Coconut Sector in Kerala Economy – Role, Performance & Contribution

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Coconut

Indian Scenario

Coconut is an important commercial crop of many Asian and Pacific countries in the world. India is the third largest coconut producing country among the 93 countries of the world. In India, coconut is cultivated in an area of 1.935 million ha with a production of 12,833 million nuts during 2004-05 and the productivity was 6,632 nuts/ha. Among the southern states, Kerala the land of coconut holds the lion's share of the coconut market in the country. Around 90% of area and 89% production of coconut are from kerala (46 and 45%), Tamilnadu (18 and 25%), Karnataka (20 and 9%) and Andhra Pradesh (5 and 9%).

Among the major coconut growing countries of the world, India has improved her share in area under cultivation during the last one-half decades. India attained the world highest share in the production of coconut during 1995 when the share was 25% equal to that of Indonesia. However, India's share was reduced during the subsequent periods mainly due to biotic and abiotic stress experienced in the production sector. During 2004, India's share in the world area under cultivation and production of coconut registered increases of 1.71 and 0.87 % from 13.59and 19.82% respectively, recorded during 1990. The area, production and productivity of

Table 1.: Area, production and productivity of coconut in major producing countries of the world

Country	Area (000ha)	% share	Production (Million nuts)	%share	Productivity
Indonesia	3983	31.92	16657	28.57	4182
Philippines	3259	26.12	12459	21.50	3823
India	1899	15.22	11989	20.69	6313
Sri Lanka	395	3.17	2591	4.47	6559
Thailand	343	2.75	1191	2.07	3496
Malaysia	131	1.05	430	0.74	4282
Vietnam	133	1.07	681	1.18	5120

coconut in major producing countries of the world during 2004 are given in Table 1. India contributes 15.22% in area and 20.69%in production of coconut in the world. India also has the advantage of the highest productivity after Srilanka. In India, coconut is grown in 18 states and 3 union Territories under varying agro-climatic zones covering a total area of 1.935 million ha with production of 12,833 million nuts. Area, production and productivity of coconut in important states of India are given in Table 2.

Table 2: Indian coconut scenario in major coconut producing states (2004-05)

State	Area (000ha)	Production (million nuts)	Productivity (nuts/ha)
Andhra Pradesh	104.0	1199.3	11,532
Karnataka	385.4	1209.6	3,139
Kerala	897.8	5727.0	6,379
Tamil Nadu	357.1	3243.5	9,083
West Bengal	24.3	310.9	12,794
Maharashtra	18.0	273.4	15,189

Kerala Scenario

Though there has been substantial increase in area and production of coconut over three years in Kerala (Table 3), the productivity remained more or less static. Kerala was the leader in area and production of coconut in the country,but her importance has been consistently on decline. The contribution of Kerala, which was 69.4% of the total production during 1960-61, came down to 46.7 % in 1990-91 and further to 42.17% in 1999-2000. However, it showed a slight increase during 2004-05 and went to 44.63%.

Table 3: Trend in area, production and productivity of coconut in Kerala

Period	Area (lakh ha)	Production (million nuts)	Productivity (nuts/ha)
1955-60	4.6	3,219	6,881
1960-65	5.3	3,262	6,167
1965-70	6.5	3,620	5,608
1970-75	7.4	3,876	5,258
1975-80	6.8	3,222	4,755
1980-85	6.8	3,356	4,525
1985-90	7.7	3,694	4,799
1990-95	8.8	4,878	5,560
1995-00	9.6	5,591	5,833
2000-05	9.1	5,640	6,175

The Pattern of Consumption

In India, about half of the total coconuts produced ar consumed as fresh nuts and 35% is used for the production of milling copra and the rest is harvested and marketed as tender nut. Around 90% of the milling copra is produced from Kerala alone, where 60-65 % of the total production of coconts is converted into milling copra. Production of milling copra has begun on large scale in various parts of Tamilnadu particularly in Kangayam, Kanyakumari, Vellacoil etc. In Karnataka, milling copra is produced from South Kanra district particularly in Manglore, Sirsi and Kharwar areas. The total production of copra during 2004-05 was estimated as 6.7 lakhs mt and that of oil was 4.33 lakh mt. Though the production of milling copra was increasing at a compound growth rate of 4.35% per year, its percentage share from total production show a declining trend. While 37% of total nuts produced during 1980 were converted into copra, it was only 30-32% during 2004-05, mainly because of various promotional activities aimed at product diversification and by product utilization.

Industrial Scenario

Coconut cultivation and allied activities provide continuous employment and income to more than 10 million people in our country. Coconut also yields fibre and helps more than 15,000 coir industries, which assures employment potential to around six lakh workers of whch 75-80% are womenfolk. The industry also helps to earn foreign exchange worth Rs. 5,000 million (2004) per year and contributes considerably to the GDP of the nation.

Traditionally, Indian coconut industry is concentrated on copra making, extraction of coconut oil and coir manufacturing and hence no other non-traditional industries have made any impetus. The price of coconut is fixed mostly according to the price of copra and oil, which is decided by the demand and supply of these products. India's share in the world trade of copra and coconut oil is insignificant when compared to the volume of trade in the international market with that of the major coconut producing countries. While the export earnings from coconut and coconut products since 1995 show a compound growth rate of 12.4% per annum, the rate of growth in the import was 13.5% per annum, thus recoding net negative gain. Among the products exported from India, coir and coir products hold major share and coconut oil and other products constitute only a negligible portion, as majority of production of these items being utilized for domestic consumption. More over, our products are not price competitive, due to various reasons.

On account of liberalization of Indian economy, the domestic coconut economy has been pushed towards a situation of global competitiveness where coconut oil has to compete with other vegetable oils and fats in the international markets. In the emerging world's economic order, the growth in the production and productivity of coconut has been affected on account of increasing market instabilities, import-export imbalances advantages to importers, shrinking nature of resources like land, water etc.

Technology Mission on Coconut (Tmoc)

The changed food habits and availability of other cheaper edible oils both in the edible and industrial sectors have brought over a drastic decline in the use of coconut oil in these sectors. During the last few years, due to heavy imports of cheaper vegetable oil, especially of the Palmolein, the price of coconut oil has been depressed despite of the large scale price support measures undertaken by Governments both at the Centre and State level. The Price Support Scheme could not make much impact in increasing the price level and was not beneficial to the farmers as envisaged. In this context, it was realized that diversification of coconut derived products and value addition could alone help the coconut farmers in realizing remmunerative prices. The coconut crop is also been often affected by several pests and diseases reducing the productivity. Thus to help the small and marginal farmers could depend on coconut for their livilihood, it was felt necessary that a major initiative should taken up towards managing the pests and diseases in coconut to improve its productivity and promote product

diversification for better value realization from various products.

In order to make coconut sector in India in the forefront, a strategical approach has been adopted by the Government of India in a mission mode for the development, adoption and promotion of technology in cultivation and in processing sectors. Technology Mission on coconut was launched on 26th December 2000 to solve various problems faced in the production and processing sector The project has been formulated aiming (a) to establish convergence and synergy among numerous ongoing governmental programmes in the field of coconut development in order to bring horizontal and vertical integration of these programmes, (b) to ensure adequate, appropriate, timely and concurrent attention to all the links in the production, post harvest and consumption chain (c) to maximize economic, ecological and social benefits from the existing infrastructure to create for coconut development, (d) to promote economically desirable diversification and value addition to generate skilled employment and (e) to dessiminate technologies using participatory approach through demonstration and promotion to address the gap in the mission mode. The technology mission covers for major components/ programmes;

1. Development and adoption of technologies for management of insect, pests and diseases affected coconut gardens
2. Development and adoption of technologies for processing and products diversification
3. Market Research and promotion, and
4. Technical support, external evaluation and emergent requirement.
5. The TMOC brings farmers, industrialists, entrepreneurs , research institutions, NGO's etc. in a common platform. Around 100 projects have been undertaken so far covering issues like management of pests and diseases, processing and product diversification as well as product promotion through market promotional activities. Some of the Coconut Development Schemes under Central Sector in Kerala are being implemented through the Department of Agriculture, Government of Kerala.

The Major Issues In Coconut Sector

1. The Indian Coconut sector, particularly that of Kerala is predominantly occupied by small and marginal farm holdings. It is estimated that there are about 5 million coconut holding with 98% of them occupying only less than two hectres. The average size of the holdings under the coconut is as small as about 0.25 ha. and over 90% of the holdings account for 60% of the total area under cultivation. This often makes any vulcanization and intensive management impractical.
2. Most of the coconut farmers in Kerala are resource poor and are not capable of, intensive cultivation which warrents high investment. It is basically homestead cultivation, which is unique with rainfed and subsistence farming. Facilities for irrigation are lacking in majority of the areas and therefore suffer from recurring drought as well. In some of the lying areas, which are converted and being cultivated with coconut, lack of proper drainage with unscientific land use pattern is a big problem. However, coconut has great influence on the socio-economic security of a large number of people of the state.
3. The presence of an overwhelming large number of aged senile and unproductive farms is a major contributory factor for the low production and productivity in Kerala. Added to this is the devastating effect of diseases like root (wilt), which has affected the prime coconut growing areas of the state leading to an estimated yield loss of 60%. According to various estimate, more than one third of the total coconut palm population in Kerala falls in these two categories of aged and disease affected palms. Another serious problem confronting the coconut production is the prevalence of eriophyid mite infestation, first report in Ernakulam District during 1998. Though the intensity of infestation has come down from that of the beginning, the problem is yet to be fully kept under control.
4. Highly fluctuation market with unsteady price structure often characterizes India's coconut market, which is fully depend on

copra-coconut oil market. The scenario both the domestic and export trade indicates that the market share of coconut oil is on the decline, as there is tough competition on prices especially from palm oil and soyabean oil.

5. Lack of skilled workers especially for field operation like climbing for the harvest and plant protection operations are some of the other issues severally affecting the coconut.

The Approaches for Competitiveness in Coconut

Some of the issues that require immediate attention from Research and Development Agencies and Coconut farmers are listed below.

1. Production and distribution of quality planting materials; in order to replace the old, senile and disease affected farm certified and quality seedling are to be produced through decentralized nurseries. A public private partnership for increasing the seedling production is very much essential. Attempt should be made to popularize dwarf varieties.
2. Integrated farming in coconut holding for productivity improvement; As mono cropping will not give the optimum returns and employment opportunities, adoption of integrated farming by inclusion of inter-mixed crop is essential to maximize resource utilization. CPCRI and other research organization have developed cropping system models to suit vary agro climatic and resources situations. Adoption of farming systems involving diverse cropping models and enterprises such as dairying, poultry rearing agricultural pisciculture, mushroom culture, etc. will also enhanced the net return and employment potentials. Potential districts are to be identified and the farmers shall be provided with technical and institutional support for such activities, has been currently done under the CDB scheme integrating farming systems. This will also help to undertake various field operations in a mode of precision farming through cluster approach.
3. Such an integrated coconut farming is also offer scope for organic cultivation through effective recycling of on farm biomass. The world over, demand for organically produced commodities is on the increase and this trend could be utilized to take advantage by organization of organically maintained coconut gardens. It would be necessary to create institutional set up for labeling and certification of organically grown coconut and other farm produces from the integrated farms.
4. Though adoption of improved technologies in localized has made improvement in production and productivity, many studies have indicated that large number of farmers are yet to adopt such technologies. This calls for a shift in the mindset of the farmers and all the policies formulated for the agricultural sector should be pro-farmer.
5. Product diversification, Value addition and by product utilization : Though many countries in the world are profiting from the production and export of diversified coconut products, India, particularly Kerala has not achieved noticeable progress in the utilization of opportunities for value addition being provided by various products from coconut. Keralas should concentrate on selected products only, which would compete price wise, both in the domestic and export markets. Farm level processing either individually or collectively by Self-Help groups or Clusters can enhance the returns. While conversion of coconut to milling copra provides 25% value addition, it will be 22% in case of sale of tender nut and 35-40% in case of conversion of coconut to edible copra. Formation of Common Facility Centres, which provides availability of husk, coconut water and shell in bulk quantities which ensure the scope of product diversification and by-product utilization. The Coconut Development Board is making available technologies such as processing and packaging of coconut cream spray drying of coconut milk, preservation and packaging of tender nut water, vergin coconut oil through wet-processing of coconut and coconut chips for food and beverage industries. The

technoligies developed for industrial applications include: Water heat technology for charcoal production, coconut shell powder, activated carbon and coconut curios. Production of virgin coconut oil which has many therapeutic values can be done either at household level or through large scale commercial manner.

6. Coconut husk is still not used to the maximum instant. Only 25% of the husk available is used for making coir and coir products. Value addition to husk through manufacturing of coir and other products geo-textiles, coir pith compost etc. can compensate lower price of coconut to some extent. If defibering and processing of husk is done at farm level, the income of coconut grower can be increased. Production of coconut based an handicrafts can also increased employment opportunities and income generation.
7. Research for selection/breeding varieties suitable for various products: One of the major reasons that make our coconut industry less competitive in the international market is the small size of nuts and comparatively low out to turn of product components from coconut. While about 6800 nuts is needed to make one tonne of copra in Kerala the requirement in other coconut growing countries ranges between 4500 and 5000nuts. This situation necessitates immediate attention breeders to screen germ plasm collections as well as identify and popularize accessions that will yield nuts with higher out-turn of processed products.

Conclusion

The coconut industry is growing in terms of production. However, coconuts share in oil and fat trade has consistently declined in the last four decades. Vast growth opportunities exist in the coconut industry but the marketing strategy is to be reoriented to suit the changing trend. The coconut based economy of Kerala can be revived from the adverse impact of liberalized imports only when the profitability of coconut farming is delinked from the price behavior of coconut oil. This could be achieved only through efficient utilization of resources, large scale value addition and by product utilization as well as their commercialization and adoption of aggressive marketing to capture the world market. India to be competitive in the world coconut scenario, all attempts should also be directed to further improvement in the productivity without increase in cost of production.