

Challenges and Opportunities in Oil Palm Cultivation in India

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Abstract

Oil Palm is the key to achieve self-sufficiency in edible oils. It constitutes 37% of edible oil demand in the country and 97% of demand for palm oil is met through imports.

1. India has the potential to cultivate Oil Palm in 19.33 Lakh Ha. Despite being a smallholder crop for the last 30 years, only 3.5 lakh Ha (till Fiscal Year 20) has been converted to Oil Palm plantation. This is not very encouraging.
2. Till FY20, the production of total fresh fruit bunches (FFB) presently is around 21 lakh tons and total Crude Palm Oil (CPO) production is 3.52 lakh tons, which is one-ton oil per Hectare.

Key Challenges

1. The oil palm plantation requires a long gestation period before giving returns to farmers. Hence, long term investment and long-term commitment by all stakeholders - Farmers, Processors and Government is necessary.
2. The profitability of the farmer depends on FFB prices, which are highly volatile and uncertain. Compared to other crops, there is a little relief offered to farmers for FFB prices. Hence, this does not seem

remunerative to farmers and the expansion of crop is hindered.

3. The change in FFB pricing formula is a zero-sum game, the farmers are benefitted at the cost of the processors, especially when the oil prices are low there is a huge erosion of Processor's profit. The processors already pass on 75.25% of the benefit to the farmers in the oil palm industry, no other crop processor in India gives this much benefit to the farmers. Frequent changes in FFB pricing formula without any financial aid from the Govt make it risky for the processors to commit long term capital investment, the breakeven happens only after 8 years and this is not lucrative for the processors.

Preamble

To achieve self-sufficiency in edible oil production in India, the government has initiated various policies since the mid-1980s. These include supply of high yielding oil seed material, extension service inputs at a subsidised rate, Minimum Support Price (MSP), price fixation, import control and promotion of oil palm cultivation. Between 1985 & 1994 there was a good growth rate in terms of area, production and yield of oil-seeds.

However, discouragement of oilseeds cultivation in India started (since 1990 onwards)

on account of the arrival of cheap imports of oils & no timely support of MSP for oil-seeds concerning the cost of production.

Oil Palm is the most productive oil yielding plant amongst edible oils. This crop plays a vital role in meeting the vegetable oil requirement in the country. It can produce more than 4.0 tons of Crude palm oil per Hectare.

To take up oil palm cultivation in large scale, the government of India launched Oil Palm Development Programme (OPDP) during 1991-92 under Technology Mission on Oilseeds and Pulses (TMOP), Ministry of Agriculture and continued till IXth plan. Later government of India introduced the Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) during Xth & XIth plan to provide support for oil palm cultivation. Government of India subsequently implemented a special

programme on Oil Palm Area Expansion (OPAE) under RKVY. Again under Mini mission - II a new NMOOP during XIIth five year plan launched by the government of India to boost oil palm cultivation and productivity.

Domestic Production Of Oil Palm Critical To Achieve Self Sufficiency In Edible Oils

It is evident from the details of the edible oil scenario of the country, that Oil Palm is in great demand in the country but the production is minuscule.

key facts about palm oil :

- 37% of edible oil demand.
- 61% of import basket (edible oils).
- 97% of palm oil used is imported.
- We can get nearly 16 times more Palm Oil per Hectare than soybean.

Domestic production and import of various edible oils during FY20

Mn Tons	Import	Domestic	Total	Share of Imports (%)
Rapeseed	0.5	2.5	3.0	17%
Soyabean	3.0	2.2	5.2	58%
Ground		1.0	1.0	0%
Sunflower	2.3	0.1	2.4	96%
Palm	9.2	0.3	9.5	97%
Cotton		1.2	1.2	0%
Others		3.5	3.5	0%
Total	15.0	10.8	25.8	58%

Crop yield and oil yield per Hectare during FY19 in India

(Kg/ha)	Farm Yield (Kg/Ha.)	Oil %	Oil Yield (Kg/Ha.)	Palm Yield Comparison
Groundnut	1,439	42	604	6.0
Soybean	1,182	18	213	16.9
Mustard	1,181	40	472	7.6
Sunflower	700	40	280	12.9
Palm	20,000	18	3,600	1.0

Performance Of Area Expansion Under Oil Palm Has Not Been Encouraging

1. The total potential area in the country for growing oil palm has been estimated over 19.33 Lakh Hectares.
2. As of March 2020, only 3.57 lakh Hectares is under oil palm cultivation. This is just

18.46% of the potential area brought under oil palm over 30 years. Andhra Pradesh & Telangana together contributed (1.95 lakh Ha. approx.) more than 54% of the total area planted under oil palm in India. Andhra Pradesh & Telangana together contributed 10% of the total potential area.

Potential area and total cultivated gross area of oil palm

State	The potential area up to March 2017 (Ha.)	Gross cultivated area (Ha.) up to March 2020	Potential utilized up to March 2020 (percent)
Andhra Pradesh	419500	174053	41.49
Telangana	50000	21,289	42.57
Karnataka	260000	49397	19.00
Tamil Nadu	205000	32833	16.02
Mizoram	61000	29024	47.58
Odisha	56000	22846	40.80
Other States	881750	27,889	3.16
Total :	1933250	357331	18.48

Source: DAC&FW, M/o Agriculture & Farmers Welfare

State wise FFB Production

(in MT)

State	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20 (Tentative)
Andhra Pradesh	1136579	1427827	1390323	1823574
Telangana	88549	147516	266876	200000
Kerala	34198	30220	30732	30000
Tamil Nadu	7422	6983	7037	5830
Other five States	27351	28089	29865	29887
Total :	1294099	1640635	1724833	2089291¹

Source: DAC&FW, M/o Agriculture & Farmers

State wise production of Crude Palm Oil (CPO)

(in MT)

State	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20 (Tentative)
Andhra Pradesh	190854	234695	239413	304719
Telangana	19979	27274	50439	36800
Kerala	5929	5191	5193	5088
Tamil Nadu	1115	938	1017	523
Other five States	4649	4831	4987	4985
Total :	222526	272929	301049	352115²

Source: DAC&FW, M/o Agriculture & Farmers

^{1,2} Collected reports from various industry sources.

State wise performance of OER(%) in India

State	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20 ³ (Tentative)
Andhra Pradesh	16.79	16.54	16.71	16.8
Telangana	22.56	18.55	18.45	18.4
Kerala	17.34	19	18	18
Tamil Nadu	15.02	15.15	14.74	14.23

Source: DAC&FW, M/o Agriculture & Farmers

³Collected reports from various industry sources.

Opportunities

Given the context of slow domestic growth and high reliance on imports, we must explore the key levers for improving oil palm production in the country.

FFB Price Support:

Ensure FFB price realization by the farmer is higher than the normative cost of cultivation + 50% margin benefit. In case the FFB price realization is less than the normative cost of cultivation (including margin benefit).

Given that the market prices of CPO are driven by global factors and the FFB price is dependent on the CPO price, to protect our farmers from low global prices, FFB pricing should be cost-based pricing rather than market-based pricing.

Fresh Fruit Bunch (FFB) price support is the key to secure farmer commitment.

FFB Price	Actual Payout (Rs./MT)	Difference @ CACP Recommendation (Rs./MT)
	AP	AP
2018-19	8,466	1,569
2019-20	7,920	2,115
2 Year Avg.	8,193	1,842

- Apay-out based on CACP recommended support price of Rs. 10,035/MT
- Government to pay only the difference in actual pay-out and support price, in case the actual pay-out is less than support price.

Research & Development:

Focus on R&D is the need of the hour. This will improve the economics of the value chain and ensure that Indian Oil Palm industry is competing with global leaders. Focus more on output than traditional modes of working, like

- Yield improvement/Ha. With the concept of "Per drop more crop".
- Develop drought Resistant Plant material suitable to Indian climatic condition.
- Develop a dwarf variety to make harvesting easier.

Import Policy:

Recommended that differential duty structure on crude palm oil & refined palm oil be adjusted such that it is viable to import crude palm oil and refine it indigenously rather than importing refined palm oils. Import duty should be changed regularly based on international prices of different oils to protect domestic oil palm growers, producers and industry.

FFB Quality:

Quality of FFB has a direct link to oil recovery. Today average OER in India is hardly 17% but it is possible to achieve OER 20%, based on the right quality FFB supplied and processed. This will ultimately help farmers to get better FFB price and the industry as a whole.

Farming as a service:

We need to take inspiration from emerging trends in Indian Agri Sector. Farming as a service model has been on the rise. Given the collective size of operations in AP & Telangana, it must be possible to come up with harvesting as a service model and both processor & farmers must encourage the same. Farming is a life-giving profession. Oil Palm gives lifelong yield which can provide veg. oil security.

Special provisions for North East:

India is diverse country geography, topography and infrastructure wise. Hence, a one size fits all solution will not work for the challenges. Special considerations should be made for the North East states, because of the higher cost of cultivation and processing due to poor infrastructure, topography etc. There is good potential (2.29 lakh Hectares) to grow oil palm sustainably in these states, A circular economic model for NE will have a positive impact on our environmental footprint.

Policy for bringing in new farmers:

There is a need to revamp the existing policy to transform domestic oil palm production. We need to concentrate on:

1. Farmers need to be incentivised to adopt and sustain oil palm cultivation through
 - a) Gestation period support to the growers to be increased from Rs. 40,000 to Rs. 60,000 @ Rs. 15,000 / Ha. per year (inputs + intercropping subsidy) over a period to four years of the plantation.

- b) Additional incentive, like Rs. 1000 / MT of FFB (over and above existing formula price) for the next 10 years.
- c) Checks and balances to be established with the help of state Government and processors to ensure compliance, a lot of farmers avail the support and then uproot the plantation.

2. Processors need to be pushed to commit long term capital and consistently improve efficiency (OER) through

- a) Process improvement and bringing in new technology to improve OER.
- b) Introducing game-changing germ-plasm (Semi Clonal Seeds).
- c) Work with the farmers to implement a package of practices.

Both farmers and processors have to ensure over a while that “Formula for payout to farmers be frozen, with the improvement of FFB yield/Ha (from 12 tons per ha. to 20 tons per ha. in mature plantation) and OER and avoid any perpetual liability, i.e. ensure limited Government payout, with the establishment of a sustainable policy and business model”.

Potential for oil Palm in India:

If India wants to produce as much edible oil as it is consuming through its traditionally grown oilseeds, the country needs at least 30 million hectares and is next to impossible.

However certain policy decisions like providing support price for FFB towards differential amount to the farmers, revision of seedling cost (for imported seed cost + growing charges for one year @ Rs.190 per seedling) and capital investment support @ 25% investment subsidy to establish new mills, - taken by the government of India, can make a big stride towards self-sufficiency in oil palm:

- Potential to increase Domestic Palm Oil production by 4-5 times to 16 Lakh MT

Fiscal Year	Area Added (Hectare)	Cumulative Net Area (Hectares)	Projected FFB (MT)	Price Support Payout (Rs Cr)	Sapling Support (Incremental) (Rs Cr)	Capital Investment Support (Rs Cr)	Total (Rs Cr)	Cess @ 0.5%
FY 21	25,000	3,22,841	24,00,689	442	26		468	368
FY 22	30,000	3,52,841	25,08,400	462	31		493	386
FY 23	60,000	4,12,841	31,34,884	577	63	76	716	405
FY 24	60,000	4,72,841	54,76,341	1,009	63	243	1,314	425
FY 25	60,000	5,28,766	57,18,592	1,053	63	25	1,141	447
FY 26	60,000	5,83,332	60,27,389	1,110	63	32	1,205	469
FY 27	60,000	6,35,181	65,36,144	1,204	63	53	1,319	492
FY 28	60,000	6,91,105	74,26,577	1,368	63	92	1,523	517
FY 29	60,000	7,46,622	84,69,149	1,560	63	108	1,731	543
FY 30	60,000	8,02,411	95,62,287	1,761	63	113	1,937	570

*Cess calculated assuming import value of 70,000 Cr in FY 20 and growing at 5% annually.

Assumed significant improvement in FFB yield from FY24 across all Oil Palm growing states in India, after support price introduced during FY21.

- Government incremental investment of 11,849 Cr spread over 10 years impacting more than 5 Lakh farmers and creating thousands of manufacturing jobs. 94% of the spend directly benefits the farmers
- Private sector to invest around 2,200 Cr
- A cess of 0.5% on imported edible oils can net the government ~ 4,600 over next 10 years.

If we can utilize full potential area 19.33 lac Hectares we can produce 59 lakh tons of palm oil in the country at a current oil extraction rate of 16.9%.

Oil Palm is the one crop which was not affected by COVID-19, during Lockdown. District authorities declared OPDP under “Essential Commodities and farmers did not suffer, harvesting usually done, except for the delay in a few cases”.

We are now importing around 150 lakh tons of edible oil valued at INR 77000 crore, which is causing a severe drain to the exchequer.

If the total potential area fully utilized our country will be able to reduce our dependence on import of palm oil to a great extent and achieve SELF SUFFICIENCY in edible oils while saving huge forex reserve. In the spirit of the Make in India initiative, with the right policies in place for the Oil Palm, this industry can generate a lot of wealth for the country and bring prosperity to millions of farmers.

Further reading

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Disclaimer

This paper summarizes the outcome of the author’s analysis in his capacity and does not reflect the intentions of any institute/ organization.

Source: - Courtesy Indian Food Industry May-June 2021