Heritage

Emphasis shall be laid, on promotion of such industrialisation. which not only preserves the environment and cultural heritage of the State, but also revitalises and forcefully reinforces it.
Revitalization of existing Investments to make them productive

Uttar Pradesh is one of the leading States, in terms of existing investments in Industry. However, a number of Industrial units, especially in the small sector are facing several difficulties, which have impacted adversely on their viability. The State recognises the need to revitalise them, so that the existing investments in them, could be made productive once again. The State shall, assist existing industries, to not only remain competitive, but also grow and expand. The vibrancy of the existing industries, is the best way to attract fresh investments.

Upgradation of Technical Entrepreneurial skills

In order to develop a culture of entrepreneurship, special emphasis will be laid on the upgradation of technical skills and entrepreneurial tools.

Infrastructure

Infrastructure plays an extremely important part in industrialisation. High quality infrastructure, provides competitive edge to industry, in more than one ways. On the one hand, it increases the productivity of capital and on the other, it reduces the cost of production and marketing. Hence in the current process of liberalisation and
globalisation. the availability of top quality infrastructure facilities, has become the most decisive factor in determining the location of industries and the extent of investments.

Inadequate attention to the creation of infrastructural facilities in the past, can be said to be a crucial impediment in the efforts of the State, to realise its full economic and industrial potential with which it is abundantly endowed. It is imperative, that this major impediment be removed and conditions be created for better realisation of the State's potential.

Highest priority will now be provided, by the State to the creation of high quality infrastructural facilities. The speed, with which decisions have been taken and implemented, even to the extent of amending existing laws, to facilitate the construction NOIDA Toll Bridge, between NOIDA and Delhi, demonstrates the importance that the State attaches to infrastructure projects.

Land, Power, Telecommunication, Air and Road transport are the most important components of Infrastructure. The State will adopt dynamic policies and take positive initiatives, to create an investor friendly environment, in the Infrastructure Sector. The Policy of the State in the Infrastructure Sector, based on the following three pillars:-
Three Pronged Strategy

1. Development of Infrastructure, through Private Sector participation.

2. Comprehensive and rapid development of selected Geographical Corridors, with high quality infrastructural facilities.

3. Up-gradation of existing Infrastructure facilities.

Infrastructure Initiative Fund

Private Sector Participation in Major Infrastructure Projects, through Infrastructure Initiative Fund. Fund to associate Multilateral Agencies and International Financial Institutions

The size of investments and long gestation periods of infrastructure related projects, have been a major bottleneck, in the privatisation of infrastructure. Inadequate and incorrect assessment of commercial viability and wrong formulation of these projects, have inhibited the Private Sector from investing in them. The State has decided, to set up an Infrastructure Initiative Fund, to address this issue effectively, and to facilitate the participation of the Private Sector, in major infrastructure projects. The Infrastructure Initiative Fund, will engage the services of
experts agencies, for examination of feasibility, formulation of major projects such as Express Highways, Bridges, Airports and Power Stations, determination of concessions and selection of promoters. Special Purpose Vehicles will be established for the implementation of selected projects, through the mechanism of Infrastructure Initiative Fund. Multilateral Agencies and International Financial Institutions will be associated with the infrastructure development of the State through participation, in this Initiative Fund which will also use international expertise and know-how for the development of the State.

Cabinet Committee to act as apex body for Infrastructure related projects

To secure expeditious decision making, in regard to Infrastructure related projects, the Cabinet Committee on Economic Development under the Chaimanship of the Chief Minister, will act as the apex body for Policy making.

**Working Group under Chief Secretary to provide preliminary clearances**

The Working Group on Economic Development, constituted under the chairmanship of Chief Secretary, will provide all the preliminary clearances and approvals for infrastructure related projects. This Group will obtain the approval of the Cabinet Committee, where ever necessary.
For this purpose, it will act as the Secretariat of the Cabinet Committee for Economic Development.

**Development of Geographical Nodes / Industrial Corridors**

Concentrated and accelerated development of specific geographic locations as Industrial Corridors

While the State is committed, to the balanced development of all the regions of the State, it has become necessary to develop certain specific locations, for the full realisation of their industrial potential. In this context the State will develop Industrial Corridors in the various regions of the State in a phased manner. In the first phase, these Industrial corridors will be as follows:

1. NOIDA- Greater NOIDA- Ghaziabad- Gautam Buddha Nagar


3. Agra- Aligarh- Firozabad- Khurja (Bulandshahr)-Kosi(Mathura).

4. Lucknow-Kanpur.


6. Gorakhpur-Basti-Deoria

Corridors to develop as Areas of Excellence

These Corridors, will be developed as areas of excellence, with high quality Industrial and social Infrastructure, so that, the already existing industrial potential of these areas can be forcefully highlighted to attract greater investments. These corridors will also facilitate planned and optimal utilisation of the State's resources.

Infrastructure Mapping

Highest priority will also be given to the upgradation of the existing Industrial Infrastructure. In the first stage, a detailed Infrastructure Mapping will be carried out to evaluate the status, of existing infrastructural facilities. On the basis of this mapping, gaps and inadequacies in the existing infrastructure will be identified and an Action Plan will be formulated for their expeditious removal.

Restructuring of UPSIDC

The UPSIDC, will be suitably restructured, to improve the maintenance of the existing Industrial Areas. The owners of the Units, situated within the Industrial areas, will be closely associated with the maintenance of these Industrial Areas. Wherever it is commercially viable, the maintenance of Industrial Areas will be privatised.
Industrial Cooperative Societies for maintenance of Industrial Estates

Industrial Cooperative Societies, will be constituted and associated with the maintenance of Industrial Estates working under the control of Directorate of Industries. The Government, will, supplement the contributions made by these Industrial Cooperative Societies upto a ceiling of Rs. 10 lacs.

All future Industrial Areas to be developed as Integrated Industrial Townships

In view of the remarkable success of NOIDA and Greater NOIDA as Integrated Industrial Townships, this model will be extended to other pans of the State. All future Industrial Areas, will be developed as Industrial Integrated Townships, with superior quality social and economic infrastructural facilities like roads, power, water supply, drainage, residential, educational and health facilities. Private Sector participation, in the development of such areas, will be encouraged.
Special Industrial Areas for Promotion of Agro based and Food Processing Industries

To promote Agro-based and Food Processing Industries, Special Industrial Areas will be developed in the vicinity of major Mandis of the State. This will help to overcome the problems, arising out of inadequacy or storage and transportation infrastructure, while making available, other common facilities. Priority will be accorded, to setting up of Cool Chains in the Private Sector, to fulfill the needs of the agro-based industry. The State will provide active cooperation in project formulation and financing of these, through the State Financial Institutions.

Upgradation of Infrastructure in major exporting areas

Internationally competitive Infrastructural facilities will also be developed, in the major Exporting areas of the State. Infrastructure development related funds of the Government of India and other agencies will be optimally utilised, in conjunction with the State resources to achieve this objective.
Power

24 Hour Uninterrupted Power Supply:

Continuous and high quality power supply is extremely important for the development of industries. Due to shortage of power in the State, its availability to industrial units, has been uncertain in the past. The State will take strong measures to increase the Generation of Power and ensure its continuous availability to the industry. Highest priority, will be given, to the implementation of those Power Projects, for which MOUs and PPAs have already been signed.

24 hours continuous power supply to all industrial areas, Industries above Rs.50 crores. EOU's and Agro based and Food Processing Industries with investment above Rs. 10 Crores

The Stale will ensure 24 hour uninterrupted supply of power to the industries situated in the Industrial Areas. All such Industrial Areas, as receive power supply, from 132 KVA transmission system, will be exempted from all forms of rostering, unless required in the interest of the grid. To achieve this, the entire transmission and distribution system, related to such industrial areas, will be upgraded. All Export Oriented Units and other industries with an investment of more than Rs.50 crores, which are situated out side the Industrial Areas, will also be provided
continuous power supply, through dedicated feeders. This facility, will also be provided to Electronic, Agro-based and Food Processing industrial units with an investment of Rs. 10 crores and above.

**Feeders with 75% industrial load to be declared as industrial feeders and exempted from all power cuts**

All feeders, which have more than 75 per cent industrial connected load, will be treated as industrial feeders, and will be exempted from rostering. The UPSEB will make arrangements, for the separation of all connections of other categories from such feeders. No tapping from dedicated feeders, setup at the cost of Industry itself, will be allowed, except in cases, where the concerned industry enters into a voluntary agreement with any other Industrial Unit, giving permission for tapping.

**Special Concessions for Industries drawing power from primary system**

Industrial consumers, who draw electricity from the primary transmission system, will be provided a rebate on power tariff. The rate of rebate will be higher than that admissible at present. However, this facility will be made available only if the concerned industry has borne the cost of down stepping.
Industry Associations to distribute Power in Industrial Areas

Industry Associations will be given the right to distribute Power within Industrial Areas. For this purpose, bulk power will be made available to the Associations at a single point. Distribution within the Industrial Areas and collection of bills will be done by the Association. The bulk power will be supplied at a rebate.

Permission to surrender a part of Load during period of recession

In order to make the Power rules, responsive to the economic environment. Industries going through recession, will be provided the facility of temporary surrender of a part of their connected sanctioned load. This facility will be made available, on the recommendation of the Committee of Secretaries, constituted for Rehabilitation of Sick Industries. The facility will be provided, for a minimum period of one year and maximum of two years. It, during this period, the industry seeks restoration of its original load, no System Loading Charges will be charged. Small Industries, with connected loads upto 100 HP, will be allowed to surrender apart of their load, without payment of any charges, if they install electronic meters. The expenditure incurred on the installation of electronic meters, will be adjusted in subsequent bills.
Third party sale of surplus Captive Power

Generous policy will be adopted for promoting Captive Power Generation. It will allow Third Party Sale by Industrial Units, if they have a surplus available. The units will also be free to sell their surplus Power to the UPSEB. through a transparent and well-defined system which does not leave any room for discretion.

If any Industrial unit, sets up a Captive Power Plant at any place other than the premises of the Mother Unit, the investment made on the setting up of such Captive Plant will be allowed to be added to the Fixed Capital Investment of the Mother Unit, for purposes of Trade Tax exemptions/ deferment. A detailed Policy for Captive Power will be announced separately.

Privatisation of Power Distribution

Distribution of Power by the Private Sector will be promoted. The experience of Greater NOIDA will be expanded to other parts of the State. In the first phase, distribution of Power in NOIDA will be privatized. This will be subsequently followed by privatization of Power distribution in Moradabad, Agra, Lucknow and Kanpur.
Sharing formula for evacuation of Power from Co-generation Units

Uttar Pradesh has the largest number of Sugar Mills in the whole country, which have a potential of co-generating nearly 1000 MW of Power, using bagasse as fuel. Co-generation will be provided highest priority by the State, and a competitive Policy will be adopted to fully utilise the potential inherent in this Sector. The cost of evacuating power from the Co-generating Unit to the transmission system of the UPSEB on a 50:50 basis.

Road Policy

The State has an extensive network of Roads and Bridges. During the last five years, the expansion of the road system in Uttar Pradesh, has been at par with the National Average. However, vital gaps still exist which need to be removed. The State has formulated a detailed Road Policy for this Sector. In this Policy a detailed framework has been provided for Private Sector participation in the construction and operation of Roads. Bridges and Over-Bridges.
Free Government Land for Upgradation of Telecom Infrastructure

The State will ensure rapid development of Telecommunication facilities in the State. The State will strive to attain the National Average in terms of Telecom connectivity. An Action Plan to achieve this objective, will be developed in close co-ordination with the Department of Telecommunication, Government of India. At the state level, Industrial Development Department has been nominated as the Nodal Agency for this purpose. Private operators and Companies, engaged in the provision of Telecommunication and Cellular Services, will be provided all facilities in setting up of Towers and other infrastructure. The State Government will provide free Government land, to the Telecom Department of Govt. of India, for ensuring superior Telecom facilities.

Industrialisation in recent years has looked like a pipe-dream for the powers that be. But the efforts are on to make the state industrially viable. Now the industrial policy of the state with reference to the development of infra-structure facilities is based on the following three planks:

- To develop infrastructure through private sector investment.
- Integrated and accelerated development of selected geographical nodes based on industrial potential.
- Up gradation of present infrastructure facilities.
Recommendations of Feedback Strategic Consultant to execute the infrastructure development work through three-tier system consisting of Infrastructure Development Board (IDB), Infrastructure Initiative Fund (IIF) and Project Development Company (PDC). A total of 105 projects in different sectors of infrastructure with a capital outlay of Rs 2500 crores to Rs 3000 crores are immediately available for review to be done by P.D.C.

**U.P. Government’s Incentives for Investors**

**Relief for Expansion / Diversification / Modernisation**

Exemption/ Deferment of Trade tax linked to the extent of additional investment for expansion/ diversification/ modernisation shall be considered for existing units which undertakes investment more than 25% of existing fixed capital investment. In case of expansion & modernisation enhancement in existing capacity to the extent of 25% is also considered for eligibility of expansion/deferment of trade tax.

**Air Transport**

The State has already created a fairly well developed infrastructure in the field of Civil Aviation. Three Aerodromes and 23 Air Strips have been constructed all over the State. Private Airlines will be facilitated in
setting up their operations in the State. Efforts have been made for the introduction of Air Services to Kanpur, Gorakhpur and Allahabad. The Airport Authority of India has also been approached for the upgradation of Lucknow, Agra and Varanasi Airports, so that they could handle International Charters and Cargo.

**Special Incentive of Large Industrial Units**

Special incentives / facilities being made available to units which have an investment above Rs. 500 million. 'Empowered Committee', under the chairmanship of the Chief Secretary, has been constituted to take decisions on case-to-case basis. Decisions shall be taken on the basis of location of the unit, employment potential and the possibilities of down stream projects, apart from the contribution to the general economic development of that area.

**Trade Tax Exemption / Deferment Scheme**

All new industrial units shall have the option of the facility of Trade Tax Deferment in place of exemption and for this purpose, deferment shall be made available for the entire tax applicable on the commodity.
Thus, the limitation of 5 per cent of the sale price shall not be applicable under the Deferment scheme and the existing facility of additional 50 per cent ceiling of capital investment shall continue.

- Exemption / deferment linked to Fixed Capital Investment Facility available upto 250% or 12 years in Category 'A', 200% or 10 years in Category 'B', 150% and for Small Scale Industries 175% of Fixed Capital Investment or 8 years in Category 'C' whichever is earlier.

- Exemption/deferment of Trade Tax for expansion/ diversification/ modernisation/ backward integration.

- Deferment of Trade Tax as a substitute of exemption available to all units.

- District/Divisional level Committees authorised to issue eligibility certificates.

**Rationalisation of Trade Tax Structure**

Trade Tax structure shall be examined from time to time for the purpose of its rationalisation to promote industrialisation in the State. In this context, a Working Group on Trade Tax will submit its recommendation from time to time so as to make the tax structure competitive for the purpose of fostering industrialisation.
Income Tax exempted districts

The following Districts in the state of Uttar Pradesh have been exempted in the Income Tax by the Government of India:
Almora, Bahraich, Banda, Basti, Chamoli, Maharajganj, Pithoragarh, Pratapgarh, Siddharth Nagar, Tehri Garhwal, Uttarkashi.

1. Brief History

MARKETING OF AGRO- AND AGRO-PROCESSED PRODUCTS

Market research and the development of an effective marketing strategy are essential components of establishing and running a small food processing plant. There is always a number of different markets where processed food products, particularly fruits and vegetable, and livestock and fisheries products can be sold. Within the broad spectrum of the market there are a number of segments that may have different needs for particular types of products. When a particular segment is identified by the producer, this is known as a ‘market niche’, and a product that is sold for a single market segment is known as a ‘niche product’. The importance of identifying the different segments is three-fold: i) It is possible to tailor the product quality for a particular group of customers. ii) The promotional strategy of a product can be designed for a particular
segment. iii) The distribution and sales outlets can be located where people in a particular segment usually buy their food.

Because of the small size of the farms and still smaller marketed quantity, the agricultural marketing system of India is atomistic, fragmented and widely dispersed all over the country to serve over farm households. The farmers generally sell their produces from their homes or in the nearest rural primary/assembly markets.

Marketing of the agricultural products in India typically passes through six stages: growers, assembly beparis (traders), distributing beparis, aratdars (commission agents)/cum wholesalers-retailers-consumers. The stages are not all distinct and an agent in one stage can interact with several agents operating at different stages of marketing. This feature of rice marketing indicates the absence of complete specialisation of function by market functionaries but it widens the choice of one agent in terms of selling his product to someone, giving him the highest return, and this increases the competitive strength of the market.

There are rural primary/assembly markets in the country, most of which lack adequate space, basic facilities and amenities and satisfactory transportation facilities. The absence of space creates problem of access to the markets by the farmers while a lack of transport facilities results in
higher transportation cost and lessens competition in the markets by limiting the numbers of traders. Absence of basic facilities like covered sheds results in deterioration of the quality of the produce due to exposure to the sun and rain. Realisation of excess market toll and charges, deductions and malpractices by traders due to absence of any government agency to ensure proper management of the markets, reduce the farmer-level price and oblige the farmers to sell their crops from their homes at a much lower price. Lack of market information at the growers' level puts them at a disadvantage when bargaining with the buyers, particularly when selling from homes. However, the farmers' main problem has been identified as the low price of the crops in the post-harvest period when the small farmers sell most of their crops. Sometimes, when there is an absolute lack of buyers the traders force the farmers to sell on credit and make unusual delays in payment of the price. Farmers cannot hold back the stock due to lack of storage facilities and requirement of cash. The storage facilities at the grower and trader level are inadequate and there is also a substantial storage loss.

In general, marketing margins are quite low. Apart from sugarcane, there is no government regulation creating any impediment to a competitive market structure. However, studies have shown that there is a scope for reduction of marketing costs by regulation of market charges
and practices, improvement of transportation and port facilities, improvement of the law and order situation by stopping illegal collection of tolls by different agencies, and reduction of storage losses. The target group farmers stored their crops in small godowns, built by the project authority at the village level, and borrowed from banks against the stored crops and thus avoided the post-harvest sale at the lowest price.

The share of agro-products like vegetables, fruits and other items has remained at the same level during the last few years. Their share is around 9 per cent of VA of agriculture. The temperate, humid climate and the frequent rains can make India a special place for some selected products if proper investment is made. The table shows that export of vegetables, fruits and betel leaves has been going on for quite a long time. Export earnings from all these products have been fluctuating. The export earnings increased steadily up to 1986-87; after that it started to decline, a trend which continued up to 1991-92. Again, exports started to rise from 1992-93, the trend of which continued up to 1995-96. In the case of fruits, in most years the export earning increased compared to the past. It started to rise rather rapidly from 1992-93 and continued up to 1995-96. In the case of betel leaves, the trend of exports is not stable. But all these products have attained a modest level of exports.
The destinations of these products are in Middle East and Emirates in the east and U.K. and U.S.A. in the West. The consumers of these products are not Arabs, or British or American; they are the Indian immigrants living in those countries. So it is a kept market. But if we want to expand our exports of these products we have to sell to the non-Indias who will buy them on the basis of quality, not on emotional and psychological grounds.

2. Institutions Involved

Some time back an organisation was created with the objective of providing guidance, assistance, monitoring facilities and marketing intelligence to the potential and actual agro-products exporters of India.

The organisation started to achieve some of its goals by exporting some agro-products. Already for the production, transportation and export of some selected agro-products, basically for the European market. They started with the production of French beans at Some selected farmers in these two places started to produce and export to the U.K., France, Holland and Belgium. The level of exports of beans would have been higher had there were no bad weather.

Improper packaging has been a big barrier in the export business; however, It has been able to develop different types of packaging
materials and cartons for the export market and also trying to export potatoes to the Singapore market. There is a big international demand for French beans produced in India, but marketing, air transportation and packaging are the main constraints. At present Kenya exports about seventy per cent of the fine beans while Egypt exports most of bobby beans to the European market.

The agro-based institutions have been exploring markets for new agro-products like baby pineapples. South America is the major supplier of this product to Europe, U.S.A. and the Middle East. A limited quantity of baby pineapples can be exported to this market if the packaging can be done properly. As Culcutta is the main production point, it can be sent directly from there by air. The institutions are also trying to make an agreement with Australia for the production of Broccoli as the climate of India is congenial for its production. India has successfully exported a small quantity of potatoes to Sri Lanka, Singapore and Malaysia in 1998-99 on an experimental basis.

These institutions have some organisational limitations but it has already emerged as the growth centre for the export of agro-products. If it can overcome these limitations, it can become the main export body for product marketing and promotion of horticulture. The perceived constraints and shortcomings have been identified as follows:
1- PROCESSED PRODUCTS

These are canned foods and dehydrated products. For preservation by canning the existing can-making plant needs modernisation. Sanitary cans may be manufactured locally with proper organisation.

With regard to dehydration, two approaches can be made: (i) simple dehydration, (ii) osmotic dehydration.

Certain vegetables like bitter gourds, plantains, potatoes, and fruits like bananas and pineapples can be dehydrated. In the case of fruits, more sophisticated products can be made by osmotic dehydration of pineapples, mangoes, jack-fruits. These products can be promoted in the export market, but they should be presented in attractive packages. Such packages can be made locally from imported food-grade polystyrene and plastic materials. The finished product can be presented in polythene. The design and dies for making trays can be made locally. It will not be difficult to produce quality products, pack them in attractive packages and promote them in the export market.

2- SEMI-PROCESSED PRODUCTS

The present trend is to import certain fruits and vegetables in bulk in a semi-preserved form, to be processed into a finished product in the
importing countries. This requires less cargo space than processed products in finished form in retail packs. The other advantage is that the importing countries can reprocess the products according to the tastes of their consumers. On the other hand, the exporting countries do not have to set up full-fledged processing plants.

Preservation of green vegetables like gherkins, green jack-fruits, green mangoes is possible by preserving the prepared pulp in bulk quantity in brine. Fruits can be semi-preserved in sugar syrup with metabisulphite (SO2). These semi-preserved products are packed in food-grade polythene bags, put in plastic drums and sealed according to the specification of the importing countries.

Another type of product is concentrated fruit juice, which can be exported in aseptically sealed flexible packages. The importing countries dilute and process it in different forms according to local tastes.

The Multiple Juice Concentration Plant has prospects of exporting concentrated pineapple juice, provided the cost of production is competitive in the international market.
3- NEW PRODUCTS FOR EXPORT

These are Baby Corn, Gherkin (Baby Cucumber), Mushroom, Baby Pineapple, Okra, Lichi, French Bean, Bobby Bean, etc., all of which can be grown in India. Mango pulp and honey also have good prospects for export. Standardisation of quality for export is essential.

Baby Corn, French Beans and other vegetables can be processed in cans or in glass jars. Gherkins can be preserved in brine in plastic drums or in glass jars in bulk quantity. Mushrooms may be canned or dehydrated. Canned mushrooms have better prospects for export. Honey is another product which has good prospects for export to Middle Eastern countries if properly standardised.

4- OTHER PRODUCTS

Production of mixed fruit leather and powdered spice mixtures, prepared according to specific recipes, can be improved and developed. Continuous monitoring, in terms of both quality and quantity, is necessary for developing a new product.

In order to enter the export market it is necessary to collect relevant market information from the importing countries about the preferences of the consumers for different kinds of processed products and the possible
prices for such products. It will not be very difficult to produce and export processed products if there is an increase in the production of quality materials and proper development in the processing and packaging industries. The export potential of selected semi-processed and processed product is shown in Table-5.1

### Table-5.1

**Export Potential of Selected Agricultural Semi-processed/Processed Products from India**

<table>
<thead>
<tr>
<th>Item</th>
<th>Processed Products</th>
<th>Potentiality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Processing</td>
<td>Market Demand</td>
</tr>
<tr>
<td></td>
<td>Present/Future</td>
<td>Technological improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present/Future Improvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Necessary</td>
</tr>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jack-fruit</td>
<td>Seed Power</td>
<td>Flavour</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Ripe carpel in canned</td>
<td></td>
<td>Packing MD</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Green Carpel in doz.</td>
<td></td>
<td>Brine In Dehydrated</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Development</td>
</tr>
<tr>
<td>Fruit</td>
<td>Product</td>
<td>Packing</td>
</tr>
<tr>
<td>------------</td>
<td>------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Pineapple</td>
<td>Juice concentrate</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Slice</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Gush</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Dehydrated</td>
<td>Flexible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packing</td>
</tr>
<tr>
<td>Mango</td>
<td>Pulp</td>
<td>Aseptic</td>
</tr>
<tr>
<td></td>
<td>Slice canned</td>
<td>Packing HD</td>
</tr>
<tr>
<td></td>
<td>Dehydrated Leather</td>
<td>Flexible</td>
</tr>
<tr>
<td></td>
<td>Leather Chutney</td>
<td>Packing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Neutral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>glass/plastic</td>
</tr>
<tr>
<td>Papaya</td>
<td>Dehydrated</td>
<td>Improve</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Variety</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packing</td>
</tr>
<tr>
<td></td>
<td>Slice canned</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>(mixed fruit)</td>
<td></td>
</tr>
<tr>
<td>Banana</td>
<td>Powder</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>Dehy-chips</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flexible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MDPacking</td>
</tr>
<tr>
<td></td>
<td>Canned-mixed fruit</td>
<td>*</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Food Form</td>
<td>Demand</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------</td>
<td>--------</td>
</tr>
<tr>
<td>Lichi</td>
<td>Canned</td>
<td>X</td>
</tr>
<tr>
<td>Dehydrated</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Tomato</td>
<td>Juice</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>canned</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plastic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bottle</td>
<td></td>
</tr>
<tr>
<td>Paste</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Snake bean</td>
<td>Canned</td>
<td></td>
</tr>
<tr>
<td>White gourd</td>
<td>Dehydrated</td>
<td>*</td>
</tr>
<tr>
<td>Ash gourd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baby corn</td>
<td>Canned</td>
<td></td>
</tr>
<tr>
<td>Gherkin</td>
<td>Pickled in drum</td>
<td></td>
</tr>
<tr>
<td>Plantain</td>
<td>Chips</td>
<td></td>
</tr>
</tbody>
</table>

X = No Prospect  
HD = High Demand  
MD = Moderate Demand

* = Fair Prospect  
LD = Low Demand  
O = Good Prospect

Source: JICA (1994).
In another study JICA found out the export potential of fresh agricultural products from India, which is shown in the Table 5.2 below.

### Table – 5.2

#### Export Potential of Fresh Agricultural Products from India

<table>
<thead>
<tr>
<th>Items</th>
<th>Preservation Quality (duration)</th>
<th>Transport Mode</th>
<th>Storing Condition</th>
<th>Major Constraints</th>
<th>Potentiality Present/Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jack-fruit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Green (veg.)</td>
<td>7-10 days</td>
<td>Ship/Air</td>
<td>Normal</td>
<td>Transport Cost</td>
<td>*</td>
</tr>
<tr>
<td>(b) Ripe (fruit)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natured</td>
<td>3 days</td>
<td>&quot;</td>
<td>&quot;</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Pineapple</td>
<td>2-3 weeks</td>
<td>Air/Ship</td>
<td>&quot;</td>
<td>Transportation Cost, Variety, Harvesting Technique</td>
<td>*</td>
</tr>
<tr>
<td>Mango</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Green (veg)</td>
<td>10-12 days</td>
<td>Ship/Air</td>
<td>&quot;</td>
<td>Transportation Cost</td>
<td>*</td>
</tr>
<tr>
<td>(b) Ripe (natured)</td>
<td>3-5 days</td>
<td>Air</td>
<td>&quot;</td>
<td>Variety</td>
<td>*</td>
</tr>
<tr>
<td>Papaya</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Green (veg)</td>
<td>10-15 days</td>
<td>Ship/Air</td>
<td>&quot;</td>
<td>Transportation Cost</td>
<td>*</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>(b) Banana (natured)</td>
<td>1-2 weeks</td>
<td>Air</td>
<td>&quot;</td>
<td>Transportation, Cost Variety, Pre-Post harvest handling</td>
<td>*</td>
</tr>
<tr>
<td>Lichi</td>
<td>4-7 days</td>
<td>Air</td>
<td>Normal &amp; Cooling</td>
<td>Transportation, Cost-variety, short duration, preservation care</td>
<td>*</td>
</tr>
<tr>
<td>Melon</td>
<td>2-3 weeks</td>
<td>Air</td>
<td>Normal</td>
<td>Transportation Cost, Timing of export</td>
<td>*</td>
</tr>
<tr>
<td>Star-fruit</td>
<td>2 weeks</td>
<td>Air</td>
<td>&quot;</td>
<td>Variety</td>
<td>*</td>
</tr>
<tr>
<td>Indian Olive</td>
<td>2 weeks</td>
<td>Air</td>
<td>&quot;</td>
<td>Variety</td>
<td>*</td>
</tr>
<tr>
<td>Amlaki</td>
<td>1-2 weeks</td>
<td>Air</td>
<td>&quot;</td>
<td>Variety, grading</td>
<td>*</td>
</tr>
<tr>
<td>Tamarind</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ripe – without skin &amp; seed only pulp</td>
<td>10-15 weeks or more</td>
<td>Ship/Air</td>
<td>&quot;</td>
<td>Preservation</td>
<td>*</td>
</tr>
<tr>
<td>Hog plum</td>
<td>2-3 month</td>
<td>Ship/Air</td>
<td>Transportation Cost</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Duration</td>
<td>Transport</td>
<td>Condition</td>
<td>Grading</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Tomato Fresh</td>
<td>One week</td>
<td>Air</td>
<td>Normal</td>
<td>Transportation Cost, Variety, with longer keeping quality. X *</td>
<td></td>
</tr>
<tr>
<td>String beans</td>
<td>3-5 days</td>
<td>Air</td>
<td>Normal</td>
<td>Keeping Quality                                                          0 0</td>
<td></td>
</tr>
<tr>
<td>Snake gourd</td>
<td>3-5 days</td>
<td>Air</td>
<td>Normal</td>
<td>Keeping Quality                                                          * *</td>
<td></td>
</tr>
<tr>
<td>Sweet gourd</td>
<td>2-4 months</td>
<td>Ship</td>
<td>Normal</td>
<td>Transport cost                                                           * *</td>
<td></td>
</tr>
<tr>
<td>Bitter gourd</td>
<td>3-5 days</td>
<td>Air</td>
<td>Normal</td>
<td>Transport cost, preservation                                             * *</td>
<td></td>
</tr>
<tr>
<td>Plantation</td>
<td>10 days</td>
<td>Air</td>
<td>Normal</td>
<td>Transportation cost, Variety                                              * *</td>
<td></td>
</tr>
<tr>
<td>Cucumber</td>
<td>4-10 days</td>
<td>Air</td>
<td>Normal</td>
<td>Transportation cost, Variety, timing                                      0 0</td>
<td></td>
</tr>
<tr>
<td>Amaranthus</td>
<td>5-10 days</td>
<td>Air</td>
<td>Normal</td>
<td>Variety                                                                  * 0</td>
<td></td>
</tr>
<tr>
<td>Brinjal</td>
<td>7 days</td>
<td>Air</td>
<td>Normal</td>
<td>Variety                                                                  * 0</td>
<td></td>
</tr>
<tr>
<td>Green peas</td>
<td>5-7 days</td>
<td>Air</td>
<td>Normal</td>
<td>Variety                                                                  * 0</td>
<td></td>
</tr>
<tr>
<td>Green chilli</td>
<td>5-7 days</td>
<td>Air</td>
<td>Normal</td>
<td>Transportation cost, Variety                                              X *</td>
<td></td>
</tr>
<tr>
<td>Okra (ladies')</td>
<td>5-7 days</td>
<td>Air</td>
<td>Normal</td>
<td>Transportation Cost, Variety                                              * *</td>
<td></td>
</tr>
<tr>
<td>Fruit/VEGETABLE</td>
<td>SHIPMENT TIME</td>
<td>TEMPERATURE</td>
<td>QUALITY</td>
<td>METHOD</td>
<td>TREATMENT</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------</td>
<td>-------------</td>
<td>---------</td>
<td>--------</td>
<td>-----------</td>
</tr>
<tr>
<td>Betel leaves</td>
<td>5-7 days</td>
<td>Air</td>
<td>Normal</td>
<td></td>
<td>Transport, variety, preservation</td>
</tr>
<tr>
<td>Coriander leaves</td>
<td>2-3 days</td>
<td>Air</td>
<td>Normal</td>
<td>Cooling</td>
<td>Transport, variety, preservation</td>
</tr>
<tr>
<td>Mint</td>
<td>5-7 days</td>
<td>Air</td>
<td>Normal</td>
<td>Cooling</td>
<td>Transport, variety, preservation</td>
</tr>
<tr>
<td>Mushroom</td>
<td>2-3 days</td>
<td>Air</td>
<td>Normal</td>
<td>Cooling</td>
<td>Transport, variety, preservation</td>
</tr>
<tr>
<td>Cut-flowers</td>
<td>5-10 days</td>
<td>Air</td>
<td>Normal</td>
<td>Cooling</td>
<td>Technology</td>
</tr>
<tr>
<td>Orchids</td>
<td>2 weeks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cauliflower</td>
<td>3-4 weeks</td>
<td>Air</td>
<td>Normal</td>
<td></td>
<td>Transportation, variety, preservation, develop summer variety</td>
</tr>
<tr>
<td>Broccoli</td>
<td>3-4 days</td>
<td>Air</td>
<td>Normal</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Cabbage</td>
<td>7-10 days</td>
<td>Air</td>
<td>Normal</td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Carrot</td>
<td>15-20 days</td>
<td>Air</td>
<td>Normal</td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

In general keeping quality depends on state of maturity, harvesting time and post-harvest
PRODUCE QUALITY

Poor quality causes a high percentage of rejected vegetables, especially in the UK, where air transportation takes a longer time and quality standards are slightly higher. Here, poor quality relates to the irregular shape & size of the produce, different maturity indices, insect & disease infestation, mechanical injury, ageing, moisture loss, etc. In particular, the most perishable products, like Chillies, Hyacinth, Yard Long Beans and Bitter Gourd, have a high spoilage percentage of 5-10%, which even increases to 30% during the hot summer months. Short shelf life also causes damage, and it was observed that decay had clearly started before departure. Insect & disease infestation is not only harmful for consumer appreciation, but also poses a threat with regard to phytosanitary regulations in the importing countries.

As a consequence, Indian exports may lose their market share. This is clearly the case of the Yard Long Bean in the UK, where South American competitors offer a much better product. Upcoming legislation in importing markets, requiring stricter standards for quality of the produce, may create future obstacles for Indian exports.
3. PACKING

Packaging of Indian exports consists mainly of round bamboo baskets and second-hand cartons of different shapes. As a consequence, the products are not properly positioned. For instance, Yard Long Beans in round baskets become misshapen and damaged. The second-hand cartons usually have no ventilation holes and do not have the necessary strength, which causes bruising of the produce. Moreover, the irregular shapes of the cartons gives rise to rough handling by the airline staff.

Apart from its impact on quality, the present packaging is very unattractive to buyers and promotes an extremely poor image of the produce of India.

4. DISTRIBUTION

From June to October every year freight space on all airlines to the Middle East is fully booked, but as far as the UK is concerned, the planes capacity of is filled round the year. During the hot season in the Middle East, India could export double the quantity if transport were available. Operation of planes offers no solution; the cost of freight would increase two-fold. In addition, operation of planes brings about logistical problems, since arrival time of the planes is unpredictable and quantities of at least 30 tons need to be sent at a time.
Thus far all fresh produce is being exported by air, and no other means of transport have been employed. Part of the space allocated to vegetables is even used for dry foodstuffs, such as dried spices and puffed rice.

PAYMENT BEHAVIOUR

Payment behaviour by customers is frequently cited as a major problem. This may be related to the structure of the export business. All exporters sell similar products and competition is not based on quality or specialisation, but mainly on price. In some cases, delivery on credit basis is even used as a marketing tool. The vegetable trade, both at the export and import level, is characterised by a relatively high turnover of companies leaving or entering the business.

AREAS OF OPPORTUNITY

Several new areas of opportunity for Indian products have been identified, and will be discussed in this section. Upgrading (a) and increasing volumes (e,f) of the present product line of Indian vegetables, meant for the ethnic markets, offer good prospects for the short and medium term. The advantage of this market is that immediate progress can be achieved by adopting a proper production system and taking relatively simple measures. On the other hand, entering the regular
markets at this stage is only possible through special pilot projects, involving research and rigorous control at all levels. Moreover, with the exception of French Beans, potential export volumes are limited.

(a) Upgrading Export of Traditional (Indian) Vegetables to the UK and the Middle East Generally 20-30% higher than the ones presently obtained. In addition, the high spoilage rates, that currently occur and severely reduce the profit margins, can be avoided.

(b) **Netherlands Ethnic**

In the Netherlands the ethnic trade of Surinam food has demand for tropical vegetables, including Betel Leaves, Green Chilli, Okra, Golden Apple (Amra), Yard Long Bean and Banana Leaves. Part of their supplies originates from Asia, mainly Thailand.

(c) **Exotics in Regular Markets**

In all the European markets certain Indian products, mainly fruits, could find buyers in the regular markets, where they are regarded as "exotics". Opportunities exist for small Pineapple (Queen), Papaya (Solo variety), Apple Banana and Lichees. These markets, however, require very high standards of packaging and quality, and potential volumes are limited.
(d) The UK, Belgium and France have a large, and still growing, demand for Extra Fine French Beans, while in other European countries it is a smaller but growing special item. Provided a product of top quality can be delivered, export from India seems economically feasible.

(e) Utilise Available Planes

During the period outside the peak season, from October to May, sufficient air space is available to the Middle East destinations, and market volume for certain items can be increased, particularly for products that cannot be grown in the Middle East, such as Pineapple, Papaya and Guava. Packaging needs improvement to the standards of our competitors (Bangladesh & Sir Lanka).

The Middle East airlines also offer planes to the UK during the same period. At present most exported products cannot withstand the delays and temperature changes that occur during the flight transfers in the Gulf States. However, when quality of the produce will be improved it will become possible to utilise this available freight space. In addition the potential markets for traditional produce in USA and Australia, that could not be served thus far due to distance, might be opened.

(f) Sea Transportation

During the peak season in the Middle East, export volume may be
increased by using sea transportation in refrigerated containers for less perishable items. Similar products are presently shipped from South America to Europe in about two weeks, the same duration that is required for reaching from Calcutta.

5. Sales Promotion

(a) MANAGING QUALITY ASSURANCE

One of the major factors in export development is quality assurance. This has two aspects: i) standardising the quality of processed product and ii) ensuring the safety of these products for human consumption. The management should work with the processing and quality control staff to go through each stage of processing from purchase of raw materials and ingredients to consumption of final products, to identify which factors could influence either the quality or safety of the products and then devise procedures that control these factors. The quality should conform to the standard specification for exportable items and also should conform to the specification of the importing countries. The safety of these processed products can be assured by implementation of a system. The different types of contamination are: i) microbial, ii) biological, iii) chemical, and iv) physical.
Control methods can be developed to prevent contamination from these sources. It may be mentioned that fruit and vegetable products have a lower risk of food poisoning than meat and dairy products. India has not yet been able to develop and organise export-oriented fruit and vegetable processing industries. Inspection and quality control systems have also not been developed to meet the requirement.

In the private sector offer limited service for inspection and quality control to local manufacturers and exports on payment basis. The core activity of the group is inspection and monitoring in connection with trade and shipping of raw materials, agricultural products and other items. The group operates in various business sectors. The agricultural product services, and the environment and health-related services, are relevant in relation to food processing and preservation.

(b) MARKETING OF AGRO-PRODUCTS AND E-COMMERCE

The Internet is being extensively used for marketing of agro-products. The convenience of such transactions include the following:

- Electronic selling virtually eliminates processing errors which in turn makes selling cheaper, more convenient and faster.
- We can offer more products than we can physically stock on the shelves of store
CONSTRAINTS TO AGRO- PRODUCTS EXPORTS AND NEEDED POLICY INTERVENTIONS

Constraints to agro-products are varied. Problems encompass the process of production, transportation and marketing/export. Any agro-product requires a well-developed integrated system from planting to marketing in order to give maximum returns to growers. Development of such a system requires effective teamwork among researchers of several disciplines around each specific product or group of products. But in India this integrated approach is absent and the existing co-ordination between the several parties involved in this is meagre. But other exportable fruits like Banana, Pineapple, etc. have several major production points Punjab, Kerala, Haryana, U.P. etc. But production is unscientific and without any planned approach. NGO can be involved in this area.

Production of fruits and vegetables should have a long-term, nationally integrated plan. In India, long-term plans, programmes and strategies are lacking. The private sector has to be organised and it should come up with proposals for agro-processing and exports in line. Moreover, the functions and scope agro based institution to be expanded with additional technical manpower. Marketing is another area which is confronted with various problems. The producers do not get buyers on a
sustained basis or after harvesting. Moreover, transportation is a serious problem.

Agro-products are perishable and fragile goods, which require refrigerated vans and storage. These facilities are lacking or inadequate now. The export facilities, both physical as well as procedural, are not adequate. Particularly, the facilities at the export points (airports, seaports, etc.) are also very limited.

Private exporters usually collect fresh produce from local and wholesale markets according to the required specification, size, weight, shape, etc. These are taken to packing areas where the produce is graded, sorted and packed in fibreboard cartons. Recently, the exporters have arranged to get a supply of cartons of different size for different commodities. These are then bound with strings and taken to the airport for export. They are exported to the European or Middle Eastern markets, mainly to ethnic groups residing in those areas. There is ample scope for improving the situation. The potential to develop new agro-crops for export to existing and new export markets is high, and the new crops could easily be introduced into India by means of several different agro-administrative systems. The preferred system may be one in which a network of producers’ and growers’ units supply produce to an exporter on a contractual basis, thereby adding value to a final product. In order to
enter the normal markets in these countries it is necessary to keep the levels of chemicals within the limits of acceptability in the importing countries. The agro-based institutions have made a breakthrough in this direction by exporting French Beans to European markets.

6. Government Incentives in Marketing

POLICY ACTIONS FOR PROMOTING AGRO-PROCESSING

The measures already taken by the government:

<table>
<thead>
<tr>
<th>Tariff on raw materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives for exports</td>
</tr>
<tr>
<td>Duty-free reefer vans</td>
</tr>
<tr>
<td>High duty on cans, jars</td>
</tr>
</tbody>
</table>
Finally the fiscal measures to stimulate agro-processing:

### Table – 5.3

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Items</th>
<th>Previous Rate (%)</th>
<th>Reduced Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Import Duty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Tetrapack: food, drinks</td>
<td>30-40</td>
<td>25</td>
</tr>
<tr>
<td>2.</td>
<td>Glass bottles, jars</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>3.</td>
<td>Natural polymers etc. in primary form</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>4.</td>
<td>Rubber gloves</td>
<td>30-40</td>
<td>15</td>
</tr>
<tr>
<td>5.</td>
<td>Unpainted plain film</td>
<td>40</td>
<td>25</td>
</tr>
<tr>
<td>6.</td>
<td>Stainless steel</td>
<td>40</td>
<td>15</td>
</tr>
<tr>
<td>7.</td>
<td>Rope, twine, nylon cord, others</td>
<td>30-40</td>
<td>25</td>
</tr>
</tbody>
</table>

**Source:** ATDP

### NEED FOR FURTHER ACTIONS

1. In the National Agricultural Policy more emphasis should be given to post-harvest handling and promotion of agro-processing. These are the two important areas for proper development of agriculture. The Industrial Policy fruit and vegetable processing should be included as a thrust sector.
2. (a) Development of Manpower

Proper development of horticulture and promotion of agro-processing require manpower at different levels.

The Department of Food Technology, should be strengthened for this purpose. The Department of Food Technology, Polytechnic Institute, is offering a three-year course. This should also be strengthened.

The other Universitis, like NST has introduced a degree course in Food Science and Technology. When properly developed, this university will be able to produce qualified persons for food-processing industries.

(b) Development of Suitable Varieties

The Horticulture Division of should try to develop varieties suitable for export and processing. The varieties should have uniform size and shape, better flavour and texture to withstand processing conditions. These seeds should be patented.

(c) Development of Post-Harvest Technology

An advantageous position to develop post-harvest technology (handling, grading, packaging, storage, transport) for
exportable commodities. Technological support may be obtained from the Institute of Food Science & Technology (ICSIR). The Ministry of Agriculture should encourage the private sector to come forward to develop post-harvest handling technology in the areas of production, for pineapples and bananas. The Mango Research station should extend its activities to post-harvest handling of mangoes at its present premises.

3. Research and Development

The Institute of Food Science & Technology (ICSIR) and the Post-Harvest Technology Division should cooperate to develop processes for high value crops like baby corn, French bean, okra, mushroom, etc. for export.

4. (a) Incentives for Development of Food Processing Industries

The fiscal policy of the government should be conducive to development. Anomalies in duties and taxes should be sorted out. Cash incentives should be given to promote agro-processing and encourage export.
(b) Import Restrictions

In the interest of the proper development of horticulture and agro-processing, reefer vans and refrigerated containers should be exempted from duty and VAT. Similarly, duties and taxes on raw materials and auxiliary chemicals required for processing should be further liberalised.

5. Establishment of New Industries

New food-processing industries should be established to make the best use of available horticultural produce. The government should assist entrepreneurs and processors to establish linkage between processing, packaging materials and equipment. It should also encourage foreign direct investment (FDI) through joint ventures.

6. Strong collaboration between public and private sectors (NGO/Exporters/Exporter Groups/Farmers’ Cooperatives) should be encouraged to establish a location-specific and profit-earning 'Export Production and Marketing Center' for agricultural crops in general, and horticultural crops in particular. This will help sustainable production of produce of exportable quality and make them available at the port of embarkation (air or sea) on exporters’
requisition. There is a need for export farmers' group formation. Production planning based on export market demand, technology dissemination on importers' requirements, credit management, infrastructure development i.e. packing house with a cool room facility near the center for post-harvest handling (sorting & grading), packing according to international standards and transportation by refrigerated vans are some of the responsibilities that may be undertaken at the proposed "Export Production and Marketing Center". Established importing firms may be invited to participate as the technical partners in the establishment of the center.

7. Development of strong, economic and standardized packing suitable for a wider product range is needed. For this purpose, the existing packing industry may be reoriented to manufacture cartons of international standard or a separate industry may be established as a turnkey project. Imports of paper and/or finished cartons for the purpose of packing fresh produce for export should be exempted from import duties.

8. The Marketing Agencies may be strengthened, balanced and modernized to act as a 'Center of Knowledge' for all matters related to the promotion of the export of horticulture crops. This center should have the responsibility of developing and disseminating
pre- and post-harvest technology, including information on market intelligence. The agencies in collaboration with research organizations, should determine the criteria for export quality, including the maturity index for each crop, and monitor at the airports/sea ports whether the produce complies with the minimum standards in respect of quality and packaging. More strict criteria will be applied for exports using the common 'Logo' and the print 'India Produce' on the carton.

9. The Marketing Agencies should encourage increased production of suitable varieties of fruits and vegetables for export. The formation of companies in the private sector should be encouraged in order to sustain such activities.

10. As a short-term measure, the exporters must avoid the current practice of procurement of fresh produce through middlemen from the wholesale markets of States and sorting, grading, packing, and storing the produce in poorly ventilated godowns. They should procure directly from the producers and instruct the farmers to practice hydro cooling at the collection or the production point, especially during the summer months. Also they have to monitor the sorting and grading, and provide cartons (preferably waxed) of uniform shape & size. Packing in bamboo baskets, second-hand cartons and gunny bags has to be abolished. The produce should be
protected from sunlight and transported during the coolest time of the day to the exporters' godowns or to the cold storage at the airport. The exporters are advised to install, as early as possible, air-cooling facilities at their godowns to increase the shelf life of the produce. Filling materials like paper may be used between two fruits to avoid bruising during transportation. They also should collect information on the quality of their produce from the importers and adhere to their suggestions for further improvement of the quality and packing.

11. A separate fresh produce with air cooling facility should be built by the Civil Aviation Authority at the International Airport.

12. In order to have continuous market information, the India embassies abroad should be represented by professional Agricultural Attachés. Commercial Attaches should be appointed from the private sector with adequate salary.

13. The Export Promotion Bureau (EPB) has to be given more power by making it a really autonomous body and restructuring its organization and strengthening policy and planning. The EPB should include representatives of the Indian Standards in its governing body. This will ensure quality of the exports.
14. We need to be strengthened. Its chemical laboratory needs to be modernised to inspect the quality of exportable agro- and agro-processed products.

15. The plant quarantine system needs to be developed, which in turn will increase the exportability of our agro- and agro-processed products.

16. A one-stop-cell has to be activated in the true sense with expanded power and resources. There should be a separate export cell with an advisory body which should have adequate representation from the business community. The officials of the export cell will travel around the world to explore markets, and once new export orders are received, the concerned officials will get incentives in addition to normal remuneration.

17. In order to undertake large-scale production of agro-based products, it is necessary to expand contract farming.

**EXPORT TRENDS AND OPPORTUNITIES**

India has been a traditional exporter of raw agricultural products like spices. Export of raw products has resulted in huge loss to Indian economy. After GATT agreement and WTO membership, processed products manufactured as per international norms only offered at competitive prices, can be exported. However, our processed products
mostly do not meet the international standards. India’s share in over US$ 300 billion world trade in agricultural commodities is less than 1%. Agricultural exports used to be of the order of 30.6% of the total exports during 1980-81, which came down to 19.4% by 1990-91. Currently, it is at about 16% due to rapid growth in other sectors as well. Processed fruit and vegetable products have considerable export potentials and if it is properly utilized, growers, processors, traders as well as national economy will benefit. It requires correct assessment of world market, high quality of raw produce, high quality of processed product and competitive production cost.

QUALITY CONTROL & STANDARDS

Food processing industries cover a large spectrum of products of plant and animal origin. Quality has got to be maintained for domestic as well as export markets. In this respect, a number of organizations have come up for the formulation of standards and for monitoring their quality. These can be classified into two groups; a) compulsory legislation and b) voluntary standards.

Bureau of Indian Standards (BIS)

The activities of BIS in the field of agro-processing are two fold: a) formulation of Indian standards and b) their implementation through its voluntary and third party certification system. BIS has on its record over
700 Indian Standards related to food-grains and their products, bakery
and confectionery items, sugar, edible starches and their products,
processed fruit and vegetable products, protein rich foods, stimulant
foods like tea, coffee and coca, alcoholic beverages, spices and
condiments and food products of animal origin like milk and meat, fish,
poultry etc. These standards, in general, cover raw materials permitted
and their quality parameters, hygienic conditions under which the product
is manufactured and packaging and labeling requirements. The standards
also prescribe, where required, freedom from toxic substances and
contaminants. In addition to the product specifications, which include
both raw materials and final product, the Bureau of Indian Standards has
brought out standards on glossary of terms for various industries and
hygienic codes applicable to most of the food processing industries. To
ensure that processed foods are free from pathogenic or spoilage micro-
organism, limits are gradually being introduced in various specifications.
In addition, separate standard methods of test for the sensory parameters
have been laid down. Containers are as important as the contents, as these
may impart toxic elements to the food products and could pose potential
dangers to health and safety, if they are not of the requisite quality. Indian
Standards covering 6 thermoplastics namely, polypropylene isomers and
ethylene acrylic acid have been published which describe the requirement
of the particular thermoplastic and necessary additive along with their
limits. Informative labeling is also a very important area and the level should contain sufficient information to enable the consumers to know about positive nutritional characteristics such as protein, fat, dietary fibre etc., negative characteristics such as pesticides, residues, toxins etc. as also information regarding ingredients used, food activities, net contents etc. In this area, the Bureau has brought out a Code of Practice for labeling of Pre-packed foods covering general guidelines for labeling and guidelines on claims and nutritional labelling. However, in this area, much work still remains to be done.

10. GATT AND SANITARY/PHYTOSANITARY MEASURES

Agreement on the application of Sanitary and Phytosanitary Measures (The SPS Agreement concluded under GATT in 1994) came into effect in 1995 for developing international standards to ensure the safety of food for consumers and to prevent the spread of pests or diseases in animals and plants. These measures protect human/animal life from risks arising from additive contaminants, toxins or diseases – causing organisms in their food. The objectives of SPS can be accomplished in several ways as indicated below.

1. Requiring product to come from a disease free area
2. Inspection of products
3. Specific treatment of processing of products
4. Setting allowable maximum levels of pesticide residues or permitting the uses of only certain additives in food.