

#### **1.4.9.4 Commodity Market and Commodity Exchange**

There is need to amend the Forward Contracts (Regulation) Act of 1952, since it was enacted under conditions of serious food shortages. Our commodity markets, both physical and futures, need review. It will also be to the advantage of the farmers of India, if the Central and State Governments agree on an **Indian Common Market**, and remove all barriers relating to inter-state movement of farm commodities. This must be done after a consultation process amongst state governments, as interstate taxes are revenue-earning measures levied by states in the Indian federal system. The Indian Common Market catering to a population of over a billion will serve as a buffer against violent price fluctuations arising from disturbances in the overseas markets.

#### **1.4.10 Compensating Loss from Price Fall and Price Stabilisation Fund**

Another intervention is the creation of a price stabilisation fund or alternatively a mechanism for compensation of loss arising from price fall for these commodities. Although the Commission does not have full information, some initiative launched by the Government of India needs to be commended and the State Government should actively campaign and make its own contribution.

#### **1.4.11 Export Promotion**

Two sets of issues are arising as a consequence of the implementation of the WTO regime in this country. Those problems facing exporters and those arising from import of agricultural commodities, but both are seen separately.

##### **1.4.11.1 Strengths and Weaknesses of Kerala in Exports**

1. One of the major strengths of Kerala's agriculture is its long tradition of export, which has bequeathed a chain of institutions and networks for collection and transport, from the farm to the port through itinerant merchants, and retail traders at the villages, wholesale traders at the taluk and district towns and commission agents and exporters at the ports. The orientation of the farmers to sale of commodities for export, access to market information, the external links established over generation are all assets, and survived the vicissitudes of time.

2. Though the system is resilient, it is inadequate to meet the challenges posed by the WTO regime especially international competition from emerging competitors (new players such as Viet Nam in black pepper and Guatemala in cardamom). Secondly the traditional methods of production, storage and processing are increasingly short of international quality requirements. Third weakness is that most of the products exported are without value addition. Fourth the system is not geared to capitalise on the opportunities offered through opening up new markets as sequel to the market access provisions of AoA. All these can be overcome through concerted and determined efforts.

3. Unlike many other competing countries which themselves are mostly developing nations like India, the state does not have a cost advantage in the products in which Kerala is competing, arising from low wages, because the wages prevailing in Kerala are relatively high. More and more low cost countries such as Vietnam are entering as competitors in this field. Kerala may not be able to maintain its competitiveness through low wages, but only through higher productivity, which many of these newly emerging competitors have already achieved. Determined efforts are needed to achieve cost-

effective productivity increases such as launching a massive systematic replanting with highly productive (which are indeed available) planting materials and adoption of management practices for the tree crops has already been elaborated earlier.

4. In order to maintain its advantage in the globalised environment, Kerala has to resort to product differentiation through labelling, creation of brand equity, etc. Kerala has enormous opportunity in the production of organic foods with eco-label, which has a ready market in developed countries. For realising this market, surveys are to be conducted in developed countries where Kerala's products are already in demand. Internationally recognized certification and labelling agencies may have to be created, to step up exports of environment friendly organic products. The certification criteria will have to be reviewed by setting up a special task force and periodically updated.

5. Though small at present, the developing countries, especially those in Africa offer opportunities for the traditional export commodities of Kerala. These opportunities are to be harnessed.

#### **1.4.11.2 Preventing Misuse of Import for Re-export**

A major threat to the internal price and the primacy of Indian exports in the not so long run is the imports for re-export with value addition, apart from imports under the obligations under AoA. While in principle such imports are desirable, this provision is being abused in the case of coffee and tea, much to the detriment to the interests of the Indian producers and the country at large. It is reported that low quality materials (tea for instance) are imported from competing countries and re-exported with nominal value addition to our traditional markets by making use of the loophole in the law that does not stipulate any minimum addition of value should be provided to prevent the misuse/abuse of the provision of allowing imports of agricultural commodities for re-export in order to earn foreign exchange through value addition. It should be ensured that value addition is significant, at least to the extent of import duty. Misuse at least in a few instances, has resulted in the loss of image of Indian products due to import and re-export of low quality products. Further, such re-exports cut into Indian share of the market, which has serious economic backlash especially in the case of surplus in products such as tea and coffee, which the Indian producers are struggling to dispose off. As such loss of markets in turn compels reduction in production and employment in the country. There is also need to specify the authorities, who are empowered to issue certificates of origin of materials. The Commerce Ministry should study this issue carefully in consultation with the Commodity Boards. While importing at least the quality standards prescribed under the Food Adulteration Act should be insisted upon if there is no superior standards prescribed in the statute.

#### **1.4.11.3 Data on Imports**

Information and data on imports should be posted regularly in the websites of the Ministries of Foreign Trade and Commerce, so that proactive action can be taken to ensure a balance between demand and supply. Lack of access to reliable information and near absence of wider consultation in the various stages of GATT Round of negotiations have been primarily responsible for the poorly informed debate and emotional out bursts on the whole issue of India's entry into WTO and subsequent implementation of the AoA. The situation got retrieved to some extent around the Doha Ministerial Conference. This should be an object lesson of the imperative need for informed debate and taking people

into confidence on so vital issue, such as the entry into WTO, the implications of which are pervasive.

#### 1.4.12 Establishment of a Virtual University for Agricultural Trade

1. One consequence of trade liberalisation is that farming is becoming highly knowledge and information intensive. Enhancing trade competitiveness is a must. Hence, there is need for a continuous updating of the information available to farmers and planters on all issues relating to domestic and global trade. Information will have to be provided on quality related regulations such as sanitary and phytosanitary measures and *codex alimentarius* standards. Quality, trade and patent literacy will have to become widespread. **Such a knowledge and information empowerment programme in farm trade should reach every farm family in Kerala and should include the excluded, in respect of information empowerment.**

2. We suggest for this purpose **the establishment of a Virtual University for Agricultural Trade as a 21<sup>st</sup> century institution, drawing strength from the ongoing Information and Communication Technology revolution in Kerala.** A computer-aided and Internet connected Virtual University can be established on a hub and spokes model. The hub can be located at an appropriate location like KAU, with the spokes being located in every district. The hub and spokes can be linked to Television Channels and Community Radio, so that relevant information reaches every farm household every morning.

3. The effectiveness of the Virtual University for Agricultural Trade will depend upon the quality and timeliness of the dynamic (i.e., time and location specific) and generic information provided to the stakeholders. The KAU has prepared a draft plan for the proposed Virtual University, which is, appended in Part II of this Report. It would be useful to convene a Brainstorming Workshop with the participation of **data generators and providers** (like ISRO, IMD, KAU, APEDA, NDDB, NHDB, Commodity Boards, Ministries of Agriculture, Commerce and Foreign Trade of GOI, ICAR, CSIR etc.), **data seekers** (farm families, planters exporters, women's' groups, traders, etc), **information managers** (ICT specialists, media representatives, extension specialists, etc), **policy makers** (concerned secretaries to Government and Vice-Chairman, State Planning Commission) and **representatives of UNDP** and other potential funding agencies. A Business Plan may be finalised at this workshop. It will be appropriate to get the Virtual University for Agricultural Trade inaugurated by the Hon'ble Chief Minister on January 26, 2003, since sooner steps are taken for the knowledge and information empowerment of producers, traders, exporters and consumers, the speedier can be the founding of an effective Trade Security System to the state.

#### 1.4.13 Sanitary and Phytosanitary Measures

##### 1.4.13.1 Quality Literacy Movement

The GOI should participate actively in the process of determining a just and fair **International Standards for Phytosanitary Measures.** Otherwise, the standards may come in the way of our exports. In addition, the following steps are needed urgently.

- Strengthen post-harvest infrastructure.

- Improve the sanitary conditions under which food is processed and milch and meat animals are reared.
- Strengthen the capacity of State Government Institutions in relation to quarantine measures, sanitary and phytosanitary measures and *codex alimentarius* standards of food safety.
- Launch a **Quality Literacy Movement**, and train at least 2 men and 2 women members of every Gram Panchayat as **Quality Managers**.

#### **1.4.13.2 Codex Alimentarius Standards**

Factors relating to FAO *Codex Alimentarius* standards of food safety, that inhibit market access can be overcome only by strengthening post-harvest technology and sanitary and phytosanitary measures. Infrastructure for Sanitary and Phytosanitary Measures and *Codex Alimentarius* Standards needs urgent strengthening.

#### **1.4.13.3 Prevention of Unconscious Introduction of Pests and Diseases and Invasive Alien Species**

Numerous new pathogens, pests and weeds are coming into the country as a result of mass imports of pulses, oil seeds, poultry products and other agricultural commodities. The National Bureau of Plant Genetics Resources (NBPGR) of ICAR at New Delhi has sounded an alarm about the threat, which such invasive alien species pose to our agriculture. The poultry industry is also threatened with new diseases through imported poultry products, as had happened in the case of the prawn industry in Andhra Pradesh. There is need for urgent vigilance and action to prevent the unconscious introduction of such serious threats to our agriculture.

#### **1.4.13.4 Disease-free Zones of Livestock for Export**

Creation of disease-free zones for livestock production can improve the market access for livestock products. The programme of the Department of Animal Husbandry deserves to be supported. Support has to be extended for modernisation abattoirs and slaughterhouses.

### **1.4.14 IPR and Biodiversity**

#### **1.4.14.1 Indigenous Knowledge and Trade Related Intellectual Property Rights (TRIPS) and Biodiversity**

Along with the concerns associated with WTA such as domestic support export subsidy, phytosanitary measures, the provision on Trade Related Intellectual Property Rights (TRIPs) reiterates the need for urgent measures to make gains from possible geographical indications of our commodities and from the rich biodiversity with the help of relevant domestic legislations. The ongoing negotiations in the TRIPs Council are expected to harmonise IPR with basic principles of CBD on access to biodiversity and indigenous people's knowledge, equity and benefit sharing. It is notable, in this context, that the Indian legislations, PPVFR Act and the Biological Diversity Bill have provision for equity and benefit sharing. Particular attention should be given to tribal wisdom and knowledge system and the IPR associated with this has to be recognised, protected and rewarded.

#### 1.4.14.2 Protection of Plant Varieties and Farmers' Rights Act and the Biodiversity Act

1. The Biodiversity Board established in Kerala should undertake an intensive programme of **Genetic Literacy**, in order to acquaint primary conservers on their rights relating to recognition and reward from the provisions of the Plant Variety Protection and Farmers' Rights Act, as well as the provisions relating to prior informed consent and benefit sharing provided under the Biological Diversity Bill (passed by the Lok Sabha and Rajya Sabha). It would be useful to promote a cadre of "**Barefoot Legal Advisors**" to help to spread such Genetic Literacy among the tribal and rural families engaged in the conservation and enhancement of agro-biodiversity. This will help to avoid biopiracy and promote symbiotic biopartnerships.

2. Kerala is endowed with rich biodiversity and has rich medicinal plant resources. People in the state have inherited thousands years of knowledge in Ayurveda and traditions in herbal medicines. The new IPR regime offers opportunities as well as threats in profiting from the rich biodiversity and patenting biological products. What is urgently needed is documentation and research on finding the active principles. A sense of urgency is needed on the part of the government in mobilising state's scientific resources, liberal funding and vigorous effort in promoting patent literacy. Urgent steps should be launched to take advantage of the provisions to secure benefits from the National Gene Fund to be set up under the PPVFR Act. Vigilant measures are necessary to protect IPRs of the indigenous people.

3. Government of India is the signatory of International Treaty dealing with genetic resources, plant varieties, intellectual property rights, etc. It is imperative that the implications of these agreements with reference to agriculture policies and their impact on agriculture sector need to be understood by the State Governments, as the day to day administration of agriculture is under the domain of the state. Towards this end Government of India should establish a mechanism of consultation and interaction with States and put in place also familiarisation programmes for State agricultural officers on the legal and technical issues involved. The ICAR may also regularly update the State agricultural universities on these agreements and upgrade their capacity to advise the State Governments on these matters.

#### 1.4.14.3 Geographical Indications

Eligibility under Geographical Indications based on certain specific quality, reputation or other characteristics including appearance of the commodity or goods, which are due exclusively or essentially to the described three geographical elements namely geographical environment, biological factors and production factors. These specific qualities and characteristics are clearly definable or merely describable. For instance, it is generally perceived that the Malabar pepper, the Cochin ginger, Alleppey Finger turmeric and Tellicherry Extra Green Bold (TEGB) cardamom have high market reputation. This reputation in each of these produces could be attributed to certain tangible and intangible characteristics. The tangible characteristics have to be elaborately defined with the help of data base, figures, photographs, etc. depending on whether the characteristics involve shape, size, colour and appearance, test weight, content and composition of chemical factors determining the intrinsic quality valued in the market parlour. The TRIPs regime and the national legislation on Geographical Indications empower the state in getting protection to these valuable, which are known for centuries with geographical appellations attributing to their origin in Kerala. Urgent measures are to be taken to identify

geographical indication of products of Kerala to protect them under IPR. Apart from pepper and cardamom, Kerala can claim more commodities for securing their GI for trade leverage in accordance with Geographical Indications of Goods (Registration and Protection) Act of 1999.

#### **1.4.15 Regional and Domestic Strategies**

##### **1.4.15.1 Understanding between India and Developing Nations of Asia**

Competition from developing nations in South Asia and South East Asia and a few African nations are emerging in many crops on which Kerala's farm economy is depending. India's rubber has to compete with that of Thailand, Indonesia and Malaysia, coconut with Philippines and Sri Lanka, Tea with Sri Lanka, cardamom with Guatemala. black pepper with Viet Nam, etc. Competition is among developing nations in the neighbourhood to acquire the market share. The beneficiaries are the developed countries. Hence it is desirable and necessary to forge unity with these competing nations and develop understanding to the benefit of all.

##### **1.4.15.2 Consultation with States**

Agriculture is a State subject under Constitution of India. The brunt of the implications (adverse impact on the livelihood security, income erosion, etc.) of the decisions of the Central Government has to be borne by the state governments (not only the consequent political unrest but the financial/resource loss/liability as well). Therefore, there should be adequate prior consultations (continuous) on such vital actions such as the accession to WTO and signing of the Agreement on Agriculture before decisions are taken. More over such consultations could be of considerable benefit to the Central government as the State governments are better aware and informed of the ground realities. Kerala's agricultural wealth is based on trade, since most of the farm commodities produced in the State are for trade within or outside the country. Kerala's experience with global trade is hence particularly relevant to the formulation of the national policy.

##### **1.4.15.3 Compensatory Mechanisms for Protecting Livelihood Security**

Even though the commodities that Kerala produces are the mainstay of the agricultural economy of the state; in the national context they are of not much significance to the economy of the country. Hence when decisions are taken on the import and export of commodities to fulfil bilateral or multilateral obligations, concerns of states, not only of Kerala, but some other states as well, are not generally seen adequately taken care of (in case of jute- West Bengal, soybean- Madhya Pradesh, for instance). Many a decisions of this kind taken in the national interest, (import of copra from Sri Lanka under SAARC, import of palm oil under a rail project deal with Indonesia, etc.) has had adverse impact on the economy especially on the livelihood security of the dependent population. The suffering that has resulted from the signing the treaty is often due to lack of in-depth preparation apart from even consultation with states, which may be adversely affected by such diplomatic decisions. Therefore, when such decisions are taken prior consultations should be held with the concerned states. Concurrently a compensatory mechanism has to be built-in and bargained for to mitigate the hardships of the affected population groups. Considering the unique crops and circumstance under which they are grown, special protection for Kerala's agriculture need to be given in order to maintain the livelihood security of those who are severely affected by the implementation of provisions in WTA

#### **1.4.15.4 Consultation among the Interested Groups of States**

Kerala, Karnataka and Tamil Nadu on, coconut, tea and coffee; Kerala and Tamil Nadu on rubber etc. compete with each other in the national market. Many concerns are common, for instance, the control of mite infestation in coconut, procurement of copra, etc. Common approaches to common concerns are necessary. The meetings of the South Zone Council could be an ideal forum for such consultations.

#### **1.4.15.5 Harmonising the Interests of Various Stakeholders**

Farmers, manufacturers and the government are to forge a consensus to generate a win-win situation to all stakeholders. There should be a realisation that there is strong mutual dependence between the farmers and the manufacturers/exporters. Farmers are to produce raw materials to sustain the industry. Manufacturers are to buy the commodities and thereby provide a demand for the produce. A sustainable market is as important to farmers as an assured source of raw material for the manufacturers/exporters. If the commodity price is depressed beyond a limit farmers would be compelled to grow alternate crops and uncertainties would set in the supply of raw materials, which would put the industry in jeopardy. Farmers would lose the market demand if prices go abnormally high, as the manufacturers would find difficult to run the factory. The loss of market for rubber in the foam mattress industry to polypropylene foam and the loss of market for coconut oil in the soap industry to other vegetable oils are lessons to be learned. It should also be remembered that import of agricultural commodities also means import of unemployment and loss of income to the nation. Forging understanding between various interest groups before negotiating international treaties, such as the AoA and WTO is very critical in keeping up nation's interest ahead.

#### **1.4.16 Areas of Priority Concern in Relation to Research and Infrastructure Development**

The potential high growth areas for Kerala, associated with agriculture and biodiversity, deserving special attention are the herbal medicine and ayurveda and tourism linked to health (ayurveda), spirituality (like Sabarimala, Guruvayoor, Malayattoor, Cheramaan Mosque at Kotungalloor) and nature (game sanctuaries, sea resorts etc.). In addition, there is scope for promoting eco-tourism like "Holidays on the Farm" "Green Travel" in plantation and Kuttanad areas, where nature offers picturesque landscapes and biodiversity. This may provide urban youth opportunity for experiencing farm operations, farm life and fresh environment. Some of the steps needed to promote these are described below.

#### **1.4.17 Herbal Medicine and Ayurveda**

##### **1.4.17.1 Genetic Resources Conservation and Sustainable Use**

A priority step relates to the strengthening of *in situ* and *ex situ* conservation of medicinal plants and the establishment of Seed Banks for these plants, which are in demand for commercial use. Due to direct collection from their native habitats, many medicinal plants move to the Red Data Books of the Botanical Survey of India, indicating that they are threatened with extinction. The cultivation of plants in demand in the Ayurveda system of medicine by tribal and rural families on contract with appropriate pharmaceutical companies will help to foster organised sourcing of raw material. This will also help to strengthen the livelihoods of tribal and rural families and standardised raw material for

medicinal use. The cultivation of medicinal plants for which there is a market, based on assured buy back arrangements, and could be an important component of Kerala Governments' programmes for tribal families.

#### **1.4.17.2 Maintaining the Purity and Authenticity of Ayurveda**

Steps will have to be taken to promote quality control and certification in the case of Ayurvedic medicines. Research will be needed for the validation of claims and for ensuring that the claims printed on marketing labels are rooted on scientific data. Medicinal rices like *Njavara* can be marketed abroad, if verifiable characteristics are discerned and listed on the label. If there is an effective certification agency, a suitable brand name can be given, as for example "Herbal Cures from God's own Country".

#### **1.4.17.3 Growers' Associations**

In order to give the power of scale to small growers of medicinal plants, Medicinal Plants Growers' Associations, each covering about 100 ha, could be formed on the model of self-help groups. Capacity building in the areas of cultivation and marketing will have to be organised. Such growers' associations can enter to a Memorandum of Understanding with companies with regard to sourcing of raw material for drugs. Herbal estates could also be promoted for bringing about an end-to-end approach in relation to medicinal plants and herbal medicine.

#### **1.4.17.4 Herbal Sanctuaries**

Areas rich in medicinal plants can be developed into **Herbal Sanctuaries**, so that this unique biological wealth can be safeguarded and conserved for posterity.

#### **1.4.17.5 Herbal Biovalley**

It would be desirable to develop the region extending from the Silent Valley Biosphere Reserve up to Wayanad as an **Herbal Biovalley**, on the model of the Silicon Valley for computer software. The Herbal Biovalley will provide the biological software essential for a dynamic medicinal plant industry. The infrastructure necessary for seed multiplication including tissue culture facilities, establishment of nurseries of elite material, validation and certification and producer-oriented marketing and other centralised facilities to facilitate efficient decentralised production, will have to be provided in the Herbal Biovalley. We suggest that GOK may constitute a Project Design Team consisting of experts from Kerala and representative of the Central Medicinal Plants Board, and Bioresources Board, as well as NABARD and APEDA to prepare a Business Plan for **the world's first Herbal Biovalley**. Kerala's goal should be the marketing of herbal medicine worth US \$ 5 billion per year by 2010.

#### **1.4.18 Tourism**

Kerala's unique advantages in tourism are well known. It is the only State in the country capable of launching a dynamic programme of home and global tourism, which caters to the needs of health, spirituality and eco-tourism. The infrastructure and service standards in all these areas need enforcement or strengthening. Specialist groups can be set up in these three areas of tourism to draw up detailed Business Plans. Again the aim should be to earn at least US \$ 5 billion per year by 2010 from home and global tourism.

### 1.4.19 Organic Farming

The Union Minister for Agriculture, Shri Ajit Singh, recently announced the decision of the Government of India to set up a National Institute for Organic Agriculture, which will have the authority to undertake certification of organic products. Kerala is a national leader in the production and marketing of organic spices, tea, pineapple, banana, medicinal plants and other farm commodities. It also proposes to undertake the production of organic rubber specially for the manufacture of condoms for use in the fight against the dreadful HIV / AIDS menace. Therefore, Kerala is an ideal location for the proposed National Institute for Organic Agriculture and the associated certification agency.

About 200 hectares of land ideal for the location of this Institute are available with the Kerala Agriculture University at Thiruvazankunnu, Palakkad district. It is requested that the Hon.Chief Minister and the Hon. Agriculture Minister may write immediately to Shri, Ajit Singh, and Union Agriculture Minister, offering land and other facilities in Kerala for the proposed Institute. This will help to strengthen the organic farming movement in Kerala and help farmers to produce health foods and value-added farm products for internal and international consumption.

### 1.4.20 Clean Energy Sources

Drying the harvested crop presents great problems in plantation crops like coffee, pepper, etc, with the result mycotoxins develop due to high moisture content. Considering the acute shortage of energy especially in the plantation sector for preparing products, especially through drying enabling to improve quality to meet international standards, a large programme of renewable energy has to be mounted. We recommend that the Government of Kerala may prepare a project for financial support from the Climate Convention Fund, operated by the Global Environment Facility for introducing on a large scale solar energy devices in drying plantation crops like tea, coffee, pepper, etc. The Ministry of Non- Conventional Energy Sources (MNES) should launch a dynamic programme for setting up community drying centres using solar energy. This will help small producers to get the harvested crop dried properly

### 1.4.21 Enlarging Exports of Marine Products

The following steps are urgently needed:

- Enhance the quality of domestically consumed fish and launch a quality awareness campaign among fishers, traders and consumers.
- Undertake a multi-stakeholder study of the current subsidies prevailing in the fishery sector, so that support, which is non-actionable under the SCM agreement, can be provided for fostering sustainable resource rejuvenation and management programmes.
- Create an updated database that can help in taking well-informed decisions.
- Initiate **aquarian reforms** that will restrict the rights to own fishing vessels only to those who actually fish.
- Undertake measures for environmental protection and sustainable management.
- Retrain the Fisheries Department staff in eco-fisheries and **low external input sustainable aquaculture**.

### **1.4.22 The Role of the Media**

The media has a special responsibility in reporting on the WTO and its impact, and in putting this information in the public domain. This is particularly so in a state where newspaper readership and media consumption are so widespread, and the media already so highly sensitised to the livelihood concerns. Unique to this Commission, which would normally be expected to represent government/private concerns, is its recognition of the media as a critical agency that is a part of the strategy to meet the challenges that WTO-regulated trade regime. Some of the measures which could make for a productive media-government engagement include:

- The setting up of a WTO Media Cell, which could perform/coordinate more than one task. It could handle regular media contacts plus perform the role of a clearing-house of information pertaining to the WTO and Kerala. The Virtual University and concerned departments and ministries could feed information to the cell, which could be made available to interested media through regular information briefs, and which can also be put on a web-site.
- For the general media, the Media Cell must put out briefs, hold regular briefings in different parts of the state, make officers and specialists available for comment and/or interviews. In a state with such innovative and evolved channels of communication, the Cell could use a variety of techniques to inform writers and journalists across a range of publications.
- Over the long term, the Media Cell could also help to build and train a core group of specialist WTO writers. This would help the development of strong and informed writing on WTO related issues and their global, national and regional dimensions.
- Documentation of publications on the WTO, including books, journals, newspaper reports, magazines, etc.

## **1.5 Crops/Commodities**

### **1.5.1 Coconut**

#### **1.5.1.1 The Crisis and Dimension**

The crisis is characterised by steep fall in price of coconut and drastic decline in production resulting from the coconut mite infestation. The fall in prices was from about Rs.500 per hundred nuts during 98-99 to less than Rs. 300 by the mid-2000, which largely continues to persist. The primary cause of this price crash started with steep decline in coconut oil prices, which dropped from the ruling prices between Rs. 5387 and Rs.5588 per quintal during 1997-99 to Rs. 3251 in 2001 [see Table 1]. The decline in production (in quality rather than in number) was largely caused by the widespread infestation with Eriophyd mite during 1998. This loss in production coupled with loss in price created a crisis of unprecedented proportion to the coconut economy of the state and to the farmers largely depending on it for their livelihood. The human dimension of the crisis, directly affected the livelihood of nearly one million of the farm households, representing almost 20 per cent of total farm holdings of the state, and indirectly another two lakhs households, who solely dependent on the processing coir, a by-product of coconut, for their livelihood. While majority of the coconut farmers affected are small and marginal owning less than

one half to one hectare of coconut gardens, the affected workers in the coir sector largely belonged to the BPL group.

### **1.5.1.2 The Oil Market Connectivity**

Nearly 60 per cent of the coconut produced in the state is consumed at household level and the rest goes to oil extraction. Again a good percentage of the oil is consumed as the primary cooking oil. It is estimated that around 14-15 per cent of the oil produced in the country is used by the soap and toiletry industries. Yet, it appears, the shot on the prices of coconut oil is being called by this industry. Thus, the farm prices of coconut are depended on the supply-demand situation of vegetable oil in the country and edible oil prices. The cardinal elements of this supply-demand relationship are the domestic production of vegetable oil, quantity of annually imported oil and the market off take. Over the years, production of coconut oil has been increasing while substitute oils have also been systematically making inroads into the national vegetable oil market. Here, the relative cost differences of different vegetable oils of various origin come into play and determine the periodic market preference. Continuous availability of alternate oil at low prices diverts long time users of coconut oil to such low cost oils. This virtually erodes the pre-eminence and indispensability of coconut oil in industrial sector, which was once considered to be depended on coconut oil. The case in point is the entry of palm oil and soya oil in the national market and the role of liberalised import of these oils to the disadvantage of domestically produced vegetable oils. In this competition, it is obvious that among the domestically produced oils, the one, which is the least dear in cost, shall bear the brunt, unless such high cost is linked with a unique quality indispensable to the industry.

During the last decade, coconut production in the country registered 35 per cent increase and that of coconut oil by 60 per cent, from 2.81 to 4.49 lakh tons. This increase in Kerala was over 26 per cent for nuts, although the share of the state to national production declined from 47 per cent to 42 per cent. This increase in production with increased availability of cheap alternate oils shifted the preference of industry away from coconut oil. In the absence of alternate demand creation, the slump was set in. While, there is a continuing national deficit in domestic vegetable oil production, the singular policy, which largely contributed to the price fall, is the import policy on edible oil and the committed low tariff line on soya oil. To what extent this price crash was encouraged by this policy is evident from the following import trend since 1995-96 (please note the coincidence with the establishment of WTO). While there is a justification for the import of vegetable oil to augment the domestic production, the level of import allowed seriously affected the domestic production sector, causing concern to the livelihood of thousands of farmers, who traditionally cultivate the oil-producing crops. Here again, while farmers growing annual oil seed crops have chance to move to alternate crops, the perennial oil seed crop farmers, like the coconut farmer, are forced into an economic trap.

During 1995-98, the average annual import of edible vegetable oil (predominantly palm oil and soya and sunflower oil to lesser extent) was about 1.2 million tonnes. This was increased to 2.4 m tonnes during 1998-99 and 3.05 m tonnes during 2000-01. During 2000-01, palm oil accounted for 72% of the imported edible/vegetable oil. This escalation in import by the Government of India and traders under the QR-less free trade regime, abetted with a low tariff rate, illustrates the high vulnerability of domestic agricultural production system, at variable degrees and the associated dangers to the livelihood of the depended population when the WTO regime becomes fully operational on domestic agriculture and agricultural commodity trade changes to the anticipated low or no tariff rate.

### 1.5.1.3 Strategy Proposed

The only immediate strategy to make coconut production to promote sustainable livelihood for the producers is appropriate intervention in the coconut oil market by regulating the import to maintain remunerative price to the domestic producers. The medium and long-term strategy should be management of production to bring down cost of production, where the government policies can play critical role.

### 1.5.1.4 Recommendations

#### Short term measures

1. **Regulating tariff rates:** Regulation of import under a trade regime without QR can be achieved only through periodic adjustment in tariff rates. Under the AoA commitment, tariff on edible oils could be increased upto 300 per cent. However, when the bound peak tariff rate of soyabean oil is at 45 per cent, there is little prudence in increasing the tariff rate on palm oil above 45 per cent. The current tariff rate on 'Edible grade crude palm oil and its fractions' is only 15 per cent. This has to be raised to a rate at or below 45 per cent, so that the tariff rise shall benefit the domestically produced vegetable oils rather than the soyabean oil being imported. This readjustment in tariff is the only immediate way out to solve the coconut farmers from their distress.

#### Long term measures

The long-term measures can have a two fold approach; first, increase the demand for coconut oil and second encourage by-product diversification to expand the demand for coconuts. Increase in demand may be possible by promotion as edible oil and popularising healthcare advantages in using coconut oil in the toiletry industry. There are several avenues to diversify the use of coconut as listed out subsequently.

2. **Promotion of coconut oil as edible oil:** National demand for edible vegetable oil is increasing at high rates with domestic production not able to cope with. The contribution of coconut is less than 4% of the oil seed production. Coconut oil is used as edible oil only in Kerala. It is not popular outside Kerala on palatability and health considerations. Palatability issue can be addressed through refinement, provided this process is cost effective. The dogma that coconut oil promotes cholesterol concentration is being challenged by modern research. On the contrary favourable properties, including bactericidal properties are being detected by research. Hence, there is scope to promote its use as edible oil through continuous campaign by the Coconut Development Board and the Kerala Government as part of development process. This has to be matched with appropriate measures to reduce the cost vis-à-vis that of other edible oils.

3. **Diversification to products with massive use potential:** Diversification strategy rests on the contention that commercial market of coconut built largely around oil is the major cause for decline in price and remunerative income to producers. Hence, diversification means, uses other than for oil extraction. A number of coconut-based products, traditional and non-traditional include coir, toddy, desiccated coconut, coconut milk, coconut cream, coconut honey, Nata-de-coco, sweet toddy (neera), jaggery from neera, soft drink, coconut water concentrate, coconut jelly, vinegar from coconut water, activated charcoal from coconut shell and handicrafts. Although technologies for these uses are developed, their cost-effectiveness at commercial scale is not evaluated. It is

rational to examine these large varieties of uses and to identify commercially viable ones and to promote them. Here again, the rock bottom line price of raw material becomes critical for the commercial viability, as much as the potential size of market. All possible support, institutional, infrastructure, organisational, and financial may be extended to initiatives in ventures and enterprises on diversification, particularly by farmer groups. Creation of a single window system for promoting such ventures could act as a catalyst.

4. **Promotion of sweet toddy as a health drink and jaggery making:** Sweet toddy may command massive demand potential and it is a health drink. Production of jaggery appears promising on consideration that a coconut palm has capacity to produce about 50-75 kg of jaggery a year, which is equivalent to 10-15 tonnes/ha/year (200 trees). The limitation is the availability of manual labour for tapping, which is a skilled operation, and the existing legal restrictions. Like in Karnataka, Kerala should lift all restrictions on tapping coconut by farmers for promoting diversification to sweet toddy and jaggery products.

5. **Promotion of coconut oil as edible oil:** The safety and taste of tender coconut water as a nutritional soft drink are widely recognised. This demand is on the increase. The hitch is in packaging, transporting to urban markets and supplying as fresh from the tree. The Government may actively pursue the market potential from this use with the help of big players in the soft drink market, who have the resources and marketing expertise, especially in creating a marketing strategy without undue competition with other soft drinks. Innovations may be required to reduce the transportation cost and to maintain palm-fresh quality.

6. **Coconut oil as lubricants in two-stroke engines:** Recently claims have been made that auto-rickshaws are being run with an admixture of petrol and coconut oil, the latter as a substitute for lubricant oil, in two stroke engines. This lead is worth pursuing on commercial scale, if the claim is substantial on technical grounds. This, if proved successful, may create additional demand for oil from a lucrative sector, in and outside Kerala. It is recommended that the Agricultural Engineering faculty of the Kerala Agricultural University or other competent research group be requested to undertake validation of this claim in all aspects, including efficiency, wear and tear and cost-effectiveness. Adequate and specific support from the Government of Kerala or the Coconut Development Board is imperative for this research.

7. **Massive programme for replanting and rehabilitation (Integrated Coconut Development projects):** This aspect has been discussed elsewhere under Kerala-specific recommendation in this report. Productivity of coconut gardens in Kerala is less than one half of Tamil Nadu and even below the national average, despite Kerala being endowed with high rainfall and other favourable conditions for coconut cultivation. The poor management, the debilitating root(wilt) disease, the more recent Eriophyd mite infestation and the extension of cultivation to agronomically less suitable areas, such as upper slopes and hill tops are the major reasons for the low productivity. One quarter to one third of the tree stand is over aged. A massive programme to systematically replace old and low yielding palms with pedigreed planting material during a period of 15-20 years is recommended. Such a programme should also aim to optimally utilise the land for maximisation of income per unit land with scientific inter-cropping and mixed farming. This can be linked with the integration of production, processing and marketing, as components of maximisation of income to the farmers.

**8. Continuation of minimum support price and copra procurement by NAFED:**

As long as unrestricted oil import is continued and market price of coconut oil is less than the production cost, the minimum support price and procurement through NAFED has to be continued. The procurement can be made more participative by a system comparable to the rice procurement, milling and marketing in Andhra Pradesh.

**9. Price stabilisation fund:**—Recently the Government of India have announced a price stabilisation mechanism for the plantation crops. The possibility of extending the scheme to coconut cultivation has to be explored. There is high commonality among all plantation crops in their management by agronomic practices (all are perennial tree crops), and vulnerability to internal and external markets and consequent high fluctuation in price regimes. It is a misnomer to consider that all plantation crops are under large estates. Many small and marginal farmers grow these crops in regions where these crops are common in the State. The division of plantation crops including coconut for administrative purpose by the Government of India across its different Ministries also create discrepancies in policies governing this crop sector. There is need to correct all these maladies of the past in a regime of liberalisation and globalisation, with a view that the domestic agriculture, whatever be the sub sector, does not suffer and the livelihood of the farmer is not threatened. In this context policies like price stabilisation has to be applied with a dynamic and appropriately differential concept without discrimination.

## **1.5.2 Black Pepper**

### **1.5.2.0 Pepper in Kerala**

Black pepper (hence forth just pepper only) is Kerala's advantage crop. Traditionally it is an export crop. Kerala accounts for 98 percent of the area and production of pepper in the country. Karnataka is the other state, which produces pepper. In 2000-01 pepper was cultivated on nearly 200,000 hectares of land, from which nearly 47500 tonnes of pepper was produced. Pepper is predominantly a small farmer crop and grown all over the state, especially in the foothills of the Western Ghat and the laterite midland belt. Idukki district with one third of the area, Wayanad with a quarter and Kannur with one tenth, are leading pepper-producing districts in the state. The productivity of pepper is highest in the Idukki and Wayanad districts with about 400 kg per hectare, which is two thirds higher than the state average yield 240 kg. The relatively higher yield in these two districts is attributed to larger holdings, and also to the cropping system evolved with pepper as the principal crop.

India is the largest producer of pepper in the world accounting for a little over one third (34%) and Indonesia is the close second with 28% (during 1989-98). Other major producers are Brazil, Malaysia and Viet Nam. India's productivity per hectare is the lowest among the competing nations (322 kg) while that of Malaysia is 7 times higher (2124 kg) and Vietnam three times (1085 kg).

India with 32000 tonnes of average annual export (ranging from 19000-47000 tonnes during the last decade) continues to be a significant exporter of pepper. During the 10 years between 1991 and 2000, exports exceeded 47000 tonnes in 1993 and 1999 and touched the low of 19000 tonnes in 1991 and 1992. Of course fluctuation in export of this kind, is true of other major pepper exporting nations in Asia, Indonesia and Malaysia. But in case of Brazil exports declined steadily from 50000 tonnes in 1991 to 20000

tonnes in 1999 while that of Vietnam steadily increased from 15000 tonnes in 1993 to 36000 tonnes in 2000.

### 1.5.2.1 Price fall

Pepper experienced the largest fall in prices, both in proportion and magnitude, during the second half of the nineties along with other agricultural commodities grown in Kerala. During 1991 and 1993 pepper prices hovered around Rs. 50 per kg. Since then it moved upwards to touch Rs. 106 in 1995, jumped to Rs. 191 in 1997 and peaked the all time high of Rs. 251 in 1999. Since then price fell to Rs. 86 in 2001, further to Rs. 70 in the early months of 2000, and remaining at around Rs. 80 with fluctuations. The implications of the fall in pepper prices is far more pervasive though next only to coconut, as it is one of the most widespread crop grown in the farms of Kerala and is well integrated with several cropping systems.

The domestic price movement of pepper is in sympathy with the international prices, as predominantly pepper is an export-dependent crop. Two thirds to three quarters of the pepper produced in India is exported. The proportion is much higher, around 95% in Malaysia, Vietnam and Brazil and 75% in Indonesia. World prices of pepper doubled during 1996 to 1997 from US\$ 1.14 to US\$ 2.02 per lb. It steadily increased to US\$ 2.53 in 1999 and since then started declining to US\$ 2.32 and downward slide continued since then. The international price is supply dependent. Decline in production of pepper in Brazil and Indonesia is attributed mainly for the spurt in price experienced during 1997-1999.

### 1.5.2.2 Implications of AoA

Pepper like other spices has been brought under the purview of AoA of the WTO. From April 2001 quantitative restrictions on the import of pepper has been removed. The bound rate for pepper is 108%. The applied rate is placed at 70% (as on 01.03.2002). Import to the extent of 3 percent of the domestic consumption would have to be permitted under the provisions of the AoA and hence import of pepper cannot be averted. Even otherwise also, pepper could be imported as a raw material for re-exports after value addition as in the oleoresin manufacturing, which in fact is taking place. Vietnam is developing into a competing player in the world market with its dramatic productivity increases since early nineties. With its significant advantage in productivity Vietnam could be a strong competitor in the domestic market itself apart from threatening India's position in the external market.

### 1.5.2.3 Challenges, opportunities and strategies

**Strengths and weaknesses:** Favourable climatic conditions especially the intense prolonged southeast monsoon (known as *thiruvaathira njaattuvela*) is the traditionally acknowledged as the strength of Kerala for sustaining pepper cultivation for centuries in Kerala. Pepper is traditionally cultivated as part of an integral part of the farming systems and cropping patterns prevailing in various parts of the state, primarily making use of various kinds trees as props and standards. Pepper cultivation is therefore is widespread and extensive. However, increasingly pepper is becoming specialised and a principal crop in the cropping systems of the districts of Wayanad and Idukki, especially in the settler areas. The integrated status is strength as well as a weakness of pepper

cultivation in Kerala. Its strength because it is cost-effective and weakness as the management of pepper is least attended if not neglected.

**Cost-effective increase in productivity:** Despite very favourable natural resource endowments the productivity of pepper in Kerala is one of the lowest among the competing pepper producing countries. Increasing productivity is the major challenge. The extensive experience of testing the technology package of technology for increasing productivity under on farm conditions, has amply demonstrated that at least doubling productivity from the present level of around 240 kg per hectare is possible and very cost-effective. The technology package is relatively inexpensive consisting of high yielding and disease tolerant varieties appropriate to the agroclimatic endowments from a large collection of materials evolved, simple agronomic management practices and biological control of diseases.

**Rejuvenation and replanting:** It is reported that from two fifths to one half of the pepper vines in the pepper gardens of the state is in declining phase and needs urgent replanting, and rejuvenation. Another major concern is the incidence and spread of the devastating quick-wilt (*Phytophthora* foot rot) disease in areas where pepper has emerged as the principal crop in the cropping system, especially in the districts of Wayanad and Idukki.

**Expansion of domestic market:** Pepper is traditionally an export-oriented crop. Fortunes of those who are dependant on this commodity have always been therefore, tied to the vicissitudes of the international market for pepper. Over the years a strong domestic market is emerging. Since the early nineties domestic market has expressed an annual grown of 9-10 percent in demand for pepper. As it happened in the case of cardamom, expansion of domestic market will act as a cushion to absorb the shocks from international price fluctuations.

**Quality improvement:** The increasing quality consciousness and consequent rigorous insistence on phytosanitary stipulations especially pesticide residue, being a product ultimately destined to consumed directly as food, is a major threat to expanding the export markets for Indian pepper. Major consumers of the Indian pepper are the developed countries such as the USA (21%), Singapore (16%) Germany (8%) The Netherlands (5%) France (5%) Japan (3%), all countries practicing stringent food standards.

#### 1.5.2.4 Strategy

Instability in pepper prices and the uncertainties arising from the increased threat of competition both in the external and internal markets, in the latter from imports as a consequence of India's entry into AoA, are the major constraints in converting the advantage Kerala has in pepper production for improving the livelihood security of the farmers for whom pepper is an integral part of the farming system. It is the instability in price that primarily dissuading pepper farmers from undertaking long term investment in rejuvenation and replacing old low productive plants with superior and productive clones, which is an imperative measure in building competitiveness for Kerala's pepper.

In the short run it may not be possible to protect pepper farmers from the fluctuations in price as this commodity is heavily dependent on external markets. As in case of any commodity for export, the market is centralised (in transactions and to some extent in the physical possession of the commodity) and controlled by a limited number of players.

Further, being historically an export crop, the marketing system is well established. Hence market intervention by the state has its own limitations, as its institutions are not adequately equipped to intervene in the market strategically, more so in the terminal market.

However it is possible to face the challenges of competition both in the domestic market from imports and in the external market, by improving cost competitiveness by increasing productivity through cost-effective technologies and practices. A two-pronged strategy is proposed. First taking advantage of pepper as part of the existing farming system, improve the productivity of the existing plants through rejuvenation. Second, in areas where pepper is the principal crop and the cropping system is centred around pepper, rehabilitate pepper gardens, which have been devastated by the quick-wilt of disease through replanting.

In the long run, stability in pepper prices could be brought about significantly by increasing pepper consumption in the domestic market as it happened in the case of cardamom. The expansion of the Indian economy and consequent increase in income provide the opportunity for promoting pepper consumption within the country.

World over increasingly processed extracts such as oleoresins are replacing unprocessed spices. Kerala is a pioneer in the country in oleoresin extraction from pepper. Such value addition can help increase the consumption, and income from pepper several fold.

Quality improvement of Indian pepper and adherence to phytosanitary stipulations would not only help promote Indian pepper but even necessary to stay on in the international market.

Cost-effective production or value addition through processing need not always result in benefits to the farmers in the existing marketing system with its monopsonic tendencies (limited number of players) because the interests of both are not necessarily co-terminus. Farmers' organisations could be encouraged and supported to enter decisively in the internal market by acquiring a strategic share of the internal market.

#### **1.5.2.5 Recommendations**

1. The initiatives and programmes proposed under the Pepper Technology Mission, which has taken a comprehensive look at the sustainable development of pepper in the state, be accelerated and put in operation immediately.
2. A systematic and targeted campaign with focus on revitalising and rejuvenating the existing low productive and over-aged pepper vines in the homesteads using a package of practices consisting of replanting with appropriate high yielding disease tolerant vines, fully making use of the trees and other live standards for increasing the pepper stand in the farms, agronomic management practices including regulation of shade of existing trees used as support, organic manure application and biocontrol of diseases. This initiative needs more than financial investment, a dynamic extension system and access to sufficient quality planting materials. The resources currently made available under local self-government institutions for agricultural development can be effectively mobilised in support of this programme.
3. Similarly a targeted and systematic long-term investment programme be launched for rehabilitating and replanting the disease affected pepper gardens in areas where

pepper based cropping systems are practiced especially in the Wayanad and Idukki districts, mobilising resources from NABARD and such other long time financing institutions.

4. Support, especially institutional credit and incentives, be given to groups (especially women groups) and individuals in order to establish a net work of nurseries including tissue culture propagated ones, from where reliable quality planting materials could be accessed by the farmers to meet, rejuvenation and replanting needs of pepper gardens. The institutions under the Kerala Agricultural University and Indian Institute of Spices should be able to provide the necessary back up especially in supplying high quality parent materials for propagation.

5. The Kerala Agricultural University may develop a package of practices suited to different agroecological zones for rehabilitating pepper vines and pepper gardens taking a holistic view of the resource system that sustains pepper in such systems.

6. Programmes be initiated to promote consumption of pepper in the domestic market in order to help minimise instabilities in the price regime. Promotional efforts especially with focus on medicinal qualities can help expand the domestic market.

7. Farmers organisations be encouraged and supported for initiating value added ventures to enable them to secure a higher share of income from such ventures.

8. A campaign for quality improvement with appropriate institutional support to reward the quality production, at farm level be launched. The farmers and their groups engaged in quality pepper production should be encouraged and rewarded.

9. Opportunities for organic pepper production be explored. Projects are to be formulated on area basis. The experience of NGOs such as the Peemad Development Society could be profitably used.

10. The Malabar Pepper is attributed to be unique to Kerala. Immediate steps be taken to get the special qualities and characteristics identified and defined under geographic indicators to protect them under the new IPR regime.

### **1.5.3 Cashewnut**

#### **1.5.3.0 Cashewnut in Kerala's economy**

Both in the cultivation of cashew and processing of cashewnut, Kerala is the pioneer in the country. Over decades the State has developed advantage in the processing industry in the form of skills in processing and knowledge on the external market for cashewnut exports, all are indeed invaluable assets. The processing industry provides livelihood security for over one-lakh workers (though only 32000 are registered workers for welfare) mainly in the southern districts especially in the Kollam district.

Country's net (less of import of raw cashew nuts) foreign exchange earning from processed cashewnut (including the shell liquid a by product of processing) ranged between Rs. 600 crores in 1996-97 to nearly Rs. 1400 crores in 1999-2000. Value addition is almost 100 percent. One major constraint in fully utilising the potential assets is the shortage of raw cashewnut for processing. Substantial quantities of raw nut are

imported annually to meet the needs of the processing industry. During 1999-00 and 2000-01, annual import of raw cashewnut into the country averaged 2.5 lakh tonnes valued at Rs. 1000 crores. The corresponding figures for Kerala are about 1.5 lakh tonnes valued at over Rs. 500 crores.

Area put under cashew in the state is declining steadily from 1.2 lakh ha in 1990-91 to 0.9 ha in 2000-01. Concurrently production also declined from 1.03 to 0.62 lakh tonnes and productivity as well from 890 kg to 720 kg. However area under cashew has been increasing in the country from 5.32 to 6.86 lakh ha, production from 2.95 to 5.20 lakh tonnes and productivity 554 kg to 758 per hectare. Thus Kerala had to give away its lead enjoyed in the production of cashewnut. Since 1998-99 productivity of cashew in Kerala registered is lower than the national level. Most of the cashew holdings in Kerala are of small size. Cashew cultivation in Kerala is predominant in the northern districts. Kannur has the largest area of nearly 30%, followed by Kasaragod 24% and Malappuram 11%. Contribution of production is also from that part in the same order: Kannur 44%, Kasaragod 19% and Malappuram 8%. Kannur district has the highest productivity: 883 kg against the state average of 601 kg (1997-98).

### **1.5.3.1 Price movement**

Cashew is only the crop other than cardamom, which has not been subjected to the general fall in the price of farm commodities in Kerala. In fact the price of cashewnut has been rising steadily from Rs. 11.55 per kg in 1990 and more than trebled to Rs.36.39 in 2000. The imported price of raw cashewnut ruled higher ranging from 26.83 in 96-97 to 40.93 in 1998-99. As the price of processed cashewnut (kernel) price is declining in the international market, it is likely the raw material prices would follow suit and domestic prices of raw cashewnut might decline. The kernel price declined from Rs. 265 a kilogram in 1999-00 to Rs. 230 in 2000-01, to Rs. 207 in April-July 2001 and further to Rs. 189 in April-July 2002.

### **1.5.3.2 WTO Implications**

Even though a raw material used for processing, cashewnut has been brought under the purview of AoA of the WTO. From April 2001 quantitative restrictions on the import of cashewnut has been removed. The bound rate for cashew 108%. The applied rate is put at 70% (as on 01.03.2002). Import is inevitable since internal production (about 48000 tonnes) is less than one third of the Kerala's import (one fifth for the country) to meet the needs of the processing industry, which is a significant foreign exchange earner and source of employment. But imports of raw cashewnut need not necessarily adversely affect the domestic price as locally produced raw nut has a premium on account of its size and boldness. During the post Doha period, import of raw nuts into Kerala increased three times the local production. Still the domestic price has been on the increase till 2001 (Rs. 36 per kg), although since then the decline has set in. That slump in price is more attributable to the decline in kernel prices in the international market rather than to imports of raw nuts.

### **1.5.3.3 Challenges, opportunities and strategy**

**Time for a big push in cashew development:** The basic challenge facing cashew cultivation in the state is that of meeting the raw material needs of the processing industry. Notwithstanding the steady increase in the price of raw cashewnut (price

increased three times since 1990) there is an all-round decline in cashew cultivation: in area, production and of late in productivity. Research institutions under the Kerala Agricultural University and the Indian Council of Agricultural Research have realised significant developments in technology, in terms of high yielding varieties (suited to a variety of agroclimatic conditions), agronomic management (especially the high density planting), and plant propagation. With profitable technology on the shelf and a price regime incentive enough to profitable returns, the economic environment is ripe enough for a big push in cashew production but for lack of long-term investment and focussed programme.

**Strategic instrument for regional development:** Cashew development in the context of Kerala has to be seen not just fulfilling the needs of the processing industry but as a strategic major instrument to trigger of agricultural development in the northern districts of Kasaragod, Kannur and Malappuram, which are relatively poorly endowed with natural resources. Even though these districts receive high rainfall (about 4000 mm) it is concentrated in 3-4 months leaving 6-7 months of prolonged dry period. The topography in these districts is undulating with alternating massive hills and narrow valleys. Landscape is that of extensive flat laterite formation with a thin over burden of gravelly soil, which is inherently of low moisture holding capacity. In such harsh environment cashew is the most suitable crop to productively utilise the poor land resource endowment. That is why cashew cultivation is seen concentrated in these districts. Better-endowed lands within these districts are put under crops such as coconut, which require more congenial agronomic environment. A cashew-based agricultural development programme would make a substantial dent into the agricultural economy of these districts.

**Quality improvement and environmental concerns:** Quality improvement, especially adherence to SPS (sanitary phytosanitary) measures assumes great significance for the very survival of the processing industry as cashew kernel, the output of the processing industry, is directly consumed as food. Presence of pesticidal residue is of grave and sensitive concern. It is not only that the final product should be free from any harmful chemical residue or other materials, but also that the process through which the product is produced should be environment-friendly. Environmental concerns in the production process are under close scrutiny in the developed countries, which are the principal markets for Indian cashew kernels. Some times such controversies could also be used against the product as non-tariff barriers. It is in this context that the disturbing reports and the controversies that had arisen on the application of insecticides on cashew for pest control in the Kasaragod district has to be viewed and avoided, apart from the human dimension concerns. In fact, it is very vital for the sustenance of the cashew industry itself that such controversies are resolved convincingly and proactive steps are taken to forestall their recurrences. Determined efforts are called for to convince that cashewnut in the state is produced through environment-friendly processes. Good agricultural practices could be promoted through certification.

**Environment hygiene and health hazards of women workers:** Another concern that could affect cashew kernel export is the preservation of hygienic conditions, and attending to the health hazards to workers, a vast majority of whom are women. Hazards are associated with some aspects of cashewnut processing, such as breaking fried nuts and peeling, which are skill, demanding but vulnerable too. Again, poor hygiene conditions and the health hazards could be used against cashew exports in the future. The commendable tradition of labour welfare measures provided to the labour in the cashew industry should be seen as a positive measure for the long term sustainability of the

cashew industry in the international cashew kernel market, and not as the burden inflicted on the processing industry. Among others, labour-friendly production practices could be used as a means for promoting Indian cashew, as products produced under labour-unfriendly processes are being discouraged by consumers in the sophisticated markets of the developed countries to which cashew kernel is targeted.

#### **1.5.3.4 Strategy**

A two-pronged strategy is proposed for increasing the production cashew in the state. First rejuvenate the existing cashew trees in the state and wherever necessary replace them with new high yielding varieties. Second in the cashew concentrated areas in the initiate a cashew centred area development programme encompassing the total development of the land resource endowment. In these areas the existing cashew trees are replanted with high yielding cashew varieties and cashew cultivation is extended wherever suitable land is available.

#### **1.5.3.5 Recommendations**

1. Time bound targeted programme for the rejuvenation of old cashew trees, with high yield varieties appropriate to the agroclimatic zone, be launched all over the state. For the cashew growing farms in the districts of Southern and Central Kerala early maturity should be a criterion as the dry period is short, and early incidence of pre monsoon showers result in poor quality nuts. Resources needed for the programme could be mobilised from the development plans of the local bodies and women's groups such as the Kudumbashree could be mobilised.

2. Systematic, time bound targeted cashew based area development programme for the rehabilitation and replanting of existing cashew garden and extension area to suitable lands in the Kannur, Kasaragod and Malappuram districts be formulated and implemented. This project could be taken as a developmental initiative for these districts with the inclusion of other crops also, rather than a project for cashew production promotion alone. High density planting, high yielding varieties, soil and moisture conservation, intercropping for the premature period, environment friendly pest control should become the integral technology package. Replanting could be done in such way as the existing trees be removed only after new plantings start bearing so that loss of income from removal of yielding trees can be minimised. Farmers be provided with technology support, access to planting materials and long term credit. Resources for investment could be pooled from NABARD, Commercial and Cooperative banks, development funds of the State and central governments (Cashew Development Council of the Ministry of Agriculture, GOI). If merged with area development then the resources available for Wasteland Development and Watershed Management could also be pooled.

3. The possibility of creating a cess fund for cashew development on the lines of in rubber cess, imposed on the raw material used (domestic and imported) may be explored. The cashew development is also meant as a support for the industry, which gains from value additions. The meagre support from government budgets is far inadequate to meet the developmental needs of cashew.

4. A network of nurseries for producing and making available high yielding planting material in support of the replanting effort be launched concurrently. Women's group such as the Kudumbashree could be involved by providing them with adequate training as was demonstrated successfully by the Kerala Agricultural University at its cashew

research facility at Vellanikkara. The University should be able to provide the necessary back up including training and quality planting material for multiplication.

5. Not only out of the anxiety to sustain the cashewnut processing industry and its international market, but recognising the need for removing convincingly the environmental concerns associated with cashewnut production (for that matter production of any agricultural commodity), it is suggested that the Kerala Government may take steps to institute a permanent set-up such as the initiative of the Royal Society of London in commissioning a study on the side-effects of GM (genetically modified foods) which helped dispel public apprehensions. By doing so issues are resolved at the very beginning itself before swelling into a national controversy. For this initiative, the support of ICAR or other such institutions could be mobilised.

6. A programme be initiated to cover cashew cultivation through environment friendly pest and disease control measures, in order to demonstrate and assure the consumers that the products produced are safe. Support specifically for this could be sought from the industry that ultimately benefits the most.

7. Studies be undertaken on the nature and magnitude of the health hazards of women workers engaged in the cashew industry, in order to design appropriate remedial measures so that health related concerns should not lead to a barrier (non-trade) in promoting Indian cashew kernel in the sensitive international market.

#### **1.5.4 Plantation Crops**

##### **1.5.4.1 Holistic comprehensive policy framework for the sustainable development of plantation crops**

Plantation crops defined under Sec.2 (44) of the Kerala Land Reforms Act, 1963 (tea, coffee, rubber, cardamom, cocoa, or cinnamon) historically evolved under unique socio-political, economic and ecological conditions. Of these, the development and management of the first four are governed by Central Acts and agencies appointed (Commodity Boards) appointed under them. Over the past one-century of evolution and more so after independence, various interventions to meet the objectives of the development of these crops prevailing during those times have been attempted. Several legislative measures including the Kerala Land Reforms Act, Land Utilisation Act, and the latest (June 2000) in the series the Vesting and Management of Ecologically Fragile Lands although not directly enacted for the development of this sub-sector of Agriculture have serious implications to the development of these crops. Similarly the various taxation measures both by the Centre with respect to income tax and excise duty and the State Government with agricultural income tax, sales/purchase tax, land tax etc. including the various taxes imposed by the local bodies are levied on this sector. Labour laws both under industrial and other domains, are applied for the welfare of the workers involved. The very roles expected to be played in the economy by the crops in this sub-sector have changed. Also considerable economic, social and demographic changes have occurred in the area in which these crops are grown. Finally with the WTO regime coming into being the economic environment has drastically changed. All these have led to the present economic and social crisis gripping this vital sector affecting the economy of the state. The Commission is of the view that a holistic perception on the development of this sector should be evolved and operationalised for its sustainable development and it is time that the State took the initiative in evolving a comprehensive policy direction

embracing all aspects including production and productivity, investment support, land use and land reform, ecology and environment, trade and marketing, labour and management, legal institutions, taxation, centre, state and local body responsibilities and commitments. The Commission recognises the imperative need for an initiative of this kind, but leaves it to the government as to the manner in which such a holistic comprehensive policy could be evolved and implemented.

#### **1.5.4.2 Review of the mandates of the Commodity Boards**

The various Commodity Boards came into being over five decades ago under the sanction of various Central legislations enacted by the Parliament. Various mandates were vested with the Boards on the basis of the then prevailing national and international situations, and demands of the national economy on these commodities such as meeting the internal demand and or earning foreign exchange etc. The socioeconomic conditions in the country have changed since then. Structural changes in production have also occurred. The share of the organised estate sector declined in production while that of the small growers has increased substantially. Production has moved out of the traditional areas and expanded to newer areas. Similarly the international economic and political environment altered drastically with the collapse of the socialist world, globalisation of the national economies and the installation of the WTO regime in the international trade.

The mandates of the different Boards varied from crop/commodity to crop/ commodity. In the case of Rubber Board development and research were the focus and very little on marketing. So too the then Cardamom Board and now Spices Board. In case of Coffee Board marketing and price control were the centrepiece of the activity. Tea Board laid emphasis on marketing and promotion of Indian tea abroad but not significantly on research and development. It is understandable when tea was the largest single foreign exchange earner, emphasis was given on export promotion. Now the situation has changed. Value addition and processing have assumed great significance in all commodities. With international competition cost-effective production rather than just increasing production under a safe and secure domestic market has become imperative even for survival. International trade, production shortage, expansion to other areas are converging the interests of the governments with the livelihood security of the farmers / growers engaged in production. The state government institutions engaged in R & D have gained considerable strength. Further state governments are increasingly compelled to take responsibilities for the fall out actions and initiatives under the WTO regime while accrual of resource originating from these commodities still continue with the Central Government. Against this emerging scenario, the Commission is of the opinion that the time has come to have a second look on mandates of the Commodity Boards so that they can be geared to face the challenges of the future and the nation can be proactive rather than reactive.

#### **1.5.5 Rubber**

##### **1.5.5.0 Rubber in the economy**

Kerala accounts for 84% (4.75 lakh ha in 2001-02) of the area under rubber 92% (5.80 lakh tonnes) of the natural rubber production in the country. The crop occupies almost one fifth of the total cultivated area in the state. Apart from ensuring livelihood security

to 9.13 lakh holdings, 2.82 lakh workers involved in production in the state, and 3.7 lakh workers employed in the industrial sector based on rubber in the country. This crop brings in Rs. 250 crores revenue to the State Exchequer by way of purchase tax and agricultural income tax (one of the very few crops that attracts agricultural income tax) and over Rs.80 crores (in 2001-02 Rs. 81.10 crores) to the national exchequer by way of excise duty on rubber (cess). The rubber plantation crop sector therefore has tremendous socio-economic implications to the economy of the Kerala state.

Rubber is overwhelmingly a small growers' crop as 98% of the holdings are of 2 hectares and less, cultivating 88% of the area with average size of 0.5 hectare, which contributes 88% of the production, while the estates sector (above 20 hectares and numbering 316) accounted for 2% of the area and 12% of the production in 2000-01.

**Commendable performance of the NR sector:** In spite of the predominance of small farmers, the productivity of NR attained in Kerala with 1612 kg per hectare of tapped area in 2000-01 (1222 kg by including immature area also) is the highest among the major NR producers of the world against 1456 kg of Thailand, 679 kg of Indonesia and 881 kg of Malaysia. During the past two decades rubber production in the state, more than quadrupled from 1.40 lakh tonnes in 1980-81 to 5.80 lakh tonnes in 2000-01, planted area nearly doubled from 2.54 to 4.74 lakh hectares and tapped area from 1.80 to 3.60 lakh hectares. This commendable performance has been made possible thanks to the diligent and enterprising group of growers and planters who were found ever eager in adoption of technology and embracing innovations, a vibrant rubber industry consuming the entire NR produced, imaginative policies of the government implemented through the Rubber Board that provided sound research and development support, efficient network of extension and most important of all, a remunerative and fairly stable price regime through balancing supply and demand by timely market interventions including procurement and regulating imports.

#### **1.5.5.1 Price fall**

Following the liberalisation policies adopted by the Government of India, which triggered a spurt in industrial growth, the domestic price of NR rose steeply to reach the all time high of Rs. 5,000 plus and Rs.6, 000 plus per quintal (Kottayam price of RSS4 sheet, the grade mainly used by the automotive tyre manufacturers) during 1995 and 1996. Since November 1996 price started declining. In 1997-98 the price averaged to Rs. 3580 and fell further to Rs. 2994 during 98-99. Although increased marginally during 99-00 but again further declined to Rs. 3036 during 00-01. The recovery is apparently slow, as a host of factors have affected the fluctuations in NR price, which are not domestic alone, but international too.

#### **Reasons for the fall in price of NR**

**Accumulated surplus due to imports:** The price fall is attributed to excess supply during the years 97-98 to 2000-01. The stock of NR as at the end of March 2001 was 183,900 tonnes, almost one third of the total production (630,405 tonnes in 2000-01). After providing for 105,000 tonnes required as stock reserve for two months' consumption needs in the country, the accumulated surplus at the end of March 2001 was around 79,000 tonnes. Even though production of NR matched with consumption needs of the industry, massive imports were permitted during the second half of the nineties under a variety of import schemes. (As much as nearly 1.5 lakh tonnes during the period from 1995-56 to 2000-01 when the country had surpluses though marginal).