EXECUTIVE SUMMARY


Palm oil is recognized as the most efficient of vegetable oil in the world, it requires 10% of land compared to soybean to produce the same yield, and oil palm is a very productive crop with an output-to-input energy ratio of 9:1 compared to 3:1 for other oilseed crops such as soybean or rapeseed. The consumption of palm oil increased significantly within last decade, an average consumption grows 4% per year. The stock level of palm oil will be only available for 52 days of consumption in year 2012. Total production of palm oil in 2011 around the world was 47.9 million tons, while Indonesia, as the biggest producer, produced 22 Million Tons or 46% of total world palm oil.

Responding outgrown issues, Indonesian government announced its plan to apply 2 years moratorium of new permits to clear natural forest for new oil palm plantations. To improve the yield can be made by intensifying the existing oil palm plantation through applying latest technology and replanting program.

Related environmental are issues also responded by palm oil industry stakeholders. In 2004, Roundtable on Sustainable Palm Oil (RSPO) was formed with the objectives to promote the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders. Indonesian government also responded environmental issues by releasing Indonesian Sustainable Palm Oil (ISPO). ISPO mandatory principle and criteria of palm oil are obliged for applying to improve sustainability of Indonesia palm oil products.

Elevation of Indonesia palm oil production is derived from expansion of area plantation which grows 108% from 4,158 million ha in 2000 expanded to 8,430 million ha in 2010, while total production increased 182% from 7 million tons in 2000 to approximately 20 million tons in 2010. The incremental of productivity can be shown through 2.78 million in 2000 to 3.55 million tons per ha per year yield improvement in 2010 or 28% increased.

Yield of Indonesian palm oil grown 2.5% in the average within 10 years. While in the same period, Malaysian oil palm yield grown by 0.6%. The reason low growth in Malaysia is the result of age of plantation that is mainly above 30 years old and has passed the peak production level, while in Indonesia oil palm plantation mainly planted in year 1995 or still within the peak production year.

During last 5 years, stakeholders in Malaysia have postponed the replanting program due to premium price, and intensive oil palm replanting in Malaysia recently started. Based on Malaysian experiences mentioned, Indonesia’s stakeholders should learn from Malaysia prepare better replanting program.

There are 7.6% or 593 Ha of area plantation whole over Indonesia have to be replanted in year 2010 to 2020, it consists of 48% smallholders area, 2.5% of state owned area and 48.5% of private area of plantations. Stakeholders of palm oil industry are suggested to prior replanting plans which funding scheme, planting technology, replanting model and other requirement related to sustainable palm oil.
In the micro scale, replanting plan for plasma plantation in individual nucleus-plasma plantation also has to be prepared according to the similar criteria.

PT Agrowiyana is one of pioneer of palm oil plantation in Jambi province; new planting was started on year 1995, started plantation simultaneous for private and plasma. Related to age of oil palm plantation, 92% or 7,120 Ha of plasma plantation area should be replanted on year 2016 to 2020. Hence, replanting requires plans to anticipate potential income reducing and ensure maximum yield of FFB.

In PT Agrowiyana, plasma farmers owned majority of plantation, 65% of plantation owned by smallholder plasma farmers, when replanting becoming mandatory to maintain yield level, success rate of replanting in the plasma plantation will lead of total plantation yield improving. This situation describes the urgency and the importance of replanting preparation and socialization.

In line with the recommendation of RTI palm oil Pekanbaru, there are 5 actors who determine success of replanting programs; they are smallholder farmers, nucleus firm, government, financial institution and NGO. And there are 4 key factors influencing oil palm replanting, key factors of replanting are financial, institutional, technical and socio culture factor. Each factor will lead the alternative replanting model recommendation, and there are 5 replanting model which was applicable for plasma farmer’s plantation, replanting models available are total cutting standard technology, gradual cutting per block, gradual cutting per row, total cutting intercropping and under planting.

The purpose of this case study was to measure response of key actors toward factor and model of oil palm replanting. The study will also explore the perspective of actors on recommended factor and model of replanting to describe key success indicators including indicators of sustainability.

As a case study, this research only study replanting model of plasma plantation at PT Agrowiyana Jambi, PT Agrowiyana and smallholder plasma farmer (plait in the PIR Trans and KPPA scheme). The research did not study replanting model for nucleus plantation which usually well plan and support by quite strong financial back up. The research will focus on response from key actors (farmer, firm/nucleus, government, bank and NGOs) on relevant factors (technical, institution, financial and social-culture) to measure sustainable replanting model preference. Hence, the result and recommendation of this research may applicable for all stakeholders of PT Agrowiyana Jambi, oil palm grower and miller and it need further study when will be implemented in other partnership (PIR) plantation.

The research was carried out in September to November 2011 at PT Agrowiyana which was located in Kecamatan Tungkul Ulu, within the municipality of Tanjung Jabung Barat, Jambi Province. PT Agrowiyana was chosen for this study as it has a long term story on involvement in the partnership scheme. This research using descriptive case study approach, both quantitative and qualitative models were adopted. In this case study a case-based research project which will examines oil palm replanting model at plasma plantation PT Agrowiyana as a single case. In focused-descriptive work, a phenomenon that has already been described is examined in more detail and researchers bring to bear specific questions about the nature of the phenomenon. The raw primary data are gathered via in-depth interview and focus group discussion. A systematic quantitative analysis of the data using Analytical Hierarchy Process (AHP) was interpreted into meaningful recommendation according to “situated structure” of each respondent's experience.
AHP was used to simplify the un-structured complicated problem into hierarchy and syntheses to decide priority alternative. Data from 7 expert respondents are used for in-depth analysis.

Using AHP analysis with consistency ratio 0.02, it was concluded that financial factors is the highest priority factor with priority rating value 0.628, in other side technical factor is the lowest priority factor with priority rating value 0.079.

Combined analysis AHP using Expert Choice 2000 is concluded total cutting using standard technology as the highest model (alternative) prioritized, with consistency ratio 0.00; priority level of total cutting standard technology is 0.259, followed by under planting with priority level 0.197, gradual cutting per block with priority level 0.233, total cutting intermittent with priority level 0.157, in the lowest priority gradual cutting per row with priority level 0.154.

In respect to financial factor, with 0.02 consistency ratio, gradual cutting per block is the highest priority alternative or replanting model (priority rating 0.266), in contrary total cutting using standard technology is the lowest priority alternative (priority rating 0.155). AHP output can be interpreted the gap of priority of alternative “gradual cutting per block” is moderate compare to other alternatives.

Recognizing strong productive relationship of nucleus-plasma partnership it’s advised to review timeline of partnership contract renewal. Responding plasma farmer’s concern on improving the process in the plantation area, it was recommended to improve of access production facilities and access to recent updated information. Learning from successful of fund raising for replanting (IDAPERTABUN) program implemented in Pekanbaru and considering the response of plasma farmer, it needs to convince farmers on benefits of the program through intensively socialization to all of KUD’s board and Farmers Group (Kelompok Tani) management.

Acknowledging the result of this research, it is recommended to apply total cutting using standard technology for replanting of plasma plantation. In other hand plasma farmers was suggested to adjust their life style to match with income reduced during waiting period as well as preparing NES/PIR agreement, bank loan settlement and provide access of production facilities.

The researcher also recommended PT Agrowiyana to improve participations of plasma farmers in applying sustainable plantation practices supporting RSPO/CSPO certification and implementation. Proper cascading progress of certification process to plasma farmers will elaborate them to contribute through the necessary action.

Reseacrher realized that as a case study, the conclusion is valid for single situation at plasma plantation at PT Agrowiyana Jambi, it was required other similar study to formulize the common conclusion which was applicable for wider nucleus-plasma partnership in Indonesia, researcher encourage other study toward these purposes.

Key Words: Oil Palm, PT Agrowiyana, Sustainable Replanting, Analytical Hierarchy Process (AHP), Case Study.