SUGGESTIONS

1. Sufficient quantity of quality seedlings should be supplied to the new cultivators of oil palm. High yielding dwarf hybrid varieties must be made available for the farmers to assure high returns to the oil palm cultivators. Seed Certification Agencies, Seed Testing Laboratories and Enforcement Agencies of the State have to be strengthened.

2. New cultivation procedures should be made available and new entrepreneurs are to be given encouragement to develop healthy competition. Number of oil palm processing units should be increased by establishing them in new areas so that increased competition among the processing units can be beneficial to oil palm cultivators.

3. Technical support and training should be given to oil palm cultivators as any wrong decision or negligence on the part of the oil palm cultivator would effect on the yield of oil palm. Moreover, once the farmer chooses oil palm cultivation, it is not easy to switch over to other crops as the process of uprooting and land preparation is very expensive.

4. At the initial stage, harvesting is not a problem for the farmer but with the increase in age of the plant harvesting is becomes difficult and costly. And so there is need to improve Harvesting Technology.

5. It is suggested that Price fixation formula and Fresh Fruit Bunch price should be revised. Minimum Support Price ought to be at least Rs.8000/T.

6. Measures to be taken by Central Government

- It is suggested that Central Government should focus on evolving / importing drought tolerant and dwarf varieties of oil palm seeds. Government has to encourage private parties to set up seed gardens and speed up the same to produce adequate tenera seed to meet the domestic demand.
➢ It is suggested that Central Government should change the pattern in planting so as to provide broad interspaces in order to promote intercropping.

➢ Efforts should be made in increasing the vegetable oil production domestically to meet the demand of the growing Indian population. The present level of consumption is the sure indication that the demand for palm oil ever increases due to its eco-friendly nature and its potential use as bio-fuel. Indeed many countries deem it as the main source for bio-diesel. Therefore the Central Government should take up steps to produce more and more palm oil in the country to meet the internal demand.

➢ The unit cost for micro irrigation should be increased to Rs. 25,000 per ha and rate of subsidy also has to be increased from 30% to 50%.

➢ Another suggestion is that Central Government should focus on the revision of Fertilizer schedule to increase the output.

➢ There is need for Central Government to enhance outlay for innovative components so as to make harvesting less expensive and more informative.

➢ The procedure for disbursement of subsidies should be standardized and made uniform in all the states by the Central Government to take up necessary activities at the right time by the oil palm cultivators.

➢ Central government should ensure uniform pricing policy all over the country not only for FFB but also with regard to the price of seedlings.

➢ There is need for Central Government to make oil palm Crop Insurance Comprehensive. To be more specific, insurance for individual plants, farmer wise, and village wise should be covered in order to avoid losses due to natural calamities, pests and diseases. This can build up confidence among the farmers in the cultivation of oilseeds on a large scale. If this comprehensive oil palm insurance policy is implemented, the output would be beyond belief in near future.

➢ Central Government should ensure that immediate requirement of the planting materials should be made available to all oil palm cultivators either through import or by augmenting the existing indigenous production.
➢ Prior demand surveys need to be conducted by the respective state departments and processors at village level every year and the reports should be submitted to Central Government.

➢ It should be understood that faster setting up of the processing mills in the identified areas would not only boost the area expansion in the newly introduced areas but also induce confidence among the oil palm farmers.

➢ The Central Government should have such a plan to exceed or at least to reach the vision of Malaysia to produce 35 t FFB per Hectare with an oil extraction ratio (OER) of 25% by 2020.

➢ The use of red palmolein, rich in pro-vitamin A for the prevention and cure of the eye diseases due to Vitamin A deficiency needs to be given wide publicity.

➢ Price Stabilization Fund should be created to help the oil palm growers face the adversities during the price fluctuations.

➢ Subsidy should be given to Oil Palm Growers irrespective of ceiling limits and the hurdles at various stages of implementing the Oil Palm Development must be removed.

➢ Since Oil Palm has been emerging as a major perennial source for vegetable oil and there is scope for bringing about 1.0 million ha under oil palm by 2020 and to produce 3 to 4 million tons of palm oil and 0.3 to 0.4 million tons of palm kernel Oil by 2025, it is necessary to consider setting up of a National Oil Palm Board to take up all aspects of oil palm right from seed to Oil Palm marketing.

➢ Subsidy components viz. bore wells and power connections should be allotted in required areas beyond assigned targets so as to facilitate area expansion.

➢ Permission for import of tissue culture seedlings should be granted to private entrepreneurs,
- Oil palm, should be given plantation crop status.

7. **Measures to be taken by state Government**

- The process and program can be better if the State Government ensures enactment of Oil palm Act
- State Government has to conduct intensive publicity/Awareness Campaigns about the benefit of cultivating oil palm crop
- Sufficient land should be allotted for Oil palm Nursery
- In addition land for R & D Farm / Seed Garden should be allotted.
- Price for exotic and indigenous seedlings must be fixed.
- Disbursement of subsidies has to be properly arranged..

- Setting up of State Level Seed Committee in each and every State is a must to have advance planning and co-ordination amongst various agencies involved in seed production, distribution and quality monitoring.

- Concerted efforts should be made to follow Good Agricultural Practices in improving the oil palm yields of small holder’s plantations so as to improve the national average.

- Efforts should be made to promote oil palm cultivation by encouraging farmers in the way of supplying quality planting materials, extending drip irrigation facilities to older plantations, providing crop insurance and implementing effective technologies.
The procedures involved in the area allocation to the processors have to be expedited, and the processors must be insisted on recruiting adequate technical staff so as to provide required technical assistance to farmers.

The Project Management Committee in the concerned states should be activated and regular review meetings should be conducted every three months.

Oil Palm Act should be enacted where it does not exist and the same is to be revised wherever necessary.

Keeping area expansion in view Micro level surveys should be taken up in different states.

8. Measures to be taken by Horticulture Department

Prior arrangement of suitable high yielding varieties should be done from reliable sources such as NRC, Research Stations and other Institutes. The factors viz. quality, price distribution of seeds and enforcement of Seed Act must be regulated.

Proper scheduling of activities should be done as per Action Plan. Procurement of inputs from various sources should be done well in advance.

Horticulture Department should work in consultation with established sources and agencies such as the ISOPOM, National Research Centre, Foods, Fats & Fertilizers Ltd., Horticulture Directorates in other States in implementing the program.

In addition Horticulture Department should arrange advanced marketing through MOUs between growers and buyers.

Oil palm cultivation should be promoted and processing should be encouraged under cluster approach.
Private sector investment should be encouraged in the establishment of processing units.

Insurance arrangement should be made easy.

Financial assistance should be extended for farmers to motivate and support them.

Proper care and attention to the plantation should be taken to prevent mortality and immediate gap filling of Oil Palm plantations and augmentation of adequate irrigation facilities to make the plantation have high yield levels.

Processing unit executives should keep in contact with the oil palm cultivators to solve their cultivation related problems and to make proper fertilizer recommendations.

Processing unit executives should recommend suitable intercrops to the oil palm cultivators in order to ensure sure returns even during the Pre-Bearing Stage of Oil Palm.

Farmers should also be informed about appropriate pest control measures and introduction of pollinating weevil.

Oil palm cultivators should be shown the method of development of Vermicompost in the plantations.

There should be Liaison between financial institutions and cultivators to provide credit facility.

9. **Suggestions for the crop development**

There is need for setting up a national oil palm board as there is no apex body to coordinate the activities related to the cultivation and marketing of the crop, and in view of its growing importance for the edible oil security of the nation.
Subsidy facilities should be extended to farmers to make them get necessary tools and machinery at a lower rate to facilitate better harvesting.

In addition subsidy for bore wells/dried bore wells must be provided.

Micro irrigation should be made available to marginal and small farmers with full subsidy in order to make oil palm cultivation profitable.

Subsidy should be provided for the cultivation of intercrops grown in oil palm at the initial stage.

Credit facilities, input supplies, irrigation, improved machinery are the four major factors which contribute to better cultivation and better harvesting and hence all the four must be made accessible to farmer.

10. **Measures to be taken by NRC**

Adequate technical support, guidance and beneficial services should be extended to the farmers from National Research Centre for Oil palm in all related aspects.

Training in seed technology, seed production, quality control and distribution, should be arranged on an extensive scale.

Should design and develop an efficient harvesting tool for tall oil palm plantations

Recommendations on specific location for irrigation and fertilizers management have to be implemented. Moreover, suitable drip system for pure crop and micro irrigation system for inter/mixed crops should be provided.

A scientific price fixing formula has to be worked out for fresh fruit bunch.

Efficient recycling of farm wastes should be done as a part of integrated nutrient management.
➢ Adequate standards for harvesting and dissemination of technology including grading of FFB have to be developed.

➢ Scientists of National Research Centre for Oil Palm should have adequate exposure to developmental technology in other oil palm growing countries like Malaysia, Indonesia, Ivory Coast, Nigeria and such.

➢ State level seminars must be organized involving scientists of NRCOP for effective transfer of technology from lab to land.

➢ Efforts should be made by National Research Centre and the Processing Unit to extend the irrigated area for Oil palm cultivation.

11. Suggestions for Farmers

➢ Farmers should increase the overall productivity level to bring National average of 20 t FFB/ ha/ year.

➢ Harvesting should be done when the bunches are at correct maturity stage following the ripeness standards. Immature bunch harvest will reduces Oil Extraction Rate and leads to loss of oil.

➢ All farmers should make use of the biomass obtained from the oil palm fields by converting into vermi compost or compost which increases soil health and reduces the quantity of fertilizers.

➢ Intercropping should be introduced during the juvenile stage without hindering the growth of Oil Palm.

➢ Unripe fruits yield low oil and over ripe fruits tend to become rancid and hence Palm fruits should be harvested at optimum maturity stage.

➢ Inter cropping of cocoa in oil palm should be taken up only when sufficient light is available inside the oil palm garden in a single hedge system i.e., at least half of the light that is available outside.
In regions where fertilizer recommendations are not available, farmers are advised to modify the general recommendation based on leaf analysis report.

Farmers should adopt micro-irrigation to irrigate oil palm and save water, giving 150-200 lit/palm/day generally depending on soil and climatic conditions and around 300-350 lit/palm/day during summer season.

Oil Palm growers in the country should constitute a National Oil Palm Growers Federation similar to that of other Horticultural crops in the country which are supported by the Department of Agriculture and Cooperation.

12. Suggestions for Entrepreneurs

The improved mechanization has doubled the efficiency of the milling process in oil palm and hence this machinery must be installed in many areas in order to make it accessible to all the farmers.

Entrepreneurs should play an important role in oil palm development in their respective allotted zones by recruiting efficient for effective transfer of production technologies to oil palm growers. They should guide the farmers in raising inter/ mixed crops establishing of soil testing and plant tissue analyzing laboratories by private companies, and helping the farmers in their areas for effective nutrient management and also in maintaining proper weighing of produce at the collection centres.

Processors should Research and Development wing to educate Oil Palm farmers.

13. Suggestions to Financial Agencies/NABARD/ Crop Insurance

In order to encourage Oil Palm cultivation, the Financial Agencies and Nationalized Banks should support the farmers and the industry by extending
credit facilities without red tapism. NABARD may monitor such activities regularly as was done earlier by allocating funds every year.

- Insurance agencies should come forward to work out a viable crop insurance policy in consultation with farmers, processors, and Government agencies and implement in the field quickly.

- Supply of improved seeds at reasonable rates to increase seed replacement ratios, integrated nutrient supply and effective crop management are very significant aspects. Good market facilities for better oil extraction and strengthening of processing structure and modernization of extraction process can certainly lead to glorious development of Oil Palm Industry. It should be borne in mind that integrated pest management practices are very important in reducing the cost of production and sustaining productivity to make the sector globally competitive. When all these measures are adopted to the core, India can certainly become self reliant in Oil Palm yield and increase exports to earn sizeable foreign exchange.

14. **Measures for improving seed Quality**

- Adequate number of seed processing plants should be set up where required. Moreover storage facilities should be provided to make the seedlings ready for transplantation. Seed cleaning machines should be set up for cleaning the seeds.

- Adequate retail points are to be installed by National Seed Corporation, State Seed Corporation, Co-Operative Agro Industries Corporation, IFFCO and Private Seed Producers. Besides more mobile vans are to be provided for distribution of seeds in the interior. All primary co-operative societies should be enabled to sell fertilizers and pesticides on a “single window” concept.

- Financial assistance in the form of short-term loan, equity, bank loan, etc., should be given to the seed producers and distributors.
One of the major constraints for low productivity of oilseeds is the non-availability of good quality seed. Therefore the best variety of seeds certified by National Seed Corporation and State Seed Corporation should be distributed to the Oil Palm Cultivators. There should be at least one seed farm in each and every zone throughout the state. A special committee should be set up at state to do advance planning and to have co-ordination amongst various agencies involved in seed production, distribution and quality monitoring.

Prior to the process of sowing the seed should be treated with fungicide or bactericide as recommended by NSC and SSC.

A fine seed bed free from weeds and clods should be prepared to facilitate good germination and better survival. The field should be kept free from weeds particularly during 20-30 days of sowing.

15. PRODUCTION RELATED SUGGESTIONS

The sowing of seed should be done at appropriate time with proper row spacing and the seedlings should be properly maintained by the process of thinning 15-20 days after sowing. Early sowing escapes the attack of many diseases and pests.

Incentives should be given to the farmers to cultivate Oil Palm varieties with higher oil content. This can be achieved by linking the purchase price of oilseeds with the oil percent as has been done in the case of sucrose content in sugarcane.

It is obvious that Pests and diseases reduce the yield and so suitable pest and disease management practices are of greater importance. Therefore. Such practices should form an integral part of the overall oil Palm crop management. The extension agencies should be geared up to demonstrate the advantages of plant protection measures to the Oil Palm growers. The formulated pest and disease control schedules should be popularized. The possibility of custom
service facilities with respect to insecticidal spraying and the related plant
protection practices should be looked into. Subsidy should be given on plant
protection chemicals, and the spraying tools.

- It is necessary to provide weed-free environment particularly in the early stages
  of the crop. This can be done either by manual or chemical methods. Weedicides
  like Glycyl / Roundup should be used to prevent the growth of weeds in Oil Palm
  crop. Farmers can employ labourers to remove weeds if it is cheap and available.

- Productivity can be increased through plant replacement where necessary and
  the use of quality seed. In addition mass scale plant protection measures,
  increased use of chemical and bio-fertilizers and improved agronomic practices
  lead to good productivity.

- Water logging condition is very harmful to Oil Palm crop and hence the field
  should be of good level so that good drainage can be possible.

- Harvesting should be done at right time to avoid capsule shattering and to
  prevent reduction in oil content.

- In order to minimize the bad effects of pesticide residue on Oil Palm it is
  necessary to provide technological backup, effective regulatory framework and
  its effective implementation. Research in this aspect is very much necessary not
  only to prevent the bad effects of pesticide residue but also to promote phyto-
  sanitary measures in the trade.

- Bunch failure is common in the absence of weevils and it leads to yield
  reduction to the drastical levels and so the Oil Palm cultivators should take
  proper care so that the fertilizers, pesticides and weedicides used by them
  should not harm weevils.
➢ Oil palm requires adequate irrigation to get maximum yield. Power shortage hinders better yield possibilities and so generator sets are to be provided to growers on subsidy.

➢ Organic sources of fertilizers like manure, compost, vermicompost and green manure increase the fertility level of the soil and so Oil Palm farmers should increase their usage instead of inorganic manure so that the cost of fertilizers can be decreased and the yield can be increased.

➢ The assistance for drip irrigation of 50% of the cost for Small, Marginal, SC, ST and Women farmers is provided for a maximum of 4 ha per beneficiary. The limit on the area eligible for assistance should be increased for the reason that the assistance of only 35% of total cost is given for other category of farmers.

➢ Drip system subsidy is cumbersome and it is not available to all the cultivators (Cultivators with less than or equal to 4 Hectares). Procedure for availing of drip system subsidy should be made transparent and easy for all the oil palm cultivators.

➢ Uprooting of oil Palm plants should be prevented by fixing price of Oil Palm Bunches according to the prevailing cost of cultivation and also the performance of processing units to see whether the processing units in the concerned zone have the capacity to process the total production.

➢ Infact the establishment of processing units requires huge investment and so the incentives provided to industrial units under Target 2000 scheme need to be extended for the Oil palm processing units also.

➢ The Government should consider the matter of revising the components and also including certain components like HDPE pipes for effective implementation of drip irrigation in Oil palm.
Subsidy should be provided for Pesticides, fertilizers and Weedicides since 48% of Oil Palm cultivators strongly opine for the same.

16. FINANCE RELATED SUGGESTIONS

- Timely credit should be made available to the Oil Palm farmers through co-operatives and other financial institutions to enable them to use requisite inputs so as to increase production of oilseeds.

- The financial indicators are more sensitive to the Market price of Fresh Fruit Bunches than the costs. So the market price should be fixed atleast equivalent to the costs.

- At present subsidies for plant material and cultivation are being given uniformly to all categories of farmers. The farmers belonging to SC/ST may not afford to purchase the plant material and hence the same may be supplied to them on full subsidy. The subsidy for cultivation may be given at 75% of the NABARD unit cost to encourage the said category of farmers.

- Easy access to Institutional finance should be provided to Oil Palm cultivators in order to prevent them from going for non-institutional sources which levy heavy charges.

- Proper support should be extended by the banks to the oil palm cultivators. Verily there is no display regarding support for oil palm in any nationalized bank. This must be checked by extending additional support to the Oil Palm Growers.

- Inability of oil palm cultivators to use necessary crop protection measures in a year due to lack of funds may decrease the productivity in consecutive years. At present oil palm cultivators are given access to institutional finance only through crop loan, and also a special line of credit needs to be provided to the farmers through banks for taking up Oil palm cultivation.
Continued financial support at a higher level from the government for oilseeds research and development in the country is very much essential in the present era of liberalized world trade. As regards oilseed crops where hybrid technology is not available, private sector is not forthcoming with any input. Therefore it is indispensable to organize all research activities and priorities in a matrix mode of operation. The technological development should be more focused to generate technologies to facilitate farm resources with low external inputs.

The significant point is that the oil palm farmers have to take care of the nutrients in Oil Palm crop. Whenever Magnesium and Boron deficiency is identified, immediately Magnesium and Boron supplements should be given as this deficiency decreases the yield of Oil Palm.

17. MARKETING RELATED SUGGESTIONS

Support price policy: Owing to sensitiveness of oilseed crops to market forces, the support price needs to be continued and strengthened. Although the government has continued with support price policy, there has not been any market intervention in recent years when the market prices fall below the support prices leading to distress sale and diversion of oilseed area to other crops. Effective market intervention to prevent distress sale by farmers is the prime requisite continued patronage of oilseeds by the farmers. It is also important to develop a market mechanism of offering higher price for quality oilseeds with higher oil content and of better quality. Hence, while announcing the support prices, quality consideration as a matter of principle should be kept in view to provide a sense of direction to the researchers and oilseed growers. The government should also strictly enforce quality regulations.

As harvesting becomes difficult with the increase in age and length of Oil Palm, harvesting machines should be introduced by National Research Centre.
or the imported machinery from Malaysia and should be made available to Oil palm Cultivators. Oil palm farmers are of the opinion that harvesting costs should be borne by Processing units.

- National research Centre for Oil Palm at Pedavegi should innovate hybrid varieties of oil palm to have higher yield.

- The support price announced by the Government should be in correlation with open market prices. Under present system there is no mechanism of offering higher price to produce high quality oilseeds.

- **Seasonally variable import duty**: India is the largest importer of edible oil in the world. Import duty structure is the main tool in the hands of the government to regulate imports. The liberalized import policy appears to have brought stability in the prices of edible oils during the lean season, while it has failed to take care of the situation in peak seasons. In fact this policy generally safeguards the consumers’ interests in the way of enough supply of edible oils at steady price, but the interests of farmers, processors and oilseed sector as a whole need to be integrated to provide sustainable momentum for balanced growth. This can be taken care of to some extent by following the system of “Seasonally variable import duty” thereby having higher and lower import duties during peak harvesting season and lean season, respectively.

- Government should focus on the development of infrastructural facilities viz. roads, ports, storage and transportation so as to make India self sufficient and supreme in Oil Palm cultivation on par with Malaysia.

- **Support price**: There must be market mechanism for offering higher price for oil Palm bunches of higher quality with higher oil content. Hence, while announcing the support prices, quality consideration should be the very first principle.
It has been observed that the price of oil palm is low, when the output is high and vice versa. Hence the farmers state that Minimum Support Price should be 7000-8000/- irrespective of the output.

Oil palm should be exempted from VAT Taxes. VAT is imposed on the FFB of Oil palm bunches. Usually VAT is imposed on manufactured goods but for oil palm price is fixed after deducting VAT.

Oil Palm farmers find it difficult to cope with the continuous changes in the price of oil palm FFB. So measures should be taken by the Government to control the price fluctuations and to support the oil palm cultivators in order to increase the area under cultivation of oil palm.

Rational import duty policy: The interests of the consumers, farmers, processors and the oilseed sector as a whole need to be integrated to provide sustainable momentum for the well balanced growth of the edible oil sector. Moreover, the import duty policy should be rational so as to provide protection to domestic farmers.

Irrigation charges: Oil Palm requires less water as compared to many cereals, commercial and other crops. Hence, suitable policy decision to levy irrigation charges commensurate with the water used rather than on flat area basis can make oilseed cultivation more competitive.

Self-reliance: Achieving self-reliance for oil palm is of paramount importance. This calls for new thrust to improve the productivity of Oil Palm crop through exploitation of the commercially untapped yield reservoir by effective technology transfer, demand driven research agenda to meet new threats and exploit fresh opportunities, value addition to Oil Palm Seeds and their products and by-products to make them more competitive.

Area expansion: As a matter of fact, to bring additional area under Oil Palm cultivation due to exhaustion of cultivation area. Hence, newer approaches to
expand their cultivation under different cropping/farming situations become imperative. It is suggested that the executives of processing units should take the responsibility to motivate the farmers to start oil palm cultivation.

21. **Improving productivity:** Crop ecological zoning is one of the important strategies for efficient production of Oil Palm and it helps in realizing potential yields with high input use efficiency. All the efforts to increase the area under oilseeds need to be dovetailed to these crop ecological zones. Supporting services like input-supply, marketing and processing have to be linked to these crop ecological zones besides strengthening of research and extension systems. Infrastructural short comings faced by the Oil Palm farmers have to be analysed in order to endeavour and overcome so as to be bold and competitive. Then only large areas can be brought under minimal inspection.

22. **Effective technology transfer:** Concerted efforts are compulsory to transfer the existing technologies from lab to land. The data generated from the large number of frontline demonstrations organized by the Directorate of Oil Palm Research during the last 13 years in the farmers’ fields across various crops, seasons and situations suggest that yield increases ranging from 36 to 88 percent with additional production potential of about 19 million tonnes. The incremental benefit cost ratios also ranged from 2.01 to 5.18 and so it clearly indicates that the technologies are not only productive but also cost-effective.

23. **Research funding and prioritization:** It is essential that the government should allocate funds for oilseed research and development. Moreover, broad guidelines and objectives of research and research activities are to be prioritized and organized in a matrix mode of operation.

24. **Processing efficiency:** The processing efficiency of oil palm has to be enhanced on a commercial scale. It is crystal clear that when the efficiency of
processing units is improved, it can reflect on country’s self sufficiency and positive competition in the world market at large.

25. **Pesticides residues:** Research to minimize pesticides residues in the products and by-products needs technological back up and regulatory framework as well as its effective implementation. Phyto-sanitary measures have to be made more significant.

26. **Inter-sectoral linkages:** The present farmer-research-industry-policy oriented sector should be strengthened in order to achieve the overall development of the Oil Palm cultivation and industry. The steps to reach the aspired goal are commercial exploitation of untapped yield reservoir, value addition in Oil Palm and its by-products, demand-driven research programmes and the very important congenial public policy environment.