



Importance of coconut farming in Indian agriculture

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The changing scenario of agriculture has forced the farming community and policy makers in agriculture to search for a more remunerative and viable production portfolio. The diversification of agriculture towards non-foodgrain and high value commodities has been the right choice for it, because these commodities have the potential of income augmentation, employment generation, poverty alleviation and export promotion. In the face of shrinking natural resources and ever increasing demand for larger food and agricultural production, arising due to high population and income growth, agricultural intensification is the main course of future growth of agriculture. Because of changing rainfall pattern over years, ground water depletion, hike in labour wages, the existing cropping pattern may not be economically viable.

It is time to critically redesign alternative cropping pattern based on agroclimatic zones, and this must be demonstrated in the farmers holding in order to effectively utilize the natural resources and also to stabilize the production and profitability. In this context, coconut cultivation is showing a ray of hope which is the source of sustainable income especially for small and marginal farmers.

Distribution : Traditional areas of coconut in India are the states of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, Goa, West Bengal, Pondicherry, Maharashtra and Islands of Lakshadweep and Andaman and Nicobar. Non-traditional areas are the states of Assam, Gujarat, Madhya Pradesh, Bihar, Tripura, Manipur, Nagaland and Arunachal Pradesh. The four southern states put together account for more than 90 per cent of the total production in the country (Kerala 36.88%, Tamil Nadu 34.11%, Karnataka 13.83%, Andhra Pradesh 6.16% and other states 9.02%).

Various uses of coconut : The coconut tree is called as “Kalpavriksha” which essentially means all parts of a coconut tree is useful some way or other.

- Their leaves are used to make sheds, baskets, and doormats.

- Copra making and the husk for making coir.
- The shell for making ladles and spoons.
- Fruits used for making hair oil or for eating.
- Coconut is a staple ingredient in many Kerala dishes such as *appam*.
- Coconut oil is widely consumed in Kerala.
- Used to make drinks such as coconut toddy, an alcoholic beverage.
- Used for making coconut paste for making traditional curries.
- Offer coconut tours to visitors in plantations.
- It provides a refreshing drink and making coconut chips.
- Fibre of commercial value.



- Shell for fuel and industrial uses.
- Used as timber and fuel.
- Coconut water based vinegar and coconut milk based beverages.

- However, coconut based handicrafts, shell powder, shell charcoal and shell based activated carbon are manufactured in the country on a limited scale.

- Modern medical science is now

confirming the use of coconut in treating diseases.

- Coconut wood, the cheaper, attractive and durable timber which is available in plenty in all traditional coconut growing regions is an immediate solution to the shortage of traditional timber, especially for the low and middle income groups. It can be used in any wood based industry like house building, furniture and decorative works too. Coconut wood is getting popularised in all traditional coconut belts. In the context of increasing deforestation, if properly exploited and promoted the coconut wood industry has a bright future.

Major problems in coconut cultivation:

- Steady fall in market price.
- Fragmentation of existing palm gardens into housing plots and others.
- Productivity is declining consecutively.
- Unavailability of healthy seedlings.
- High cost of inputs.

- High cost of transportation.
- Non-availability of labours.
- High rates of labours.
- Lack of timely technical guidance.
- Lack of proper market facility.
- Lack of knowledge about recommended dose of fertilizers.
- Lack of knowledge about control measures of pests and diseases.
- Struggling hard with the vagaries of nature.

Improving productivity :

- The coconut production base is to be strengthened by improving the existing gardens of under-planting and rejuvenation.
- Bringing additional areas under coconut cultivation in both traditional and non-traditional areas.
- Increasing productivity of coconut plantations through rejuvenation of existing plantations with optimum input management through organic recycling, nutrient and water management, soil and moisture conservation.
- Replanting is needed in under-planting gardens as well as there is needed to eliminate old unproductive plantations with high yielding varieties and hybrids,
- Adopting integrated farming in coconut with inter/mixed/multiple/multi-storeyed cropping and farming system.

Unique characteristic of coconut plant : Coconut possesses the unique characteristic of allowing any crop combination in the inter-spaces. A well-spaced coconut garden provides adequate inter-spaces where it is possible to grow a variety of crops, both seasonal and perennial. When annual or seasonal crops are grown in coconut holdings, it is designated as inter-cropping; when perennials are grown, it is called mixed cropping. A combination of inter-crops and mixed crops raised together are referred to as a multi-storeyed cropping system.

Potentiality of coconut cultivation : About 10 million people in the country are dependent on coconut cultivation, processing and the trade. Traditionally coconut industry in our country is centred on copra making, extraction of coconut oil, trade in partially de-husked coconuts, edible copra and coir manufacturing. Mushrooming different markets, like food chain markets, margin free supermarkets and continental 'malls' in cities and rural area offer immense potential for trading of diverse coconut products ranging from grated coconut to coconut brooms.

Product diversification : The technological revolutions are witnessed in the domestic coconut industry- made possible to manufacture varied products based on coconut

kernel, coconut water, husk, shell and coconut stem. The efforts of the Coconut Development Board in accelerating product diversification and by-product utilization resulted in new product developments and subsequent advertisement campaign sparked off increased desire for the new products in the minds of Indian consumers. The technology innovations attained by the Board through the premier research institutions in the country has led to the evolution of new technologies for the manufacture of coconut cream, coconut chips, spray dried coconut milk powder, preserved and packed tender water, virgin coconut oil and coconut water based vinegar etc.

Percentage of uses of coconut : A sizable portion of the nuts produced in the country is consumed in its raw form either for using in religious and social rituals or in culinary end uses. It is estimated that about 50 per cent of the total production of the coconut in the country is consumed as fresh nuts out of which about 10 per cent is used as raw material for industrial productions and the balance is used for social, religious rituals and for edible purposes. About 35 per cent of production is utilized for the production of copra both edible and milling and 15 per cent is utilized as tender coconut. Besides copra and coconut oil, the markets of which currently determine the growth of the industry, desiccated coconut powder is the other important traditional products commercially traded.

Financial aspects : The cost of coconut cultivation in one hectare of oil palm works out to Rs. 80000/-. The above costs are average indicative costs. Banks may adopt higher or lower than the average costs depending on local conditions and viability of the units. Financial analysis was carried out for one hectare of coconut cultivation. For financial analysis, the income was assessed on a conservative basis. The productivity of a eleven year old coconut garden was considered at 60 nuts per tree. Per hectare coconut plant population is 177; therefore total nut production is $(60 \times 177) = 10620$. One coconut nut price in market is average Rs. 20. Therefore, total price = Rs. $(20 \times 10620) = \text{Rs. } 212400$. Net profit = Rs. $(212400 - 80000) = \text{Rs. } 132400$.

A simple estimation will obviously attract farmers towards coconut farming. The palms generally start bearing at the age of five or seven years after planting and the stabilized yield is obtained from about the eleventh year. Economic life of the coconut palm can be considered as 60 years. The productivity of a eleven year old coconut plant is about 60 nuts.

One tree's one year's production = 60 nuts (average)
Price of one nut in market (approx.) = Rs. 20/-

Total income in a year= Rs. (60*20)=Rs. 1200/-

Total income from a tree for whole economic life =Rs. (1200*60)=Rs. 72000/-

Therefore, cultivation of coconut tree in commercial basis is profitable and source of sustainable income.

Influence of rural economy : The coconut palm exerts a profound influence on the rural economy of the many states where it is grown extensively and it provides sustenance to more than 10 million people. The export earnings derived by India from coconut are around Rs.3000 million, mainly through the export trade in coir and coir goods. The processing and related activities centred on the crop generate employment opportunities for over two million people in India. The contribution of coconut oil to the national edible oil pool is 6 per cent. In addition, the crop contributes Rs.7000 crores annually to the Gross Domestic Product (GDP). It is no wonder coconut culture is spreading even to non-traditional belts that were, until recently, considered unsuitable for the purpose.

Promotional measures :

– Coconut Development Board (CDB) has been set up in 1981 by the Government of India (Headquarter is in Kochi, Kerala) with the mandate of integrated development of coconut in the country.

– Technology Mission on Coconut is being implemented by the Board to integrate various ongoing govt. programmes and to ensure adequate, appropriate, timely and concurrent attention to all the links in the production, post harvest and consumption chain of coconut.

– The emphasis given by the Coconut Development Board to evolve technologies for the development of new value added products has yielded results and this product diversification and by-product utilisation has recently gained momentum.

– The leading research organization in India conducting on different aspects of the coconut cultivation is the Central Plantation Crops Research Institute (CPCRI), Kasaragod (Kerala), along with its regional stations at Kayangulam, Kidu and Lakshadweep. CPCRI caters to the educational needs of high and middle level coconut development personnel by conducting institutional training programmes.

– Financial institutions have also formulated coconut financing schemes in potential areas both for fresh coconut planting and intensive cultivation. Integrated coconut development schemes with farm infrastructure facilities like well, pumpset, fencing, drip irrigation system etc. have also been considered.

– For coconut based industries, support is also given

by the banks for setting up new units which are also backed by the Coconut Development Board by way of subsidy.

– The research on coconut in India is being carried out by the institutions under the Indian Council of Agricultural Research and the State Agricultural Universities located in different coconut growing states. The Board has a programme to sponsor research on post harvest processing of coconut through such research institutes.

– The Agricultural Technology Information Centre (ATIC) recently established at the institute provides different information and technology services to the clients on the ‘single window system’ concept. Other promotional measures (1) preparation publicity folders (2) news paper articles (3) Notices-public awareness (4) Videos (5) B.Sc (Ag.)/M.Sc (Ag.) student awareness (6) Kharif and rabi workshop. Owing to its versatile uses, the demand for coconut and its products has been on the increase. The crop is spreading fast even to the interior tracts and the north and north-eastern parts of the country gaining national acceptance. Due to multifarious uses, the future of the crop is very bright irrespective of the locations where it is grown in the world.

Conclusion : Agriculture is the base of our economy, culture and livelihood. Therefore, if any disturbance comes in agriculture (cultivation), all the three abovesaid aspects will be disturbed. Hence, it is needed to sustain (maintain) agriculture at continuous basis. But, it is always not possible, because agriculture depends on weather (nature). Weather has no fixed pattern, has no confirmation, has no surety and it has no sustainability that year after year same favourable weather will exist. So, variable weather pattern makes agriculture variable. In one year production is good, next year production is less and in further year crop is failed due to natural calamity (*i.e.* flood, drought, cyclone, earthquake, etc.). If agriculture is not sustainable, farmers’ income is not sustainable means there is sufferings in life, means deplorable condition of farmers’ economy. Two third of population of our country (67%) are directly engaged with agriculture, therefore, two third of population’s economic condition is fragile, is equal to country’s economic condition is also fragile, because ultimate is the summation of units. In this background, it is needed to show a way to farmers for sustainable income. Among the several ways of sustainable income (*i.e.* dairy, poultry, fishery, silviculture-tree planting, bamboo farming,

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