INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES

Vol 4, Issue 11, (2014) E-ISSN: 2222-6990

Analysis of Effect of Plant Towards the Societal Welfare: A Case in PT. PIR Hutani Lestari

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DOI Link: http://dx.doi.org/10.6007/IJARBSS/v4-i11/1277

Published Date: 12 November 2014

Abstract
The forest damages caused by many factors forests' fires, illegal logging and shifting cultivation. This negatively impacts to the large of ecological damage, decreased biodiversity, declining economic value of forests and declining soil productivity, climate change globally. The impact of smoke from forest fires also damage the public health, disrupt ground transportation, rivers, lakes, sea and air. The efforts to overcome this issue is by the development of forest on private land which is called community forests or PIR (Nucleus Estate Company) or farmer that will make people feel valued and can help to improve the economy so that people are not overwhelmed with jealousy.

The findings of this study stated the land area factor significantly influence the societal welfare by 2.948; the production factor has a significant effect on the societal welfare by 3.859; the contributing factor has a significant effect on the societal welfare by 5.149. Meanwhile, the land area, production and supporting factors all together have a significant effect on the societal welfare at 0.753, which means that changes in societal welfare can be explained from changes in land area, production and supporting factors at 75.3%.
Keyword: The Effect of PIR Plant, Welfare, Regional Development

1. Introduction

Forests are a natural resource that is invaluable because it contains biodiversity as a source of germplasm, the source of timber and non-timber, water management, flood prevention and erosion and soil fertility, biological protection for the interests of science, culture, recreation, tourism and so on. Because of the use of forests, their protection has been set in the Law No. 5 of 1990, Act No. 23 of 1997, Law No. 41 of 1999, PP No. 28 of 1985, but the disruption of forest resources continue even increasing in intensity (Saharjo and Husaeni, 1998).

One attempt to overcome this problem is by the development of forest on private land which is called community forests. In the early 1960s, community forests have grown in Indonesia, particularly in Java and some areas outside Java, with the purpose of reforestation, soil and water conservation and environmental improvements. In addition, the development is

directed also to reach the goal of improving the socio-economic or prosperity of rural communities and the needs of industrial raw materials (Department of Forestry, 1996).

This situation was also experienced by PT. PIR Hutan Lestari in the subdistrict of Parmonangan in North Tapanuli district, so the company is very keen to establish communication with the government and local communities to participate in the forestry development. Preferred plant is eucalyptus which is the main ingredient of PT Toba Pulp Lestari engaged in the pulp industry.

PT. PIR Hutani Lestari has land in North Sumatra province which reaches a total area of approximately 7162.80 hectares. Based on the initial survey the land and the people who have developed the eucalyptus plant is earn about 10-20 million rupiah for each hectare of crop. While in the sub-district of Parmonangan, the communities who are managing the forest lands in cooperation with PT Lestari Hutani PIR having a land area of 378 hectares. Cooperation between the communities is limited to the provision of working capital to develop plants of PT.PIR Hutani Lestari, through the seedlings which developed by PT. PIR Hutani Lestari that given to the public to be planted on their respective lands, then the people will take care of the plants, and when it's time to harvest the plants, the PT. PIR Hutani Lestari will buy all of the products at a price agreed upon at the beginning of the cooperation.

Given the importance of forests in regional development in North Tapanuli disrict, thus the investigation on the effect of plant of PT. PIR Hutani Lestari for the societal welfare is crucial. Therefore, there are issues arise as the problems in this study, namely:

1. How does the influence of land plants of PT. PIR Hutani Lestari towards the societal welfare.
2. How does the production of plants Lestari of PT PIR Hutani Lestari towards the societal welfare.
3. What are the supporting factors influence the plants of PT. PIR Hutani Lestari towards the societal welfare.
4. How does the influence of land area, production and supporting factors of PT. PIR Hutani Lestari towards the societal welfare.

2. Literature Review

2.1 Forest

A forest is a life forms that spread throughout the world and can be found both in the tropics and cold climates, in lowland and mountain, on small islands or in large continents (Dove, 1998). It is a home to millions of people to survive in the jungle of forest that dependent on both physically and spiritually. These forests are also home to two-thirds of the species of plants and animals in the world. That means hundreds of thousands of different plant species and millions of insect - their future also depends on ancient forests (Supriya, 2002). This relate to environmental systems that are important to life on earth. Its help stabilize the world's climate by storing large amounts of carbon stored otherwise would contribute to climate change (Soeriaatmadja, 1997).

The forest as an ecosystem not only save natural resources such as timber, but still a lot of potential non-timber that can be taken by society through the cultivation of agricultural crops on forest lands. It plays an important role in a variety of things such as a water source,

producing oxygen, where millions live flora and fauna, the role of environmental balance and prevent global warming. Also it functioned as the water provider for the life that become important area of immense growth for plants (Supriya, 2002).

A set of trees is considered forest if it is able to create a climate and environmental conditions of local specialties, which is different than in the outer regions. If we are in a tropical rain forest, it was like entering into a steam room that is warm and humid, and in contrast to the surrounding farming areas. This means that all the other plants and animals, as well as various other non-living elements including integral constituent parts of the forest (Rahmawaty, 2004).

2.2 Nucleus Estate Company (PIR)

The Nucleus Estate Company (PIR) is expected to be promoted as it is considered to be one of the suppressor of land conflicts between communities and entrepreneurs that lately are increasing. "This PIR's program will make people and farmers feel valued that can help to improve the economy so that people are not overwhelmed with a sense of jealousy or easily incited certain groups on certain purposes anyway (Ritonga, 2009).

The agrarian reform carried out by placing the land as a factor of production controlled by the state for the greatest welfare of the people, not for profit optimization and benefits for people, a person or entity referred to the large companies, state-owned national or foreign-owned and joint venture (Ritonga , 2009).The PIR has been growing rapidly in Indonesia, so it is always regarded as a hero in the alleviation of poverty can increase state revenue. But reality is not always the same as what is actually experienced by the people, or more specifically members of the PIR. In addition to the hope and optimism for the success of a project of this PIR, some problems arise in its application. (Nasution, 2012)

The problem that very disturbing to the smooth implementation of the PIR, is a frequent violation of the agreement conducted by both the company and farmers, unclear rules that must be agreed upon, and does not control the functioning of the institution that is assigned to it. Similarly with the technology transfer issues that running inappropriately lead to lower productivity level on gardens, especially at the stage of preparation and land clearing. Widespread public discontent over the distribution of land can give rise to jealousy and trigger conflict among the people themselves, as well as increasing economic inequality in the society. In addition, the farmer background is so diverse that often shock and has cultural leap, farmers do not master the production technology which determine the level of production and productivity of the land. Commodity option which based on the international market is ignoring the benefit of the interests and wishes of farmers, thus contribute to the complexity of relationships of the organization and PIR production (Mohadi, 2004).

Another problem is the provision of commodity prices. The commodity price information is unclear and always changing, and a closed market structure as the PIR internal problems. The unequal distribution of benefits and charging all the production and organization costs to the farmers are the phenomenon that always arise in the implementation of the PIR program in Indonesia (Nasution, 2012). Besides transportation problems that caused late in transporting the commodity products, late payments, and other organizations' relationships at the farm level often cause of conflicts among farmers.

2.3 Plant of PT PIR Hutani Lestari

The existance of PT PIR Hutani Lestari is for societal welfare where the community will involve in managing the forest with timber production as well as the raw material of the pulp mill.

This company and public employment system is more tangible as partnerships and regulated by the Decree of the Governor of North Sumatra 522/799 No. 1989 on the Implementation Guidelines for Development of Industrial Forest Plantation of Nucleus Estate Company in North Sumatra Province. The lands are owned by the public, while the eucalyptus trees and all plant operating costs was entirely borne PT PIR Hutani Lestari. Then logging, transporting and re-planting is done by the community to get to the pulp mill, and the PT TPL company will pay the prevailing price. This parnership system has mutually beneficial results where the company assisted in the management and maintenance of the forest as the source of raw materials, while the public gets the job and the land is not abandoned, and became a source of additional income for the family (Aek Nauli Forestry Research Institute, 2009).

PT PIR Hutani Lestari has land in North Sumatra province reaches a total area of approximately 7162.80 hectares. This company aimed to empower the community's forests while improving the societal welfare and in the regional development in North Tapanuli. Given the importance of forests in regional development, it needs to conduct the investigation on the effect of plant of PT PIR Hutani Lestari towards the societal welfare of the community in the subdistrict of Parmonangan in North Tapanuli.

2.4 The Societal Welfare.

According to Midgley (1995), the social welfare conditions are created on a compromise of three elements. First, the extent of social problems is set; secondly, the extent to which needs are met; thirdly, the extent to which the opportunity improves the standard of living can be provided. According to Segel and Bruzy (1998), the welfare of society is prosperous condition of a society that consists of health, economic circumstances, happiness and quality of life.

In accordance with Act No. 13 of 1998 on the provision of basic public welfare, it gives a definition of public welfare as a system of life and livelihood of the people both materially and spiritually overwhelmed by fear, safety and end-of decency and peace of mind that makes it possible for each community to conduct businesses on discovery physical needs and social as well as possible for themselves, their families and communities with high uphold human rights and obligations in accordance with Pancasila (Indonesian state philosophy).

The social welfare is a social enterprise that is organized and has the main goal to improve people's lives based on social context. It includes elements of policy and services in a broad sense associated with a variety of life in society, such as income, social security, health, housing, education, recreation, and culture. This is asserted by Kamerman and Kahn (1979) stated that there are 6 components or subsystems and social welfare, namely: (1) education, (2) health, (3) maintenance of income, (4) employment services, (5) housing, (6) personal social services.

2.5 Conceptual Framework

Below is the conceptual framework:

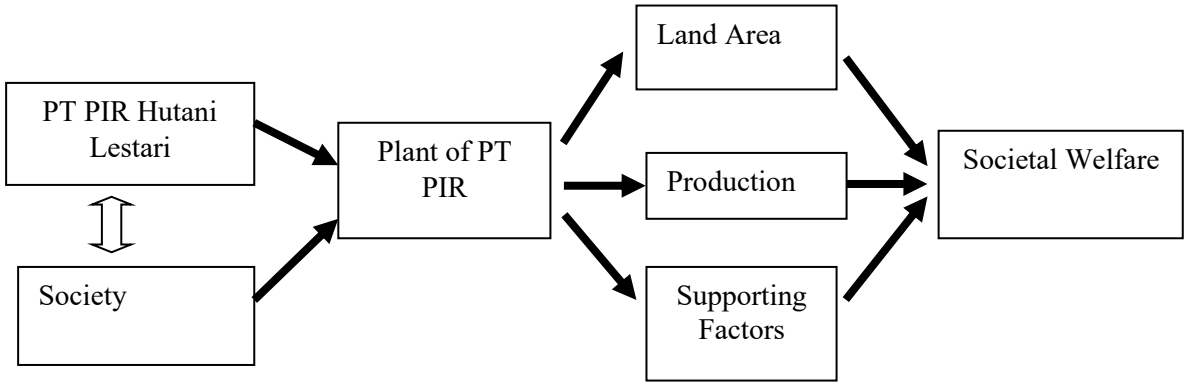

Figure 1. Conceptual Framework

2.6 Hypothesis

Based on the argument on the existing literature, the hypothesis of this study are:

1. Factor of land area has significant impact on societal welfare
2. Factors of production has significant impact on societal welfare
3. Factors supporting has a significant effect on societal welfare
4. Factors of land area, production, motivating together affect the societal welfare

3. Methodology

This is a survey research with the population of all the people who participated in the PIR (Nucleus Estate Company) as many as 75 heads of household in the subdistrict of Parmonangan in North Tapanuli. This study uses primary data gathered from government, companies who purchase the plants' products of eucaliptus, society, while the secondary data collected from the district government of North Tapanuli, BPS (Central Agency of Statistics), Head of the subdistrict/villages.

3.1 Variables and Operational of Definitions

The definitions are includes:

a. Societal welfare is the welfare enjoyed through the views of income, health and education
b. Land area is land used by the respondents to grow the plants of PT PIR Hutani Lestari (ha)
c. Production is the number of production plants of PT PIR Hutani Lestari each hectare (tonnes)
d. Factors supporting infrastructure that is received by respondents in managing the development of the plant of PT PIR Hutani Lestari (tonnes/ha)

3.2 Data Collection Methods

Data collection techniques used are; the primary data will be obtained from the surveys and interviews with respondents and observations in the field, while the data obtained from the review of the literature, reports, documents that has to do with socio-economic and cultural environment will be as secondary data.

3.3 Data Analysis

To answer the above problems of the study, the multiple linier regression is used to analyze the data.

The multiple linier regression equation is:

$$Y = a_o + a_1X_1 + a_2X_2 + a_3X_3$$

Where: Y : Societal Welfare
: Land area (ha) X_1
: Production (ton) X_2
: Supporting Factors (ton/ha) X_3
: constant a_o
: regression coefficient a_1-----a_3

To all the samples are given questionnaires. were asked about the influence of plants pf PT PIR Hutani Lestari on the societal welfare in the subdistrict of Parmonangan in North Tapanuli. The societal welfare is judged by the level of education that is financed from the plant and health to each of respondents who are answering 'Strongly agree' (ST); to be rated 5, 'Agree' (S); to be rated 4, 'Moderated Agree' (CS); to be rated 3, 'Disagree' (TS); to be rated 2, 'Strongly Disagree' (STS); to be rated 1, then the data are tabulated in the table and analyze using SPSS software application. Furthermore, by using multiple linear regression analysis through the SPSS programs, the independent variables that has an effect or otherwise are will be known. Then, this the analysis of t and F test will be conducted.

4. Analysis And Discussion

4.1 Demographic

The number of residents in the District of Parmonangan in 2011 is as much as 13,200 inhabitants, consisted of 6,524 men and 6,676 women's lives. Based on population data by age group, it is known that most of the population in the District as many as 6,642 people (50.32%) belong to the productive age (age 15-64 years).

4.2 The Use of Land

The subdistrict of Parmonangan is an agricultural area with the use of main land of dry and wetlands as as shown in Table 4.1 below.

Table 1.
The Use of Land in Subdistrict of Parmonangan (Ha), 2013

No.	Villages	Wet Soil	Dry Soil	Building	Others	Total
1	Manalu Purba	25	570	36	1.239	1.870
2	Manalu Dolok	65	437	49	2.524	3.075
3	Manalu	48	405	49	280	782
4	Huta Julu	62	598	42	2.393	3.095
5	Aek Raja	99	295	36	1.545	1.975
6	Huta Tinggi	127	280	45	2.448	2.900
7	Lobu Suhut	97	200	30	910	1.237
8	Sisordak	252	108	30	855	1.245
9	Hutatua	35	573	18	1.339	1.965
10	Pertengahan	25	565	36	1.534	2.160

11	Huta Julu Parbalik	13	461	19	1.158	1.651
12	Horison Ranggitgit	12	435	22	951	1.420
13	Purba Dolok	15	485	21	709	1.230
14	Batuarimo	10	380	17	723	1.130
	Total	885	5.792	450	18.608	25.735

Source: Subdistrict Parmonangan in Figures, 2013.

4.3 Respondents' Data

Here are described some of the characteristics of the respondents, which is based on age, education, number of family members, average income and private forest land area cultivated and the public response towards the supporting factors and societal welfare. It is revealed that the majority of respondents aged 55 years and under as many as 80%. This shows that the respondents are still relatively in young productive age; while most of the respondents (42.67%) possessed a junior high school education, then as much as 37.33% are having senior high school education. Based on the number of family members, it is known that most of the respondents (50.67%) were having family members as much as 4-6 people, then as much as 38.67% with the number of family members of 1-3 people.

Based on the people who cultivated forest area, the majority of respondents (41.33%) are seeking the public forest with an area 2.1 to 3.0 ha, then as many as 32% with an area of 3.1 to 4.0 ha. The land area will affect the amount of production forest (timber) received by the public. Meanwhile, based on revenue, as many as 11 respondents (16.6%) earn the income up to Rp. 2 million (Rupiah) per month, then as many as 48 respondents (64.0%) with an income of Rp. 2 to 2.5 million per month, and as many as 16 respondents with the incomes of > Rp. 2.5 million per month. It is associated with the main source of livelihood is as a farmer, where income received from community forest is a sideline venture.

4.4 Respondents' Responses

Below is the summary of respondents' response on the questions related to the researches' variables:

Table 2.
Respondents' Responses on Supporting Factors

No.	Questions	Answer				
		SS	S	CS	TS	STS
1.	PIR provides the seeds according to the needs of the community.	9.3	56.0	34.7	0.0	0.0
2.	PIR provides assistance in managing forest plants.	14.7	56.0	28.0	1.3	0.0
3.	The entire cost of production, starting from seed, planting, and maintenance is the responsibility of PIR	18.7	56.0	25.3	0.0	0.0
4.	PIR cooperation pattern quite beneficial for the local community.	17.3	50.7	29.3	2.7	0.0
5.	The presence of forest management with PIR pattern is used to provide convenience to the public.	0.0	57.3	42.7	0.0	0.0

6.	PIR also received support from the local government for their benefits to society.	2.7	73.3	24.0	0.0	0.0

Most of the respondents agreed and strongly agreed that in the PIR program provides the seeds according to the needs of the community. This is related to the type of timber needed by PT. TPL for the pulp industry, which is a type of eucalyptus, thus all PIR participants were also given the seeds in accordance with the needs of the community. Furthermore, most respondents stated that they also provide assistance in managing forest plants. To develop a community forest with this PIR program, they participate in managing the plant, so that trees can be planted to grow as expected to the needs of industry.

In terms of production costs, the majority of respondents agreed and strongly agreed that the entire cost of production, starting from seed, planting, and maintenance is the responsibility of the PIR. Therefore, the community feels that the pattern of cooperation PIR quite beneficial to the surrounding community. This is consistent with the answer to most of the respondents who agree and strongly agree. Thus the fact that the presence of forest management with PIR pattern simply provide convenience to the people.

Table 3.
Respondents' Responses on Societal Welfare

No.	Questions	Answer				
		SS	S	CS	TS	STS
1.	The PIR forests has increased the income of the people, especially the NES participants.	33.3	57.3	9.3	0.0	0.0
2.	The income received from the PIR is helpful for the family.	18.7	49.3	26.7	4.0	1.3
3.	With increasing family income through the PIR, family health costs can be overcome.	21.3	65.3	13.3	0.0	0.0
4.	With the PIR, the needs of family life becomes more secure.	21.3	68.0	9.3	1.3	0.0
5.	With increasing family income through the PIR, the cost of children's education can be overcome.	28.0	65.3	6.7	0.0	0.0

This PIR also received support from the local government for their benefits to society i.e the economics advantages as well as the environmental conservation. The neglected people's lands are critically can be used for PIR. Based on the findings, the PIR Plant has improved the income of the people. This is consistent with the answer to most of the respondents who agree and strongly agree. The increase in revenue derived from the PIR's participants. This income is in addition to the income from farming activities undertaken by the community, because PIR forest land in general is critical lands that can not be utilized for other crops. So with the PIR's forests, this further increases the economic value of the public land.

Revenue received from the PIR must be beneficial to the family, because every additional revenue will be used to meet the needs of the family. Therefore, most of the respondents agreed and strongly agreed that with increasing family income through the PIR, the cost of

family health can be addressed. Similarly, most of respondents stated that the PIR plant made family life becomes more secure. Then the respondents stated that with increasing family income through NES system, the cost of children's education can be overcome. Thus that plants of PT PIR Hutani Lestari carry the economic benefits which can be further used to meet the needs of both basic and social needs such as health and education.

Timber Production

All respondents of PIR participants in subdistrict of Parmonangan have been harvesting timber from their land. Type of timber that is grown only a type of eucalyptus which suit to the need of pulp industry of PT. TPL. The timber production generated by the public varies, according to the land area and the level of soil fertility.

Table 4.
Timber Production of Forest's Community of Subdistrict of Parmonangan

No.	Production (m^3/ha)	Frequency	%
1.	< 100	0	0.00
2.	101 – 200	15	20.00
3.	201 – 300	33	44.00
4.	301 – 400	22	29.30
5.	> 400	5	6.70
	Total	75	100,0

Source: Primary Data Obtained, 2013.

Most respondents (44%) obtain the timber production between 201-300 m^3/ ha, then as much as 29.30% with the production of timber 301-400 m^3/ ha. However, the timber production by community of PIR participants in the subdistrict of Parmonangan still below potential production of eucalyptus, which is about 435 m^3/ha after the 5 years old of plants. This is related to intensivity of forest management by communities which very different from the management of the company. In general, people are not really concern on the maintenance of forest plants, especially in terms of fertilizing and weeding.

4.5 Data Analysis

4.5.1 Effect of Plant's Size toward the Societal Welfare

Based on the analysis of the results obtained by the regression equation: Y = 4.024 + 0.600 X1 + 0.878 X2 + X3 0.504. Positive constant value of land area (X1) indicates that the societal welfare influenced by increased in land area. This means that the greater the forests' land area owned by the respondent, the more likely it is to prosper. It is proven with the t test of 2.948, while the t_{table} value (n = 75, α = 0.05) is 1.662, it can be concluded that t> t_{table}, thus reject the Ho which means there are significant means of land area on the level of societal welfare for the participant at the PT. PIR Hutani.

Table 5.
The effect of land area, production and supportng factors on the societal welfare of PIR participants.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.024	1.660		2.425	.018
	X1	.600	.204	.223	2.948	.004
	X2	.878	.228	.317	3.859	.000
	X3	.504	.098	.455	5.149	.000

a. Dependent Variable: Y

4.5.2 Effect of Plant's Production toward the Societal Welfare

Based on the analysis of the results obtained by the regression equation: Y = 4.024 + 0.600 X1 + 0.878 X2 + X3 0.504. Positive constant value of production (X2) indicates that the societal welfare influenced by increased in production. This means that the greater the forests' productions owned by the respondent, the more likely it is to prosper. It is proven with the t test of 3.859, while the t_{table} value (n = 75, α = 0.05) is 1.662, it can be concluded that t> t_{table}, thus reject the Ho which means there are significant means of production on the level of societal welfare for the participant at the PT. PIR Hutani.

4.5.3 Effect of Supporting Factors of Plant toward the Societal Welfare

Based on the analysis of the results obtained in the regression equation: Y = 4,024 + 0,600 X1 + 0.878 X2 + X3 0.504. The positive constant value of motivating factors (X3) showed that the societal welfare of the participants of the PIR Hutani Lestari in the subdistrict of Parmonangan influenced by increased production. This means that the greater the motivating factors of forest owned by the respondent, the more likely it is to prosper. This proven with the t test value of 5.149, while the t_{table} value (n = 75, α = 0.05) is 1.662. It can be concluded that t> t_{table}, thus reject Ho, means that the supporting factor has a significant effect to the level of societal welfare on the participants of PIR in subdistrict of Parmonangan.

4.5.4 Effect of Plant toward the Societal Welfare

The effect of plant on PT. PIR Hutani towards the societal welfare in the subdistrict of Parmonangan is analyzed using linear regression. The analysis shows the coefficient of determination (R^2) of 0.753, means that changes in societal welfare can be explained by changes in land use, production and supporting factors, at 75.3%. While the rest will be affected by other factors outside the parameters of this study. Below is the coefficient determinant (R^2) for the land area, production and supporting factos:

Table 6.
Coefficient Determinant of Land Area, Production and Supporting Factors

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.868[a]	.753	.743	1.19097

a. Predictors: (Constant), X3, X1, X2

Furthermore, based on the analysis of the F-test values obtained with significance 0.00 (> 0.05), means that the jointly variables of land area, production and supporting factors significantly influence the societal welfare of Plant participants on PT. PIR Hutani Lestari program in subdistrict of Parmonangan.

Table 7. F-test Result

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	307.640	3	102.547	72.297	.000[a]
	Residual	100.707	71	1.418		
	Total	408.347	74			

a. Predictors: (Constant), X3, X1, X2
b. Dependent Variable: Y

As depicted in table 7, the F values is 72.297 greater than F_{table} (n = 74, α = 0.05 is 7.74) which can be concluded that the land area, production and supporting factors are jointly have a significant effect on societal on the PIRs' participants. This result is consistent with Supriya (2002) which states that one purpose of the development of community forests is by increasing incomes in rural communities while enhancing well-being in an effort to alleviate poverty. The next economic goal is to create jobs, increase activity of venture and increase revenue for the country and empower rural communities. Thus th development on PT. PIR Hutani Lestari will provide a multiplier effect, in the form of employment opportunities in industry and business opportunities that arise in the presence of industrial activity.

Partially, all variables tha been analyzed have a significant effect on the societal welfare on the participants in the subdistrict of Parmonangan in North Tapanuli through PT. PIR Hutani Lestari with a positive influence. This means that if the land area, production and supporting factors increases, the societal welfare of participants of PT PIR Hutani Lestari in the subdistrict of Parmonangan in North Tapanuli will also increase, and vice versa. The following evidence analyzed based on the price of t value of land area of 2.948 while the t_{table} (n = 71, α = 0.05) is only 1.66, which can concluded that t> t_{table}. The price of t value of production is 3.859, while t_{table} (n = 71, α = 0.05) is only 1.66, which can be concluded that t> t_{table}. The price t value of supporting factor is 5.149, while t_{table} (n = 71, α = 0.05) is only 1.66, which can be concluded that t> t_{table}, so it is concluded that the partially each of the variables significantly affect the societal welfare of communities of PT PIR Hutani Lestari participants in the subdistrict of Parmonangan in North Tapanuli.

Based on the analysis of the results obtained by the regression equation, the constant positive value indicates that the societal welfare of the PT PIR Hutani Lestari participants in the subdistrict Parmonangan is increased. It is also seen that the greatest influence on the societal welfare of is the production. This is because the timber production will provide the incomes to the community which can be used to meet the needs of families.

5. Conclusion And Recommendation

Based on the results of a study, the conclusions are as follows:

1. Land size factor significantly influence the societal welfare of participants of PIR's plants in the subdistrict of Parmonangan.
2. The production factor hs a significant effect on the societal welfare of participants of PIR's plants in the subdistrict of Parmonangan.
3. The supporting factor has a significant effect on societal welfare of participants of PIR's plants in the subdistrict of Parmonangan.
4. The land area, production and supporting factors are jointly has a significant effect on societal welfare of participants PIR's plants in the subdistrict of Parmonangan.
5. PT PIR Hutani Lestari will provide economic benefits to the surrounding community, so it will affect the economy of the region as a whole. Moreover, PT. PIR Hutani Lestari will simultaneously protect the environment and prevent degradation of natural resources. Thus plants of PT PIR Hutani Lestari affect the regional development in the subdistrict of Parmonangan in North Tapanuli.

In relation to the conclusion above, there are relevant suggestions given as follows:

1. Encourage the growth of management units on forest's community including the institutional development of cooperatives to address issues such as logging needs.
2. Need to integrate the presence forest's community into the regional plans and development, so that the existence of private forests are not threatened by physical development activities such as the expansion of roads, construction of public facilities, housing and so forth.
3. Need protection for the PIR plants from the fire and grazing disturbance which can damage the plant.

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