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The Business Feasibility of Smallholder's Oil Palm Plantation in Seruyan Regency, Central Kalimantan, Indonesia

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Abstract
Oil palm is a featured commodity plantation in Seruyan Regency. This is due to the high economic value of those plantations. In addition, the agro-ecological conditions in this region mostly suitable for oil palm growth and development. The purpose of this study was to analyze the feasibility of non-governmental oil palm plantations in Seruyan Regency. The research method was used method exploratory survey (exploratory research) with a feasibility analysis such as calculation of Net Present Value (NPV), Benefit Cost Ratio (B / C Ratio) and Internal Rate of Return (IRR). The results of the study explained that the NPV, B / C Ratio and IRR significantly profitable. With these results indicate that the use of land to be converted into palm oil plantations will gain great benefit in improving the welfare of people in Seruyan Regency, Central Kalimantan.
Keywords: Oil Palm Plantations, non-governmental, Business Feasibility, Investment

Introduction

No doubt oil palm plantation activities will benefit for the community. The most important benefit is the oil palm plantation activities will create employment and this means job opportunities for local residents and for job seekers who come from outside the area. The workers will earn money by working in the oil palm plantation. This encourages the emergence of activities economic activity outside of the direct activities of oil palm plantations, so that people who work on this new venture earning besides oil palm plantation activities. This income is often referred to as derivative income. In addition, the presence of oil palm plantations provide benefits in the form of social services to the local community as a concern farmers palm plantations. By the existence of oil palm plantations, the public can obtain the social facilities (Belcher, et al., 2005; Butler, 2009; Dallinger, 2011; Basiron, 2012).

Palm plantation activities in addition to providing the benefits, it can also cause harm to society. Moreover, if the oil palm plantation activities carried out by converting forest land. Therefore, from the socio-economic aspects, the component costs with their palm plantation activities are related to the opportunity cost, is the loss of economic activity of locals, especially for residents who have taken outcome of forests as a source of economic life because forests are being converted to oil palm plantations. Another aspect related to environmental costs of oil palm plantation activities is a component of public health. The existence of oil crops will change the hue of the environment, and even the use of inorganic substances in the form of fertilizer for oil palm plantation activities will cause health problems in people who are around.

Oil palm plantations in Seruyan Regency, at this stage of development have not fully managed by a large private enterprise (PBS). Since 2007, the community has been managing oil palm plantation by non-governmental. Based on data from the Department of Plantations of Seruyan Regency in the year 2013 it was noted that oil palm plantations governmental organizations have an area of about 14.173 ha with a number of farmers as many as 5,311 people. Based on data from the Department of Forestry and Plantation in Seruyan Regency 2015, noted that the area of non-governmental oil palm plantations occupy an 15.006 ha area, with production amounting to 6.265,57 tons. Formulated objectives poured from the issues that have been raised that to find out the major feasibility level oil palm plantation business non-governmental in Central Kalimantan of Seruyan Regency.

Basic Theory

Cost-benefit analysis used to evaluate the use of multiple sources of economic so that scarce resources can be utilized efficiently. Cost-benefit analysis is often used in determining the feasibility of a project, because it can help decision-makers whether a project can provide greater benefits when compared with the costs incurred (Soemarso, 1993; Soekartawi, 1996). Cost-benefit analysis techniques commonly used to estimate the current value of money for the whole project into the current value. In conducting its analysis mainly on projects that have a relatively long economic age and provide benefits and cause costs at different times, then the point of view of the existence of the value of money into something that is very important in determining the feasibility of a project. The analysis should be carried out by entering the whole calculation of variable benefits and costs of

a project during the life of the project in question and is calculated based on the present value.

According Hufschmids (1992) explains that in the context of the analysis relating to environmental aspects, and then externalities include the calculation of benefits and costs of environmental impacts and all the environmental impacts arising from an activity. Externalities can be either provide additional benefits (ekstenalitas positive), and can also appear as burdensome environmental impact, known as negative externalities. Hufschmids (1992) and Goldman (1977) that the externalities that arise are often overlooked and not taken into account in components for analyzing the feasibility of an activity. So it is not uncommon, the impact of environmental damage due to not include all aspects of externalities causing a very large cost. Therefore, externalities should be internalized in the analysis to determine the feasibility of a good activity performed by the government or private parties.

Oil palm plantation development is always cause debate about the positive and negative impacts arising from such activities. On the one hand the development of oil palm plantations will move the wheels of the economy of a region. But on the other hand, the expansion of oil palm plantations caused a lot of protests from the public and become a major coverage from some media. Negative environmental impacts that have been documented are pruning and forest conversion becomes increasingly widespread, the loss of biodiversity, water pollution, soil erosion and soil nutrient depletion and rising carbon emissions as a result of pruning forests and emissions inherent in the processing of oil palm fruit (Wakker, 2005; UCS 2011; Obidzinski, et al., 2012).

Material and Methods

3.1 Research Location

This research was conducted in the Seruyan Regency by taking the focus area of oil palm plantations governmental organizations. Location of the study sample was taken (sample) intentionally of 3 (three) districts, the district of Danau Sembuluh, district of Hanau, and the district of Seruyan Raya. The location was selected because these regions there are six oil palm plantation development non-governmental and already in production. The number of farmers who operates a palm oil plantation in the third sub- district is also quite a lot. In addition, the location had chosen by ease of access to the region. Geographically, the study site in three districts' can be seen in Figure 1.

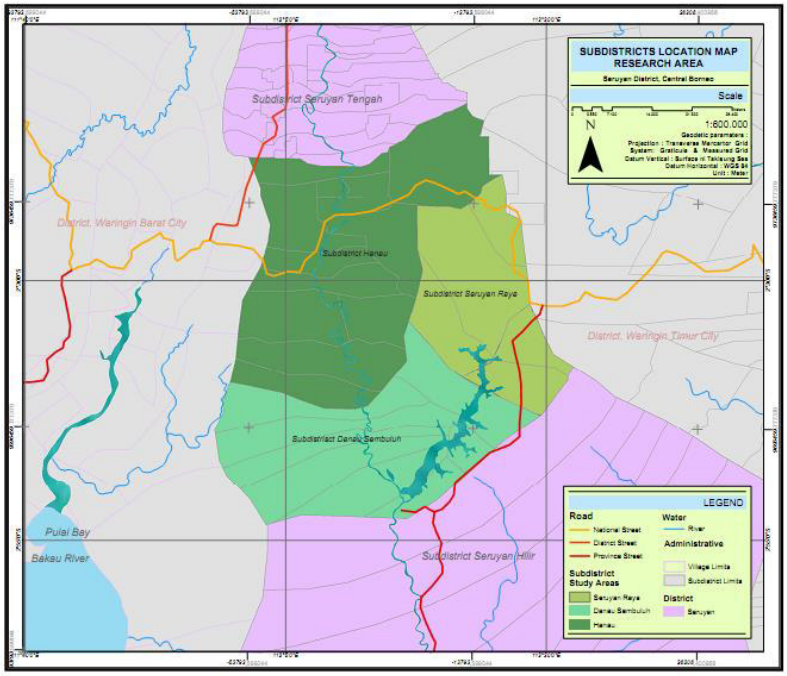

Figure 1. Location of Research

3.2 Data Collection Methods

The type of data collected in the form of primary data and secondary data. The collection of primary data collected through field surveys and direct interviews with respondents. Interviews were conducted with using tools such as questionnaires and recording devices. Interviews are useful to obtain data from the first hand (primary) (Singarimbun and Effendi, 2006; Usman and Akbar, 2014). The primary data using questionnaires have advantages, including a list of questions can be written carefully, allowing many people involved, and allow it to interact between researcher and respondent. Primary data needed to optimize the strategy of oil palm

plantations sustainably obtained from the summaries of the two previous research purposes.
The method used in this study Slovin to determine the sample size. Slovin method used in this study with a precision of between 5-10% with the calculation according to Siegel (1990) and Setiawan (2007) as follows.

$$n = \frac{N}{1 + N(e)^2}$$

Description:
n = Samples number of non-governmental oil palm farmers.
N = Total population of non-governmental oil palm farmers.
e = Error rate 7.5%
Based on the results of the calculation of the obtained amount of research sample of 120 farmers non-governmental oil derived from each of the villages in the Seruyan Regency. The collection of secondary data that examines or study some source documents that include: data relevant to this research, including previous research that is relevant to this study. Secondary data were obtained from the Central Statistics Agency (BPS) of Seruyan Regency (The Data of plantation area and non-governmental palm oil production), the Agriculture Agency (identity, extensive distribution and ownership oil palm plantations non-governmental), the Office of the village (population and other compliance data) etc.

3.3 Data Analysis
A methods of financial analysis is necessary to identify the benefits and costs of oil palm plantations covering the cost benefits of financial, environmental and socio-economic. Variable benefits and costs of oil palm plantations in this study refers to Pahan (2008) and Manurung (2001). Basically the cost-benefit analysis is an analysis of comparing the total flow of benefits and the total cost flow is sacrificed. In this analysis there are two (2) fundamental aspects to be compared current benefits and cost flow. Benefit flows formed by several components of the benefits derived from investment activities or projects implemented. The same is associated with the current fees established by several cost components are derived from investment activities or projects implemented. Cost benefit calculations are based on the results obtained from Net Present Value (NPV), the analysis of the Benefit Cost Ratio (B / C Ratio) and Internal Rate of Return (IRR).

Results and Discussion
Cost-benefit analysis includes a cost-benefit financial, environmental, social, economic and total. Cost-benefit analysis in the Seruyan Regency done in order to know the appropriateness of the oil palm plantation activities conducted in the Seruyan Regency by taking into account the financial aspects, the environmental and socio-economic. Here are outcome cost-benefit calculation of total oil palm plantations that integrates aspects of financial, environmental and socio-economic in Seruyan Regency.
Table 3. Benefit-cost financial, environmental and social economy as a whole in the Seruyan Regency

Component	Financial	Environment	Socio Economic	Total
Benefits total	19.044.275.000	46.183.340.000	12.250.820.000	60.530.035.000
Cost total	9.137.613.089	34.776.000.000	5.502.000.000	49.415.613.089
NPV	8.175.364.184	7.208.854.545	5.635.109.091	5.611.691.456
B/C Ratio	2,084	1,328	2,227	1,225
IRR	108,416	32,802	122,661	22,492

Source: Primary Data Analysis, 2016.

The results of calculations have shown that partial financial aspects, social and economic environment capable provides significant benefit to benefit. A third consideration this aspect is often a justification farmers and governments for the conversion of forests into oil palm plantations. Based on the outcome the calculation of the total cost-benefit analysis, it can be seen that the total NPV calculation has produced a value of Rp. 5.611.691.456,00. This figure explicitly indicates that the activities of oil palm plantations provide benefits total which is very significant to the people in the Seruyan Regency.

Based on the financial cost-benefit analysis as the numbers of calculations are listed in Table 1 it can be said that the activities of oil palm plantations on land in the Seruyan Regency is feasible. These results demonstrated by the calculation of NPV which is positive with a rate of Rp 8.175.364.184,00 and the B/C ratio 2,084. This may imply that the value of income received by the public in the Seruyan Regency amounted to Rp 8.175.364.184,00. The NPV value worth more than zero so that oil palm plantations non-governmental in Seruyan Regency will benefit. By Knowing the B/C ratio of oil palm plantations of non-governmental in the Seruyan Regency means that for every Rp.100 fee charged to oil palm plantations can be obtained values more than doubled a number of Rp 208,4 benefits or income. B/C ratio is greater than one, then the non-governmental oil palm plantations in the Seruyan Regency will be profitable. Based on the calculation of IRR the financial

cost-benefit gained tremendous value by the number 108,416%. Simply put the IRR can be interpreted that non-governmental oil palm plantations in the Seruyan Regency able to generate a substantial income with an average of 108,416% of capital invested during the life of the project or plantation activities. IRR of oil palm plantations in the Seruyan Regency many-fold larger than bank lending rate of 10% so it can be interpreted palm plantation activity is highly advantageous.

Cost-benefit analysis explicitly from a cost-benefit aspect of the environment, shows that the NPV calculation results benefits provided greater oil palm plantations compared to the value of the loss and environmental impact caused. NPV revenues from environmental aspects of oil palm plantation activities in the Seruyan Regency amounted Rp 7.208.854.545,00 serta dengan B/C ratio sebesar 1,328. This may imply that the value of income received by the public in the Seruyan Regency of their oil palm plantation activities amounted Rp 7.208.854.545,00. The NPV value is worth more than zero so that the oil palm plantations non-governmental in Seruyan Regency will benefit. By looking at the B/C ratio of non-governmental oil palm plantations Seruyan Regency valued at more than one, means that for every Rp.100 fee is charged on palm oil plantations can be obtained Rp. 132,8 benefits or income. B/C ratio is more than one then the non-governmental oil palm plantations in the Seruyan Regency will be profitable. Based on the calculation of IRR the environmental cost-benefit values obtained relatively large number of 32,802%. Simply put the IRR can be interpreted that non-governmental oil palm plantations in the Seruyan Regency able to produce average income amounted to 32,802% of stock implanted during the age of oil palm plantation project or activity. IRR of oil palm plantations in the Seruyan Regency much larger than bank lending rate of 10% so it can be interpreted palm plantation activity is highly advantageous.

Based on a cost-benefit aspects of socio-economic, NPV calculation results have produced a value of Rp 5.635.109.091,00. This figure explicitly shows that oil palm plantation activities provide social and economic benefits are very significant to the community in the Seruyan Regency. Conclusions from the socio-economic NPV calculation is in line with public perception and government which considers the activities of oil palm plantation will have a positive impact for community socio-economic. These results are shown by the calculation of NPV is positive with numbers amounted to Rp 5.635.109.091,00 and the B/C ratio 2,227. This may imply that the value of income received by the public in the Seruyan Regency amounted to Rp 5.635.109.091,00. The NPV value is worth more than zero to non-governmental oil palm plantations in Seruyan Regency will be profitable. see the value B/C ratio non-governmental oil palm plantations in the Seruyan Regency means that for every Rp. 100 fee charged to oil palm plantations can be obtained Rp 222,7 benefits or income. B / C ratio is greater than one, then the non-governmental community palm oil plantations in Seruyan Regency will be very profitable.
Based on the calculation of IRR the socio-economic cost-benefit gained tremendous value amounted 122,661%. In simple terms this means the value of IRR that non-governmental oil palm plantations n in the Seruyan Regency able to produce income average amounted to 122.661% of capital implanted over the age of oil palm plantation project or activity. IRR of oil palm plantations in the Seruyan Regency much larger than the tribe bank lending rate of 10% so it can be interpreted palm plantation activity is highly advantageous. Oil palm plantation activities to provide benefits to the community. The most important benefit is the oil palm plantation activities will absorb labor. The result of the calculation of the total cost-benefit analysis NPV calculation results are positive amounted to Rp 5.611.691.456,00 and the B/C ratio 1,225. This may imply that the value of income received by the public in the Seruyan Regency amounted to Rp 5.611.691.456,00. The NPV value is worth more than zero so that the non-governmental oil palm plantations in Seruyan Regency will be profitable. See the B/C ratio of non-governmental oil palm plantations in the Seruyan Regency means that for every Rp. 100 fee charged to oil palm plantations can be obtained Rp 122.5 benefit or income. B/C ratio is greater than one, then the non-governmental community palm plantations in Seruyan Regency will be profitable. Based on the outcome the calculation of the IRR on cost-benefit financially obtained value of 22.492%. Simply put the IRR can be interpreted that non-governmental oil palm plantations in the Seruyan Regency capable of generating an average revenue amounted to 22.492% of the capital invested during the life of the project or plantation activities. IRR of oil palm plantations in the village of Seruyan Regency greater than bank lending rate of 10% so that it can be interpreted palm plantation activities are profitable.

Feasibility calculations in this study were integrated by calculating economic, social and environmental. This concept is referred to the concept of externalities. According Mangkoesoebroto (1998) explains that the conceptual externalities are benefits or costs that are borne of the parties for their consumption or production activities conducted by other parties. In view of the analysis relating to the environment, then externalities include calculation of benefits and costs of environmental impacts and the whole spillovers arising from an activity. Externalities both positive if it is able to provide additional benefits or so-called positive externality, and can also arising from the impact that environmental burdens or known as negative externalities. In line with the statement, Hufschmids, et.al (1992) explains that the externalities that arise often are not considered and are not counted in the component to conduct a feasibility analysis of an activity. So generally, the impact of environmental damage because to the inclusion of externalities aspects causing a very large cost.

Therefore, externalities should be included in the analysis to determine the feasibility of a good activity performed by the government or private parties (Goldman, 1977). The concept of externalities is also implicitly is a basic foundation of opportunity cost analysis to determine the choice of one activity if the activities are considered was not done.

Conclusion

Based on calculations performed on the feasibility of a cost-benefit aspect of financial, environmental and socio-economic result positive overall calculation. The results of these calculations indicate that oil palm plantations are held by non-governmental in the Seruyan Regency is feasible in financial aspects, the environmental and socio-economic. Given these results can be used as a benchmark community to be submitted to the local government to be given clear authority to convert forest land into oil palm plantations. So that will give good impact on the economy of the community in the Seruyan Regency. In addition, the government also plays an important role in preserving the eco-system of land by providing counseling related to land management and providing the facilities for farmers of oil palm plantations.

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