

Progress, Opportunities and Challenges of Oil Palm in India

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In India, the yields of oil seed crops are low, since bulk of the oilseeds are grown in marginal and sub-marginal lands and mostly with traditional varieties under rainfed conditions. India is a leading player in edible oil scenario, being the world's largest importer (ahead of the EU and China) and the third-largest consumer (after China and the EU). Palm oil (mainly imported) and soya bean oil account for almost half of total edible oil consumption in India, followed by mustard and groundnut oil.

Nine annual oilseed crops grown in 26.11 million ha in the country produce about 24.93 million MT of oilseeds which give about 6.3 million MT of vegetable oil (2009-10). But could not meet the demand resulting in the import of 8.82 million MT in 2009-10. Domestic demand is increasing every year since oil consumption is income elastic. Fast shrinking of agricultural land for food production warrants high value crops of high yielding nature replacing some low value crops. Scope for horizontal expansion of area is limited due to faster urbanization, industrial growth and population explosion. Hence, there is an urgent need for crop diversification by introducing high value crops.

Oil palm gives the highest oil yield of 4 to 6 MT/ha/year with a global average of 3.56 MT/ha/year which no other known oilseed crop produces. The highest theoretical oil yield of this crop is projected to be 18 MT/ha/year. Oil palm is an eco-friendly crop and adds lot of organic matter to the soil for its enrichment. Palm oil is a source of nutrition and health due to its high calorific value and richness in vitamin A and E contents, which can contribute substantially to the nutritional security of the world. Elevates the socio-economic status of the farmer with its high returns and sustained income generation. Also provides opportunity for higher employment generation in the plantations and allied agro-based industries as well. Provides the possibility of co-generation, alternate source of energy, bio-fuels and bio lubricants.

Oil palm was first brought to India as a botanical collection at the National Botanical Gardens, Kolkata in 1886. Subsequently, Maharashtra Association for Cultivation of Sciences (MACS) introduced African dura palms in Pune during 1947-54. The Government of Kerala had established an oil palm Research Station in 1960 at Thodupuzha and planted duras, teneras and tenera x tenera. The varietal collections maintained at the station formed the basic source for later research and development including indigenous tenera seed production.

After introducing the concept of irrigated oil palm, many committees constituted by Department of Agriculture & Co-operation (DAC) have made assessment of potential areas for growing oil palm (Anonymous, 1988 and 2002; Rethinam and Suresh, 1998) and identified 1.03 million ha in 12 states. Areas which are having irrigation facilities either through rivers, irrigation projects, deep bore wells, lift irrigation facilities etc are taken into consideration. Mainly uplands, which are being converted into irrigated land, waste lands with ground water potential, replacement of low value crops, conversion of tobacco, banana, and sugarcane to some extent etc., were suggested for growing oil palm. Conventional rice basins except tail end lands, where rice cultivation has become difficult in each state, were restricted for conversion to oil palm.

The very first irrigated oil palm as small holder's crop was planted in 1988 at Pedavegi, West Godavari District, Andhra Pradesh by a farmer in about 1 acre under DRDA programme. At the same time, large scale planting of oil palm was taken up by Navabharat Agro Products at Lakshmipuram, West Godavari District, Andhra Pradesh by converting tobacco land to oil palm. During 1987-88, the Navabharat plantation was the model plantation for all the people who were taking up oil palm in the country. After the acceptance of DAC Oil Palm Report 1988, three large scale

demonstrations of 1000 ha each were taken up in three states viz., Andhra Pradesh (Krishna, West and East Godavari Districts) and Karnataka (Shimoga District) as small holder's crop and Maharashtra (Konkan Region) as corporate crop by Konkan Development. While the two oil palm Demonstration areas of 1000 ha each in Andhra Pradesh and Karnataka jointly developed by Department of Biotechnology and respective State Departments of Horticulture have been successful and developed confidence that the yield level up to 20 to 30 MT FFB/ha/year is possible, the corporate plantation in Maharashtra was not maintained well and became a failure.

Subsequently, the Oil Palm Development Project (OPDP) taken up during the Eighth Five Year Plan period starting from the year 1990-91 and is being continued during IX, X & XI Plan periods with the financial assistance of 75 % cost of seedling, 50 % cost of maintenance for first three years, drip irrigation subsidy, generator set subsidy, subsidy for raising intercrops etc., encouraged the farmers to take up this new crop. An area of 1.64 lakh ha has been achieved in India. As far as processing is concerned, there are 18 processing units all over the country of which 11 are in Andhra Pradesh, 2 in Karnataka and one each in Andaman & Nicobar Islands, Goa, Gujarat, Odisha and Tamil Nadu. The capacities are ranging from 2.5 to 30 MT FFB/hr.

Intercrops like maize, tobacco, banana, flowers chili, vegetables, sunflower, ground nut etc., were grown successfully by the farmers and now cocoa is being grown as a mixed crop in the bearing oil palm plantations. Rearing sheep and milch animals is also practiced by oil palm growers. Yield levels up to 25 to 35 MT FFB/ha are realized by the progressive farmers. Low yields of less than 10 MT FFB/ha are obtained where management practices are not properly met. Seed gardens have been set up and about 2.0 million tenera hybrid seeds are produced every year. Third generation seed gardens are being set up with advance dura and pisifera sources as parental materials. A premier research centre wholly devoted to Oil Palm Research namely, Directorate of Oil Palm Research was established at Pedavegi, West Godavari district of Andhra Pradesh with one Research Centre at Palode, Kerala and six AICRP Co-ordinating Centres. DOPR is providing logistic research, training and seed production support besides liaising with farmers, entrepreneurs and development department officers who are involved in Oil Palm Development Programmes.

Oil palm being a new crop introduced under irrigated conditions replacing the conventional crops,

there was initial reluctance to take up the crop by farmers. But now the farmers are convinced that this crop gives increased income.

As on today, the strategy is to bring 1.03 million ha under oil palm and all steps are being taken up to implement the same. During the current year, the Government of India had announced a special programme Rashtriya Krishi Vikas Yojana to bring 60,000 ha under oil palm every year in which the farmers will get benefits from the government for raising inter crops, fencing, digging bore wells etc.

Low price for FFB during 1999-2000 and 2009-10 had affected the area expansion programme, as the farmers were not sure of the price for their produce. Problems like price fixing formula, oil extraction ratio (OER), crop insurance etc., are being addressed by the Government of India. Fixing a nominal price of Rs.6000/MT of FFB, increasing financial assistance for maintenance of plantations keeping in view of the cost escalation, crop insurance are some of the important measures being addressed by the Government, which will go a long way in increasing the area under oil palm. Oil palm grown in India will be an eye opener to other countries in contributing information about soil pH and climatic conditions. Indian oil palm has to go a long way to achieve 1.03 million ha identified in 12 states from the present area of 1,64,800 ha. The benefits of growing oil palm in 1.03 million ha in terms of FFB and CPO production have been shown in Fig. 1-3.

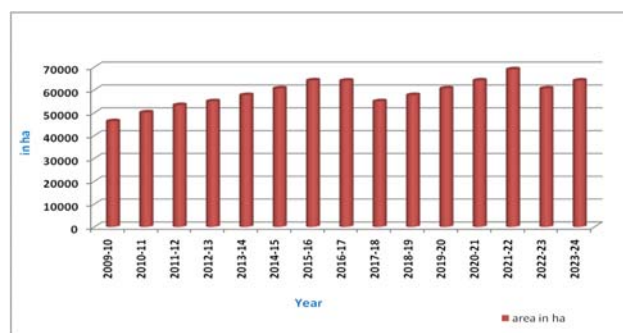


Fig. 1: Proposed area expansion

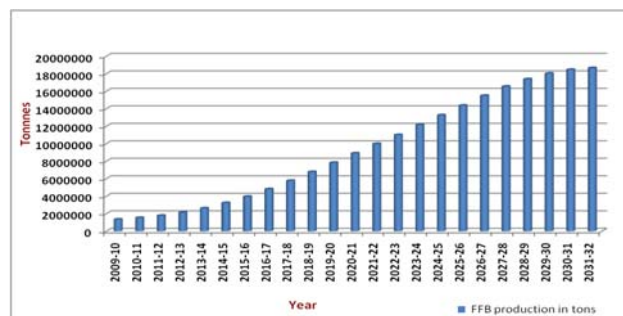


Fig. 2: Estimated FFB production

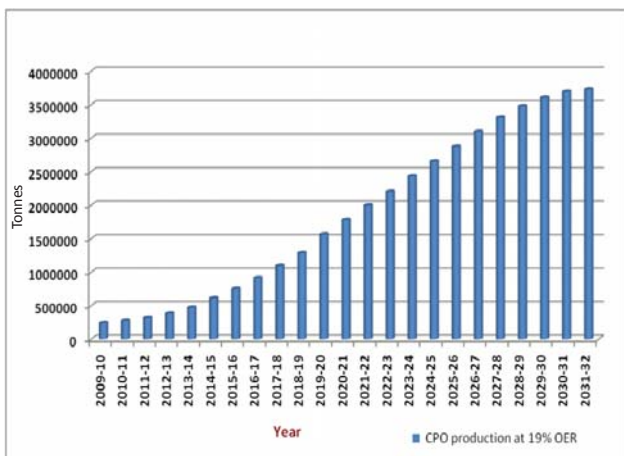


Fig. 3: Estimated CPO production at 19% OER

India is moving forward in developing oil palm and also identifying more areas in newer states for growing oil palm. In this process, it may be possible to promote oil palm in about 2.0 million ha, which can produce about 8 million MT of Crude Palm Oil (CPO) and 0.8 million MT of Palm Kernel Oil.

REFERENCES

- Anonymous, 1988. Potentialities of oil palm cultivation in India. Report of the working group constituted by Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India. Published by Indian Council of Agricultural Research, New Delhi. pp.72.
- Anonymous, 2002. Impact Evaluation of Oil Palm Development Programme (Andhra Pradesh, Karnataka and Tamil Nadu) - Final Report. Sponsored by Technology Mission on Oilseeds, Pulses & Maize, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India. Agricultural Finance Corporation, New Delhi. pp.128.
- Rethinam, P. and Suresh, K. 1998. Oil Palm Research and Development. Proceedings of the National Seminar - Opportunities and Challenges for Oil Palm Development in the Twenty First Century. SOPOPRAD, Pedavegi, A.P. pp.114.