AN ANALYSIS ON FINANCIAL FARMING EFFORT WORTHINESS OF KEPOK BANANA (*Musa paradisiaca* L. cv. Kepok) IN MALINAU SEBERANG VILLAGE, SUB – DISTRICT NORTH MALINAU, MALINAU DISTRICT.

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Abstract

Banana is a famous horticulture plant among the Indonesian. Kepok Banana is one of tropical fruits that have a high potential for intensively managed agri - oriented. In Malinau Seberang village, farming kepok banana has been done since a long time ago, but the farmers is not able to count the costs and benefits obtained from the activity, and it is interesting to be researched, does kepok banana financially worthy to cultivate. Methods of the research is financial analysis to know the Net Present Value (NPV), Net Benefit Cost Ratio (Net B/C Ratio) and Internal Rate of Return (IRR). The data uses primary data and secondary data. The research shows a development of kepok banana farming in Malinau Seberang Village, North Malinau sub – district, Malinau District, East Kalimantan that can be categorized as a viable farms to be developed. This is indicated by Net Present Value (NPV) at 12% - 20%. It shows a positive value at Rp.12.370.733,96 - Rp. 2.196.519,05 where NPV>1, Net B/C ratio at 12% is 1,32 so Net B/C ratio>1, and IRR at 12% is 22,48% so IRR>12%. Each of these indicates a fulfillment of a developing farming financial of banana, especially kepok banana.

Keywords*: Financial, Worthiness, Kepok Banana, Malinau Seberang Village.*

Introduction

Bananas as the horticultural crops includes to the tropical fruit that have a high potential for intensively managed agribusiness oriented. By applying the right technology can provide high profits and compete with other plants. Especially at this time bananas have entered the ranks of non-oil export commodities which may contribute to get high foreign exchange earnings. Therefore, the development of banana plants should receive priority. According Soekartawi (1990), banana agribusiness development has the high potential economic and high social, especially in an effort to increase the income of farmers and the country, improvement of the nutrition of the society, expansion of employment and business, the development of agribusiness and agro-industry, the increase in exports, and the maintenance of environmental quality.

Favorable factor for East Kalimantan, particularly in Malinau to develop banana agribusiness is the availability of land resources (land) which is still vast and fertile,

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climate suitability, potential labor (human resources) accounted for much, and more production opportunities open wide.

The data of banana production in East Kalimantan since 2006 continues to increase, although the increase is not too significant. Banana production of East Kalimantan in 2006 totaled 73 133 tons, 2007 increased to 74 179 tons and 2008 total production increased to 77 081 tons.

Although the demand for bananas increases, but the productivity and national commodity production is still low. One of the causes is the management of the banana which is limited as the garden plant or smallholders are less intensively managed in agribusiness scale, whereas this banana farming is good enough to be developed considering the plant is classified as commercial and has bright prospect. Judging from the lack of the ability of farmers to cultivate, organize and use of production factors effectively and efficiently, this may caused by less attention and learn production facilities use of the farmer and the lack of mastery, especially in the management of preparation of bookkeeping farming to see if they make a profit or not (adiwilaga, 1982).

Based on the description above we need to hold a feasibility analysis on a banana kepok farm to know whether the farm that has been implemented is financially viable so it can be developed.

Research Objectives

The research was done in order to determine the financial feasibility of a banana kepok farm in the Malinau Seberang Village Northern Malinau District, Malinau Region.

Methodology

Sampling Methods

The sampling method in this research uses saturation sampling method or by census. The number of banana farmers in the Seberang Malinau Village is 15 farmers. According to Kartono (1990), that if a population of 10-100, then should be taken the calculation in the census or 100%. The census is a way of collecting data if all elements of the population are investigated one by one.

Data Analysis Methods

In this research, the data were analyzed using three step of investment, (Gray *et al.*, 1993) namely:

1. *Net Present Value* (NPV). NPV is the difference between the present value of profits to the present value of costs, used in order to determine the magnitude of profits achieved in the future.

$$NPV = \sum_{t=1}^{n} \frac{B_t - C_t}{(1 + i)^t}$$

Rule-making:
NPV > 0 → farms declared eligible for commercialized
NPV < 0 → farms declared unfit for commercialized
NPV = 0 → means the farm is exactly returning as *Social Opportunity Cost of Capital*.

Information:
Bt = Gross social profits in year t;
Ct = gross social cost in year t;
n = banana farm economical age
i = interest rate;
t = year.

2. *Net Benefit Cost Ratio* (Net B/C). Net B / C is the ratio between profits and costs, at first cost is greater than the benefit so the Net B / C negative, then next years the benefit is greater than the costs so that the Net B / C positive.

$$Net\ B/C = \frac{\sum PV\ Net\ B\ positive}{\sum PV\ Net\ B\ Negative} = \frac{\overline{B}}{\overline{C}}$$

Rule-making:
Net B / C > 1 → means NPV positive and NPV farm declared eligible for commercialized
Net B / C < 1 → means NPV negative and NPV farm declared unfit for commercialized
Net B / C = 1 → means NPV is 0

3. *Internal Rate of Return* (IRR). IRR shows the ability of a project to produce a return or profit level that can be achieved.

$$IRR = i' + \frac{NPV'}{NPV' - NPV''}(i'' - i')$$

Rule-making:
IRR ≥ i → NPV ≥ 0 means that the farm declared eligible for commercialized
IRR < i → NPV < 0 means that the farm declared unfit for commercialized

Information:
NPV' = Net Present Value positive;
NPV'' = Net Present Value negative;
i' = discount rate produces NPV positive;
i'' = discount rate produces NPV negative.

Result and Discussions

Cost of Investment

Haming and Basalamah (2003), states that the investment cost is the basic costs incurred at the beginning of the farm, consisting of: Land, land clearing (slashing costs, and making holes), and the seedling cost. The cost of investment in banana cultivation is issued only in year-0. In detail, the total investment costs incurred by farmers in the Malinau Seberang Village respondents can be seen in the table below:

Table 1. The Average Total of Investment Costs Excluded by Respondents in the Malinau Seberang Village (Period 5 Years)

Description	Rp/year
Labor (*Land clearing)*	413.333,33
Seeds	445.000,00
Depreciation of equipment	77.377,78
Price of land	10.766.666,67
Number	11.702.377,78

Sources: Primary Data Processing, 2010.

Table 2. The Average Total of Investment Cost-Per Hectare Excluded by Respondents in the Malinau Seberang Village (Period 5 Years)

Description	Rp/year/ha
Labor (*Land clearing*)	1.304.000,00
Seeds	1.300.000,00
Depreciation of equipment	254.694,45
Price of land	32.800.000,00
Number	35.658.694,45

Sources: Primary Data Processing, 2010.

Land preparation activities (*land clearing*) is done by family labor, but also to the person hired by the daily system. The costs incurred for the processing of this land was Rp. 6.200.000,00 with an average of Rp. 413.333,33 respondent[-1]. The activities of the land preparation include land clearing, harvesting, chopping, drying, burning until the land is clean, and making holes. Some seeds used by the respondent farmers provided by

themselves to do the graftings and some farmers buy seeds from the other banana farmers with seed cost Rp 1.500,00 seeds[-1] . Seed costs incurred by banana farmer respondents were Rp. 6.600.000,00 with an average Rp. 440.000,00 Respondent [-1].

Depreciation of equipment is depreciation of equipment used for land preparation (*land clearing*). The equipment depreciation costs incurred by the respondent farmers were Rp. 1.160.666,67 with an average Rp 77.377,78 Respondents [-1.]

The cost of land is intended in this study is the cost incurred for the purchase of land owned by the farmer respondents. Land costs incurred by the 15 respondents in the Malinau Seberang Village were Rp 161.500.000,00 with an average Rp 10.766.666,67 Respondents[-1].

Production Costs

According to Daniel (2004), the cost of production is the compensation received by owners of factors of production, or the costs incurred by farmers in the production process both cash and non cash. The average production costs incurred by the 15 banana respondents farmers in the year were Rp 1.385.111,12 or Rp 4.260.111,12 ha^{-1} which started in year-1.

Income and Profits

According to Mosher (1991), farm income is a product that is expressed in the form of cash before it is deducted by the costs incurred during farming activities. Based on the results of 15 respondents in the Malinau Seberang Village, the banana production began in year-1 but the maximum production in year-2, those are 37.000 bunches of banana in year-1 with an average of 2.467 bunches of banana respondents[-1] each year. The selling price in the research area is Rp 3.000,00 bunch of banana[-1]. Thus the total income of respondents in the study area in one year is Rp 111.000.000,00 with an average Rp 7.400.000,00 respondents[-1] or Rp 343.500.000,00 ha^{-1} with an average of income Rp 22.900.000,00 ha^{-1}respondents[-1].

The profits of banana farming got from the income deducted by the production costs (*explicit and implicit*). The profits which is got by 15 farmers in the Malinau seberang Village based on the calculation is Rp 6.014.888,89 respondents with an average of income Rp 400.992,59 respondents[-1] or Rp 18.639.888,88 ha^{-1}.

To find out whether the banana kepok cultivation by farmers in the Malinau Seberang Village Northern Malinau District, Malinau Region is feasible or not can be seen from the results of data analysis using investment criteria, these are *Net Present Value* (NPV)*, Net Benefit Cost Ratio* (Net B/C ratio), *and Internal Rate of Return* (IRR) (Ibrahim, 2003).

Based on the calculation of data analysis (table 3), it shows that the value of NPV, Net B/C ratio, and IRR are:

− *Net Present Value* (NPV). NPV values obtained from the calculation which is the difference of the present value positive with a negative present value in the discount factor at an interest rate 12% to 20% NPV shows the positive value. The NPV value at an interest rate 12% reach to Rp 12.370.733,96, at an interest rate 20% the NPV value is Rp 2.196.519,05 and at an interest rate 24% the NPV showed a negative value Rp 1.790.722,97 which means that the business of planting bananas at an interest rate 12% - 20% in the Malinau Seberang Village Northern Malinau District Malinau Region is feasible to be cultivated because the NPV > 0 or positive.

− *Net Benefit-Cost ratio* (Net B/C ratio). The results of calculation of Net B / C ratio by comparing the total income with the total costs incurred over the farming which is 5 years at an interest rate of 12% obtained a value 1.32, this means that every rupiah spent by the farmer will give a profit 1.32 rupiah, or in other words, every 1% of rupiah spent by the farmers will generate profits 1.32%. This means that the banana kepok cultivation in the Malinau Seberang village Northern Malinau District is feaible to be cultivated because the Net B / C ratio > 1.

− *Internal Rate of Return* (IRR). The number of IRR is 26.03% this means that the average profit earned over the life of farming from capital invested is 26.03%, it is greater when compared with the average interest rate applicable, that is 12%. This means that the level of banana kepok farm in the Malinau Seberang Village Northern Malinau District Malinau to restore capital which is used up at an interest rate 26.03% (IRR > 12%) which means the farm is feasible to be cultivated.

Conclusions and Suggestions

Conclusions

From the results of field research and analysis of the results it can be concluded as follows:

1. This farming is feasible to be cultivated if it looks from the interest rate which is 12% but if the underlying is an interest rate 24% then the farm is not feasible to run. For the interest rate 12% to 20% Net Present Value (NPV) indicate a positive value that ranges between Rp 12.370.733,96 to Rp 2.196.519,05. As for the interest rate 24% have a negative value Rp. 1.790.722,97. Since the NPV > 0 then the farm is feasible to be developed.

2. Net B / C ratio at interest rate 12% is 1.32. Since the Net B / C ratio > 1 means that the farm is feasible to be developed because the income is greater than the cost, where in every rupiah spent got 1.32 unit rupiah as an income.

3. IRR at interest rate 12% is 26.03%. Because the IRR > interest rate 12% then this aspect of banana kepok farms in the Malinau Seberang village is feasible feasible to be developed.

Suggestions

1. Given the development of banana farming is financially feasible to cultivate and have a good prospect to improve the economy so it needs the support of the government in the form of minor capital loan interest and assistance in seeking marketing of agricultural products.

2. The improving of guidance by the local government is expected to: (a) Increasing the credit facility and the response of farmers in the use of bank credit, (b) improving agricultural extension activities, (c) promoting a partnership program aimed for increasing production and incomes of farmers, as well as a mutually beneficial partnership party.

References

[1] Adiwilaga, A., " Ilmu Usahatani," Bandung: Alumni, 1982.

[2] Daniel, M., "Pengantar Ekonomi Pertanian," Jakarta: Bumi Aksara, 2004.

[3] Gray, C.P. Simanjuntak, L.K. Subur, P.F.L. Maspeitella, R.C.G. Varley, "Pengantar Evaluasi Proyek," Jakarta: Gramedia Pustaka Utama, 1992.

[4] Haming, M. and Basalamah, S., "Studi Kelayakan Investasi," Makasar: PPM, 2003 .

[5] Mosher, A.T., "Menggerakkan dan Membangun Pertanian," Jakarta: Yasaguma, 1991.

[6] Soekartawi. et. al., "Teori Ekonomi Produksi, Analisis Fungsi Cobb Douglas," Jakarta: Rajawali, 1990.

Table 3. Feasibility Analysis of Banana Farming in Malinau Seberang Village Northern Malinau District Malinau Region 2010.

Year	Feasibility Of Banana Farming									IRR
	Cost	Benefit	Net Benefit	DF 12%	NPV	DF 20%	NPV	DF 24%	NPV	
0	35.658.694,45		-35.658.694,45	1.000	-35.658.694,45	1.000	-35.658.694,45	1.000	-35.658.694,45	
1	3.675.694,45	853.333,33	-2.822.361,12	0.893	-2.520.086,24	0.833	-2.351.026,81	0.806	-2.274.823,06	
2	4.260.111,12	22.900.000,00	18.639.888,88	0.797	14.859.719,42	0.694	12.936.082,88	0.650	12.115.927,77	
3	4.260.111,12	22.900.000,00	18.639.888,88	0.712	13.267.872,90	0.579	10.792.495,66	0.525	9.785.941,66	
4	4.260.111,12	22.900.000,00	18.639.888,88	0.636	11.845.649,38	0.482	8.984.426,44	0.423	7.884.673,00	
5	4.260.111,12	22.900.000,00	18.639.888,88	0.567	10.576.272,95	0.402	7.493.235,33	0.341	6.356.202,11	
	56.374.833,38	92.453.333,33	36.078.499,95		12.370.733,96		2.196.519,05		-1.790.772,97	26.03
Net B/C Ratio					1.32		1.06		0.95	

Sources: Primary Data Processing, 2010