

A STUDY ON SOCIO ECONOMIC IMPACT OF OIL PALM (*Elaeis guineensis* Jacq.) PLANTATION AMONG SMALL SCALE FARMERS WITHIN KOLASIB DISTRICT, MIZORAM, INDIA.

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Abstract: The selection of right crop is extremely crucial for farmers whose livelihood solely relies on product from their agricultural land. Beneficial crops include crop yield, market price, management practice with lesser labor, etc. The demand for palm oil increases and India is among the largest importer of it. In Mizoram, Oil Palm Plantation(OPP) has been rouse from 2004 with the Government taken initiatives and Kolasib district has been listed under the promising area. Many of the farmers has been convinced to shift to OPP and the Government also enroll it under its flagship programme NLUP. However recently many debates and myth on OPP arouse, while some replace OPP; others recently start OPP in the southern part of Mizoram. Establishment and future expansion plans for oil palm plantations in the study district has become the subject of political and environmental debates. The research is design to assess the management, practice, problems, livelihood of farmers, etc of OPP in Southern part of Kolasib district. From the study, it is clear that OPP support many livelihoods but the satisfaction is not high among the farmer. Most farmers observe only small visible impact on flora and fauna after OPP on their Land which contrast to many negative impact proclaim by different Organisation. Management and harvesting is not an easy task and most farmers regarded the cultivation not suitable to all kinds of family.

Keywords: Oil Palm Plantation OPP, Kolasib district, Farmers, Mizoram, Godrej Agrovet Limited.

I. INTRODUCTION

In Mizoram, OPP business has been under revival since 2004 but assails towards OPP and its sustainability also prevails.. The first recorded OPP in Mizoram was 1999-2000 at Thingdawl, Kolasib District and Rotlang area of Lunglei District and came with a quite promising results (agriculturemizoram.nic.in). The Mizoram Legislative Assembly passed “The Mizoram Oil Palm Act, 2004” on the 2nd Dec, 2004 wherein signed an MoU with three companies – Godrej Agrovet Ltd., Ruchi Soya Industries Ltd. and 3F. Later 3F company shut off. Godrej Agrovet is the only company that is actively buying oil palm FFB from the farmers of Kolasib, Mamit, Aizawl and Serchhip District. It is expected that cultivation of Oil Palm in the lowlands of Mizoram will enhance the income of local farmers and result in economic upliftment of rural poor (Lalzarliana 2015). The Government and partner companies attract many farmers to start OPP, and convince them to shift from other plantation to OPP. Nursery were distributed free of cost and different subsidies were provided; the farmers were supported with cultivation assistance of 4000 rupees per year during the gestation period (Component wise pattern of assistance of MM-II (Oil Palm) under NMOOP).

The number of OPFs have been estimated to be 500 approx. as per recorded by Godrej Agrovet Ltd. The southern part of Mizoram with number of small rivers running through, with topography gentle sloppiness which makes the area plantation inevitable, thus resulting in scarcity of dense forest. Dr. R.M Reddy, Principal Scientist from National Research Centre for Oil Palm (NRC-OP), Andhra Pradesh, who study the suitability of agro climatic conditions and water availability required for Oil Palm cultivation in Mizoram during the month of March 2004 has recommended that, “Climate and Soil condition in southern Mizoram with low elevation and gentle slope are quite suitable for Oil Palm cultivation”. Mizoram has a total forest cover of 15,94,000, Potential area for Oil Palm cultivation in Mizoram is identified as 1,01,000 Ha. (61,000 Ha. identified by Dr. K.L Chadha Committee + 40,000 Ha. identified by Dr. P.Rathinam Committee). 800ha approx of the study site followed by 61,000 ha of land propose for expansion by the state government.

Mizoram University surveyed on People’s perception on Oil palm plantation. Does OPP degrade soil quality? 34.3 % of farmer claim OPP degrades soil quality. 5.6% agreed that it degrade water quality. However, 66% of farmer believe OPP degrade overall environmental quality (Sati, 2017). The social economic impact can be determine from the farmers and in fact where and how they are cultivating it, problems faced, to what extend it support livelihood, suitability, effect of fertility of land, etc.

Establishment and future expansion plans for oil palm plantations in Mizoram has become the subject of political and environmental debates. There are many doubt and myth on OPP: while some replace OPP, others recently start OPP in the southern part of Mizoram. Therefore, prior study and assessment needs to be done in the region. The study focus on analyzing current socio economic status and farmers reason for opting the OPP, their satisfaction level and various problems encountered on their land , management practice and marketing, perception on OPP with directed environmental issues, etc.

II. METHODOLOGY

Quantitative approach for the analysis of socio economic impact include household survey, Field visit to Plantation sites, Godrej oil palm mill, informant interview, Questionnaire pertaining to assess the farmers social and economic Views/Attitude and perception towards their current Oil Palm Plantation. Different places within Bukvannei Plantation area were visited to collect information and acquaint with OPP

procedures. During the collection of data, observation and interviews (personal) was arranged during the study period. Houses of the farmers were visited and discussion with farmers was made at their respective homes, collect information on their cultivation, harvesting, processing, disease management, marketing, problems and current uses. Semi structured interview was held with representatives from Godrej Agrovet Ltd. Reflection of Farmers Economic Satisfactory level of their present plantation was also a key determinant in the research. We select the sample randomly from the farmers list maintain by Godrej Agrovet Ltd.

Quantitative approach emphasizes on the quantification in the collection and analysis of data (Bryman, 2012). The process of a quantitative research begins with the construction of theory, hypothesis (research question), research design, concepts, selection of research site and subject, collection of data, processing and analyzing data, findings and related the findings to the theory (Bryman, 2012). The researcher have used quantitative method to analyses the theory of high socio- economic benefits from oil palm plantation in Mizoram.

The selection of district was done on the basis of proportion of land under oil palm cultivation. Thus, Kolasib district in Mizoram was selected. From the information provided by Oil palm companies in this district Bukvannei, Buhchangphai and Saihapui were selected on the basis of high proportion of land under oil palm cultivation and presence of Godrej oil palm mill, which is the only functioning mill within the District. Bukvannei is a small village, there are only a few Oil Palm farmers. Most of the plantation field belongs to farmer from Kolasib and Buhchangphai.

The sample size of the study is twenty, which gives a fair representation of farmers within Kolasib district. Out of the 20 respondents, only 1 was female respondents. The male takes the higher percentage of the opinion because a single female was present. The age of the respondents was all greater than 45 years. The occupation of respondents is farmer, 2 of them are Government servant pensioners, 2 were vendors and 5 were either engaging with business or other services. For the selection of respondents random sampling was used. Random sampling is a fair way of selecting a sample and according to Bryman (2012) it enhances the representativeness of the samples.

III. FINDINGS AND ANALYSIS

This following presents the findings and data analysis from the field; it discusses the negative and positive impact of Oil Palm cultivation as well as shifting from jhum cultivation to oil palm cultivation in Bukvannei Village, Kolasib District. All the respondents in this research are taken from Mizo community.

A. Gender profile of the study area

Most of the respondents 95% are male and in the study area all the people were predominantly Christian community and they are patriarchal society. Female respondents are very less because they are mostly meant to be involved in the daily chores of the household. However, most of the respondent do not consider Oil Palm business a women task since intensive maintenance is a pre requisite and harvesting demands heavy labor. Almost all the respondents accept that OPP could not be carried in household where adult male is absent.

B. Occupation of the respondents in the study area

In the study area, 55% of the respondents were totally depended on oil palm cultivation and also the only source of income for the family. 20% having plantation field are Govt. employee. The other 25% of respondents though cultivate oil palm they are also engaged to another such as fish farming and other business. So, majority of the respondents were depended on oil palm cultivation.

C. Year of starting OPP

From 2005 oil palm plantation was promoted by the government of Mizoram under its New Land Use Policy. For the implementation of this policy, the government signed M.O.U (memorandum of understanding) with three companies- Godrej Agrovet Limited, Ruchi Soya Industries Limited, and 3F Oil Palm Agrotech Private Limited (Oil Palm Development programme in Mizoram (Why Oil Palm in Mizoram)). Kolasib District area was allotted Godrej

Agrovet Ltd and it was the first district to establish an oil palm processing mill in Mizoram.

Kolasib District was announced as the first oil palm district by the government of Mizoram.

From the data we can infer that many of the households 55% started oil palm practice in the year 2004-2007, just after oil palm plantation was implemented in Mizoram. 15% start their plantation during 2008-2011, 10% between 2009 and 2012 and climb up to 20% again in the year 2016-2019 .

D. Reasons for opting Oil Palm

Majority of the cultivators decided to go for oil palm because of increase in income and good in return, the government working with Godrej Agrovet Limited convince the people that the plantation will bring high income in return and opted in place of jhum cultivation and other type of cultivation. In 2004, after the research done by the National Research Centre for Oil Palm in 2004 it was realized that Mizoram is suitable place for oil palm cultivation. The respondents were also aware that Mizoram have suitable land for oil palm cultivation so some of the respondents go with this reason and at the same time they can received the financial assistance, subsidy, seeds, water pipe etc. from the government and they can cultivate without investing any money. 70% of the farmer opted this plantation because of its goodness income, 20% cultivate because it is suited with their land than other cropping. None opted that it require less labor as every farmers share the intensive labor that has to be done during pre and post harvesting.

E. Government and Company Assistance

Majority of them receive Government and Company assistance in various sections like Construction of water tank, Supply of Nursery, agrochemicals. However only 5% of them fail to receives financial support, gestation assistance or any other support from Government. 100% of farmers receive Government and Company assistance one way or the other, 95% receive support for construction of water tank, 75% receive financial support for construction of link road, 60% of the livelihood receives gestation assistance of 4000 rupees annually for the first four years, 85% planting material cost, Nursery are received by all farmers free of cost.

F. Farmers Satisfactory level

As the rate stay constant at 5.50 per Kg (Godrej Agrovet Ltd) with additional 1 rupee supported by Department of Agriculture , Mizoram from june 2014 till date, only 20% of farmer are currently satisfied with their oil Palm business, 20% having low satisfactory level and around 60% of the farmers satisfaction still remains the same i.e. moderate . 70% of the respondent still wants to practice their current business while 30% of the farmers wish to stop their oil Palm business and seek other alternatives.

G. OPP support of Livelihood

Majority of the respondents harvested more than 100 quintals in years, this show that oil palm plantation have a good result and can improves the livelihood of farmers. From the collected data, 55% of farmers have an annual income of more than 90000 from OPP. 15% between 70000-90000, 10% 50000-70000, 20% below 50000. Failure to achieved expected annual income is mainly due to improper link road to their oil palm field, Late plantation wherein its gestation has been just been completed. R.Thanmawia, a resident of Bukvannei Village have an approximate annual income of 3 lakhs during the year 2018-2019 from OPP alone. The land size of his plantation is 2.5 hectare. Some of the respondents claim that it is impossible to collect the FBB in monsoon due to poor road connectivity. In some cases, harvested FFB were accrue on the road side almost one week, this makes the crops prone to infection and attack by microorganism result in rotting before sending it to the oil palm mill. Due to poor linkage of road to their Palm field, many farmer could not harvest and collect the FFB from their farm. Hence, expected income is not often achieved in such case. The rate at which the company buy from the Farmer stands at Rs 5.50 per Kg from 2014 till date, with an additional 1 rupee per Kilo support from the State Government. Total 6.50 rupee received by the farmers per Kg. One fresh fruit bunch FBB weight 20-40 in Kilo and a single Palm tree could provide 12 to 14 fruit bunch in a year. Therefore, a single healthy tree could produce a minimum of 240 Kg annually.

70% of the farmers agreed that oil Palm plantation could support livelihood, but they mention that it depends on the family. A joint and large family can harvest and manage the field without employing additional paid labour. The rest 30% did not think that Oil Palm alone could support livelihood. Almost all, 95% of the respondent think that Oil Palm cultivation is not suited for all kinds of family. This is mainly because of the absence of male or presence of only single male in the family.

H. Land size under OPP

In 1 Ha of Land, 150 Oil Palm trees could be planted. Majority of the farmers have around 2-4Ha of Land under OPP while some farmers have 1 ha or lesser area.

I. Environmental impact from OPP

The oil palm cultivators were interviewed to know their opinion on oil palm plantation in regard to the environmental impacts of OPP. Many of them mentioned that till date they have not realized any degrading environmental effects by continuing OPP. 95% did not consider to degrade the soil quality and air quality neither it has a negative impact to the nearby surrounding vegetation. However, other cultivation cannot be carried successfully which they claim it due to the canopy of the Palm leaves, which alter the optimal sunlight condition for any other crops.

J. Previous cultivation before OPP

50% of interviewed oil palm cultivators shift from jhum to OPP. There are also 30% cultivators who shift from other cultivation. 20% of cultivators shift from coconut to OPP. Majority of the area under OPP are establish after clearing the secondary forest. Deforestation is one of the key issues faced by the oil palm industry in the world. In the study area, 70% have been developed in secondary forests and scrubland and only 5% establish OPP by clearing Primary forest. 25% converted the land to OPP from other existing cultivation.

K. Species diversity

All of the respondent claim that the crops are often invaded by wild boars. Many of the farmers have to deal with others like Funambulus sp. Chepa and several birds. Even though some agree a decline in species diversity, most of the respondent can justify only Primates species as that were predominant before but absent after the introduction of Oil Palm. However, farmers mentioned that Bird species diversity was very less compared to jhum cultivation because

Some birds which were found in jhum cultivation do not consume the seed of oil palm.

L. Other cultivation practice

Majority of the farmer try to practice intercropping and mixed cultivation with OPP. But most of them do not succeed, often produce low yield or inharvestible when they cultivate between the Palm tree. The plants which were implement in the area include Banana tree,

Curcuma sp., Citrus sp., Ananas sp. Many farmers though successfully practice Rice cultivation and Areca plantation in adjacent to the Oil Palm field. 50% respond that other cultivation should be practice in adjacent with OPP.

M. Choice between Areca Plantation and OPP

The respondents were asked on their views between Areca and OPP:70% of the farmers who presently carried the OPP think that Areca plantation may provide them better economic security in the future. If Oil Palm business decline or ends, 85% of the farmers decided that they will introduce Areca in their field. But, they are aware of the time it took for Areca plant to establish and produce commercial seeds. Both Oil Palm and Areca are lowland crop, Oil Palm on one hand could produce commercial fruits after 3-4 years of planting with a life span of around 30 years whereas the gestation period of Areca took 6 to 8 years, with a life span that could reach upto 60 years.



Fig.1 Godrej oil Palm milling Industry, Bukvannei, Kolasib District.



Fig.2 Oil Palm field at Buhchangphai, Kolasib District.



Fig.3 Interaction with farmer

IV. Discussion

It is clear from the study that OPP has been carried extensively than any other crop in Kolasib district of Mizoram. All OPP has been carried by Local farmers in a small scale. It is also evident that OPP enrich farmer's income and contribute economic development of many farmers.

Among the respondent, Majority of the livelihood depends on OPP alone for source of income and some engage in other supplementary occupation too. Many (55%) farmers started OPP during 2004-2005. In 2016, there is an increase in number of cultivators which may be due to the launch of National Mission on Oilseeds and Oil Palm (NMOOP) during 2014-2015 by Department of Agriculture and Cooperation, Govt. of India. Farmers relied on the fact that it is the only crop a proper MOU has been signed between Government and Company. Godrej Agrovet provide many lucrative support to farmers during the early years of Plantation which is also contributing factors opting OPP. Farmers income are more high after OPP. However, the buying rate of FFB from the farmers remain constant since 2014, and farmers are looking forward to Areca nut plantation which is consider more economically profitable by majority of current farmers.

Harvesting require hard labor and men task, improper link motor road facility to their Plantation field which is detrimental as it require finance for labor to transport the fruit bunch to the main road and therefore often left unharnessed. Most of the respondents consider that visible environmental degradation, soil erosion, etc has not been associated with OPP. Although Fauna species diversity of birds and primates decline, the fruits are still invaded by several species which posses a concern for farmers in terms of productivity.

No negative social impact like child labour, human right abuse is determined and only the registered farmer in the company can sold the FBB to the company. The company make sure that Farmers collect FFB only from their field. However, it is clear from the study that maintenance procedure and harvesting is defined as men task and hence gender gap prevails.

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