

## GENERAL TRADE PARTNERSHIP PERFORMANCE OF ALBASIA WOOD IN LEUWISADENG–BOGOR

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### ABSTRACT

*Difficulty in market information access, low prices and quality of farmers' production, lack of facilities and infrastructure, needs of wood supply in a quick and large quantity have generated a partnership scheme which governs the farmers and industries to make a contract that binds and controls elements of production without having them. This study assessed the performance of partnership between a farmer group of "Binawarga Tani" and sawmills of UD Jaya Abadi, UD Dalfa Kamila, UD Putra Mandiri in Leuwisadeng, Bogor District. Comparative descriptive analysis states that partnership between the farmer group of "Binawarga Tani" and three sawmills has provided adequate results for both parties (mutual benefits) with an increase in the value of production and sales better than conditions before the partnership. UD Jaya Abadi has had a strategy of product diversification and marketing that are not owned by the competitors. Partnership influences the value of cash inflows and is able to produce a surplus of cash for the actors of the partnership. Statistical analysis shows that the cash surplus of farmer group and three sawmills before and after the partnership is significantly different. The farmer group is able to achieve business efficiency with better break-even point each year. Financial performance of farmer group and partners has been improved with delta Net Present Value (NPV) of Rp14.589.233 for the farmer group, Rp88.599.757 for UD Jaya Abadi, Rp35.726.194 for UD Dalfa Kamila, and Rp96.738.609 for UD Putra Mandiri. The partnership has created business sustainability through the certainty of market and raw material supply.*

*Keywords: trade partnership, farmer group, sawmill, financial performance*

### ABSTRAK

*Kesulitan akses informasi pasar, rendahnya harga dan kualitas hasil produksi petani, minimnya sarana dan prasarana (sarpras) yang dimiliki, kebutuhan pasokan kayu secara cepat dan dalam jumlah besar menghasilkan skema kemitraan yang mengatur agar petani dan pelaku usaha membuat perjanjian yang mengikat dan mengontrol unsur-unsur produksi, tanpa harus memiliki unsur-unsur tersebut. Penelitian ini menilai kinerja kemitraan yang telah terjalin antara kelompok tani "Binawarga Tani" dengan perusahaan penggergajian UD Jaya Abadi, UD Dalfa Kamila, dan UD Putra Mandiri di Leuwisadeng Kabupaten Bogor. Analisis deskriptif menghasilkan bahwa kemitraan dagang umum antara kelompok tani "Binawarga Tani" dengan dengan ketiga perusahaan penggergajian telah memberikan hasil memadai bagi kedua pihak (mutual) dengan peningkatan nilai produksi dan penjualan yang lebih baik dibandingkan kondisi sebelum kemitraan, khususnya UD Jaya Abadi telah memiliki strategi diversifikasi produk dan pemasaran yang tidak dimiliki oleh pesaingnya. Kemitraan berpengaruh terhadap nilai arus kas masuk serta mampu menghasilkan surplus kas bagi para pelaku kemitraan. Hal tersebut diperkuat dengan analisis statistik bahwa surplus kas kelompok tani dan ketiga perusahaan penggergajian sebelum dan setelah kemitraan berbeda nyata. Analisis titik impas menunjukkan kelompok tani telah mampu mencapai efisiensi usaha dengan kondisi pulang pokok yang semakin membaik setiap tahunnya. Kinerja kelompok tani dan mitra secara finansial membaik dengan nilai delta Net Present Value (NPV) sebesar Rp14.589.233 untuk kelompok tani, Rp88.599.757 untuk UD Jaya Abadi, Rp35.726.194 untuk UD Dalfa Kamila, Rp96.738.609 untuk UD Putra Mandiri. Secara non finansial, kemitraan telah menciptakan sustainability usaha dengan adanya kepastian pasar dan pasokan bahan baku.*

*Kata kunci: kemitraan dagang umum, kelompok tani, perusahaan penggergajian, kinerja finansial*

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## INTRODUCTION

At the beginning of agricultural commercialization in the decade of 1970, the major problem faced by the Indonesian farmers was how to sell their products to the market. After two decades, the farmer's main problem becomes the difficulty in accurate market information access besides low price and agricultural product quality. Availability of marketing problem solutions is expected to reduce interference of market channels and number of parties involved in the transaction as well as to ensure transparency of price (Andri, 2009). In addition to the price and market guarantee issue, the government mindset as the state officials today prefers job provisions in the industrial sector, thus ignoring primary products (agriculture) (Soesilowati et al. 2011). Unconsciously, the industrial and agricultural sectors are inseparable because they are a process of upstream and downstream agribusiness. With the development of industrial sector, not least the timber industry, the market demand for wood increases. It has an impact on quick timber demand and supply in large quantities. These problems ultimately produce a strategic partnership between farmers and companies. Partnership scheme is set up for both sides to form a binding contract and control the production elements without having them so that both parties remain to be free in determining the functions of the business.

In the forestry sector, in particular, the problem of this partnership has been incorporated into the Strategic Forestry Development Goals by 2013. Key Performance Indicators of the Extension field and Human Resources Development Ministry of Forestry (IKU Kemenhut) aim to establish 10 partnerships through enhancement of participation of key actors and businesses in the community empowerment (Ministry of Forestry, 2012). In accordance with these targets, the local government, in this case Forestry Agency and Counseling Agency in every area have the duty to encourage and facilitate the farmers in the region to build a good partnership with the private sector (businesses) through good coordination, so that the capital constraints, infrastructure, as well as knowledge and technology problems faced by farmers can be minimized.

According to the Decree of the Minister of Agriculture of 940/Kpts/OT.210/10/1997, partnerships between farmer group of "Binawarga Tani" and the sawmills in this study is a general trade partnerships where the partner group (farmers) supplies the needs required

by a partner company (sawmills). In this partnership, sawmill as the owner of the infrastructure in the form of sawmill machine has the function to process logs into sawn timber or pallet for subsequent sale to the manufacturers/consumers. This function is not owned by the farmers because of the limited infrastructure that is owned by farmer, then this is where the partnerships is needed, so that albasia timber produced by farmers can reach consumers.

Financial strength, production and marketing strategies of each partnership actors both the farmer groups and the three sawmills are needed to measure how far the partnership has given value to the parties. One of the methods which can be done is through a comparative study of partnership so that decisions whether to continue or replace the partnership model that has been running with the new partnership model which is more appropriate can be made. A good partnership is a partnership that can provide adequate results for the performers (Ostrom, 2005 in Pribadi et al. 2010). It is a measure of partnership success. Comparative study to measure partnership performance is not only with descriptive analysis but also supported by financial analysis tool used to answer the research objectives, among others:

1. Analyzing the partnership between farmer group "Binawarga Tani" and the sawmills of UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri using descriptive comparative method.
2. Conducting cash flow and breakevent point analysis between farmer group "Binawarga Tani" and the sawmills of UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri.
3. Analyzing business performance of farmer group and sawmills of UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri using financial criteria NPV, IRR, B/C Ratio, and assumption "with" and "without" partnership.

## METHOD

The primary data were obtained from the observations of the farmer group "Binawarga Tani" and sawmills UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri. Meanwhile, the secondary data were taken from related government agencies such as UPT Distanhut Leuwiliang, UPT PTPHPK V Region Leuwiliang, BP3K Leuwiliang, and Leuwisadeng Sub-District Office.

Sampling was carried out in Purposive Sampling on one of the farmer groups assisted by Extension of Agriculture, Fisheries and Forestry (BP3K) Leuwiliang. From the 25 existing groups (BP3K Leuwiliang secondary data), there are three groups of farmers who live close to the location of sawmill of the partner. The selection was conducted to facilitate researchers in data collection. From the 3 farmer groups, only one group of farmers who have partnered with the sawmill i.e. "Binawarga Tani. This selection was based on secondary data obtained from the relevant government agencies.

**Quantitative Analysis was carried out through an approach using financial performance analysis.**

Calculation of Cash Flow

Step-by-step preparation of the statement of cash flows: Calculating changes in cash and cash equivalents, Calculating net cash flow from operating activities, Calculating net cash flows from investing and financing activities (Horne dan Wachowicz 1995)..

Break Event Point (BEP)

Assumptions used in the calculation of breakeven include (Guan et al. 2009):

1. Costs associated with the level of sales are separated into the elements of fixed costs and variable costs.
2. Fixed costs will always remain fixed during the period affected by the decisions that have been taken.
3. Variable costs vary directly (proportionately) with sales during the period affected by the decisions that have been taken.
4. Economic conditions which are assumed to be stable.

Steps in calculating the breakeven point: Classifying costs, Allocating costs, Calculating the break-even point (BEP) with a mathematical formula or chart.

Net Present Value (NPV)(Weston dan Brigham, 1990)

$$NPV = \sum_{t=0}^n \frac{CF_t}{(1+k)^t}$$

Description:

- CF<sub>t</sub> = net cash flow expected in period t
- k = the cost of capital
- t =

Internal Rate of Return (IRR) (Weston dan Brigham, 1990)

PV Cash Inflows=PV Investment Costs

$$0 = \sum_{t=0}^n \frac{CF_t}{(1+IRR)^t}$$

Description:

- IRR = internal rate of return (%)
- CF<sub>t</sub> = net cash flow expected in period t
- t = number of years

Benefit/Cost Ratio (B/C Ratio) (Horne, 1992)

$$BCR = \frac{\sum_{t=1}^n \left( \frac{At}{(1+k)^t} \right)}{Ao}$$

Description:

- At = net cash flow
- Ao = initial cash outlay
- t = number of years
- k = the cost of capital

Wilcoxon Matched-Pairs Signed-Rank Test

The hypothesis used in the test was a cash surplus of cash inflows and outflows which later became the basis for calculation of financial performance using NPV, IRR and B/C Ratio. The hypotheses are as follows:

- Ho : Cash Surplus of the farmer group of "Binawarga Tani" and the three sawmills of UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri before and after partnership is not significantly different.
- H1 : Cash Surplus of the farmer group of "Binawarga Tani" and UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri before and after partnership is significantly different.

Nonfinancial Performance: Business Sustainability; Market Certainty; Certainty Raw Material Supply; Bargaining Position; Price Fixing

The qualitative analysis was carried out by the literature study and fundamental analysis of the data obtained, both from the results of field observations and from institutions/government agencies related to research.

## RESULT

### Comparative Descriptive Analysis of General Trade Partnership

Trade model policy only binds farmers to supply albasia wood for each harvest with the proportions as described in Table 1 of total harvest where they have free cutting cost (harvesting) as it is borne entirely by three sawmills. Although it is horizontally integrated, the partnership with sawmills has not been maximized yet because of the unbound and uncontrolled production elements of both parties. As for the vertical integration with the government facilitator, the farmer group has been trained by the forestry extension facilitators and has joined the training which is facilitated by the Forestry Training Centre–Ministry of Forestry consisting of theory and practice. Also, it was given a pilot project garden (demplot) by BKP5K of Bogor District, and infrastructure such as seeds and shelter crop house by Agriculture and Forestry District Office Bogor (Distanhut). This kind of partnership model is known as the "Cooperative Farming" where there are 3 linkages of stakeholders, i.e. farmers (principal actors), sawmills (businesses), and local governments (the facilitators).

Cost of timber marketing from the farmer groups to sawmills is not borne by the farmers because the buying system is done directly in the farmer group farms by the three sawmills, and it is carried out by establishing the price of the stands. Timber selling mechanism between farmer group and its partners of UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri is not different i.e.in the form of stands from its farms. The costs of timber logging and making it into logs and transportation from the farms to the sawmills are borne by the companies. Cubication pricing is based on the calculations by taking into account the diameter and height of timber stands calculated by the sawmills, and it is approved by both parties. From the results of the calculation, a sales figure of Rp77.059.710, for 280

trees (standing stock) in 2011 was obtained. Albasia timber sold has a diameter ranging from 5 cm to 50 cm with a height of between 5 m and 12 m. The range of the albasia wood sale price with these specifications is from Rp10.000 to Rp300.000. Pricing per specification of standing stock is determined based on market price.

UD Jaya Abadi has its own market share with a specific type of processed products, and it has one marketing channel i.e. just to the factory, but it is continuous with the special specifications of products specified by the manufacturer to be met by UD Jaya Abadi. The strategy applied is a focused strategy in which the company emphasizes attention or focuses on a narrow product line and specific buyer segments. Meanwhile, UD Dalfa Kamila and UD Putra Mandiri have a larger market with a variety of wood products in which marketing channels are not only for one customer. However, the three sawmills remain on one community market because they use the same resources. Competitive action and reaction between a company and its competitors will affect the performance of each company. Comparative Market Competitors and Marketing Strategy in Table 2.

### Analysis of Cash Flow and Break Event Point of Partnership

In general, there is a cash surplus increasing for the farmer group after partnership (4.3 times) (Table 3,4,5 and 6). In addition, lack of clarity and certainty of the market distribution channel are important points that greatly affect the income of the farmer group. Without certainty of the market, a large amount of production may not be marketable and profitable for the group. Albasia timber sale value was greatly different before and after the partnership. Without partnership, the buyers/wholesalers of wood do not pay attention to the quality of the wood, so the price is set equal regardless of the quality. This is disadvantageous to the farmers who have planted with quality seedlings and taken care of their albasia timber plant well.

Table 1. Comparative sales of the farmer group to each sawmill

	Volume/Proportion	∑Sold Trees (Trunk)	Sales
Farmer Group and UD Jaya Abadi	30%	84	Rp24.369.029
Farmer Group and UD Dalfa Kamila	35%	98	Rp29.545.789
Farmer Group and UD Putra Mandiri	35%	98	Rp23.144.892
Total	100%	280	Rp77.059.710

Source: Farmer Group and Sawmill Primary Data

Table 2. Comparative Market Competitors and Marketing Strategy

	Farmer group	Competitors
The resulting product	Albasia	Albasia, Jabon, Durian, Mahoni, Akasia
Triennial production capacity	700–9000 cubic	250–30.000 cubic
Product selling price	cubication calculation in accordance to the market standard	cubication calculation in accordance to the market standard
Marketing channel	Sadeng village Leuwisadeng Subdistrict of Bogor, namely, UD Jaya Abadi, UD Dalfa Kamila, dan UD Putra Mandiri	Leuwiliang, Leuwisadeng, Sukajaya, Jasinga, Rangkasbitung, Lebak, Bogor, Jakarta
	Sawmills	Competitors
The resulting product	Wood projects, Raw materials, Pallets	Wood projects, Raw materials, Pallets, Moulding
Annual production capacity	1800–3600 m <sup>3</sup>	600–2000 m <sup>3</sup>
Product selling price	Based on market price, but for partnership, it is determined by the manufacturer partner	Based on market price
Marketing channel	Partner Factory (PT Asahimas) Jakarta, Kalibaru, Bojong Gede, Parung, Cibinong, Leuwisadeng, Bogor	Leuwisadeng, Bogor, Jakarta, Bekasi

Table 3. Cash cash flows of farmer group of “Binawarga Tani” before partnerships, after partnerships, and projections of years of 2008–2016 (in millions)

	Before partnerships			After partnerships			Projections		
	31/12/08	31/12/09	31/12/10	31/12/11	31/12/12	31/12/13	31/12/14	31/12/15	31/12/16
∑ Cash Entry	282	261	426	608	485	576	871	1.755	3.898
∑ Cash Out	219	186	333	339	233	333	512	1.033	1.932
Surplus/Deficit	63	75	93	269	252	243	359	722	1.966

Table 4. UD cash flow of "Jaya Abadi" before partnerships, after partnerships, and projections of years of 2008–2016 (in millions)

	Before partnerships			After partnerships			Projections		
	31/12/08	31/12/09	31/12/10	31/12/11	31/12/12	31/12/13	31/12/14	31/12/15	31/12/16
∑ Cash Entry	3.510	3.198	3.266	3.728	3.536	3.786	4.807	4.806	4.875
∑ Cash Out	2.851	2.751	2.951	2.751	2.751	2.751	2.924	2.924	2.924
Surplus/Deficit	659	447	315	977	785	1.035	1.883	1.882	1.951

Table 5. Cash Flow of "UD Dalfa Kamila" before partnerships, after partnerships, and projections of years of 2008–2016 (in millions)

	Before partnerships			After partnerships			Projections		
	31/12/08	31/12/09	31/12/10	31/12/11	31/12/12	31/12/13	31/12/14	31/12/15	31/12/16
∑ Cash Entry	2.116	1.945	2.053	2.368	2.223	2.341	3.059	3.130	3.231
∑ Cash Out	1.343	1.348	1.353	1.356	1.363	1.370	1.583	1.586	1.590
Surplus/Deficit	773	597	700	1.012	860	971	1.476	1.544	1.641

Table 6. Cash Flow of "UD Putra Mandiri" before partnerships, after partnerships, and projections of years of 2008–2016 (in millions)

	Before partnerships			After partnerships			Projections		
	31/12/08	31/12/09	31/12/10	31/12/11	31/12/12	31/12/13	31/12/14	31/12/15	31/12/16
∑ Cash Entry	2,180	2,165	2,221	2,536	2,536	2,657	3,379	3,373	3,434
∑ Cash Out	1,989	1,989	1,996	1,999	2,088	2,093	2,283	2,281	2,287
Surplus/Deficit	191	176	225	537	448	564	1,096	1,092	1,147

Compared with the farmer group, the sawmills tend to be aggressive with their sales every year. However, cash surplus value of sawmills is not as aggressive as their sales, and there is a periodical increase with a normal range that is not as much as the farmer group's range. This is because the high value of the expenditure on the acquisition of raw material components in general. The cost of labor is the highest cost because the logging process requires special hired laborers with a wage from Rp200.000 to Rp300.000 per 1 person per day.

Statistical analysis of cash flows was performed to test the hypotheses based on observational comparative sample pairs of the farmer group and the three sawmills. Non-parametric test using Wilcoxon Matched-Pairs Signed-Rank Test concludes that cash inflows of the farmer group and sawmills are significantly different; on the other hand, Wilcoxon test of cash outflows concludes that cash outflows of the farmer group and the sawmills are not significantly different (Figure 1). Components of income, capital, profit and depreciation have positive influences on the differences in the values of farmer group and the three sawmills cash inflows. In other words, there are changes in components of cash inflows before and after the partnerships both at the farmer group and three sawmills. In contrast, both cost components of nursery/acquisition of raw materials, planting/operation, and maintenance/marketing costs tend not to be changed before and after the partnership.

Sales charts before and after the partnership both for the farmer group and three sawmills have increased

continuously from 2008 to 2016. Although there is no partnership, the farmer group has been trying to increase its sales to meet customers' needs; however, the cost is higher than that after the partnership. Meanwhile, after the partnership, sales have increased higher than before the partnership. It shows that with a partnership the economic condition of the farmer group and three sawmills is better than that without a partnership. The chart of the Break Event Point (BEP) shows that the conditions before and after partnerships of the three sawmills in the period of 2008–2016 tend to be stable, while BEP of the farmer group has decreased. It shows that without partnerships, the farmer group is also able to have break even (profit) although the number of sales becomes lower each year. The sawmills are also able to monitor fluctuations in sales and expenses at the level of fixed costs and certain variables.

### Partnership Performance Analysis Using Financial Criteria NPV, IRR, B/C Ratio Assumption "With" and "Without" Partnership

Net Present Values (NPV) of the Farmer Group, UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri are worth >0 so that it can be concluded that both parties (the farmer group and sawmills) in this trade partnership gain business profits more than business costs that they incurred. If the partnership of NPV calculation is feasible, then the calculation of B/C Ratio or Profitability Index is automatically feasible because the amount of benefits/advantages outweighs the costs or the amount of component of B/C Ratio of > 1.

#### Wilcoxon Signed Ranks Test

		Ranks		
		N	Mean Rank	Sum of Ranks
SURPLUS_AFTER - SURPLUS_BEFORE	Negative Ranks	0 <sup>a</sup>	.00	.00
	Positive Ranks	12 <sup>b</sup>	6.50	78.00
	Ties	0 <sup>c</sup>		
	Total	12		

a. SURPLUS\_AFTER < SURPLUS\_BEFORE

b. SURPLUS\_AFTER > SURPLUS\_BEFORE

c. SURPLUS\_AFTER = SURPLUS\_BEFORE

#### Test Statistics<sup>a</sup>

	SURPLUS_AFTER - SURPLUS_BEFORE
Z	-3.059 <sup>b</sup>
Asymp. Sig. (2-tailed)	.002

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

Figure 1. Output cash flow significant different test

Calculation result of the partnership by using Internal Rate of Return (IRR) method shows that the IRR values of the farmer group, UD Jaya Abadi, UD Dalfa Kamila, dan UD Putra Mandiri are higher than applicable interest rate (18%), thus indicating that trade partnerships are stated to be feasible. However, in terms of productivity, it has not been efficient because of long production cycle while the market needs are at any time. Thinning system is applied in order to shorten the production cycle, so that the continuity of supply to sawmills can be maintained. For the sawmills of UD Jaya Abadi, UD Dalfa Kamila, and UD Putra Mandiri with the assumption without partnerships, their business performance has been considered to be good with the financial criteria values as required, i.e.  $NPV > 0$ ,  $IRR > \text{cost of capital interest rate}$ , and  $B/C \text{ Ratio} > 1$ .

Partnership is able to increase the sales of the farmer group of "Binawarga Tani" by 10.09%. The condition is achieved by a clearcut harvesting model. After the extension by the local authorities, the farmers start to implement selective logging system harvesting

model with two times of thinning. With this method, the farmer group of "Binawarga Tani" gets benefits, in addition to obtaining bigger albasia wood due to longer period of growing. Also the farmer group can supply albasia timber thinning products to the mills, so every year the farmer group can still earn revenue from their plantation. From the partnership assumption, it can be seen that the financial criteria values of NPV, IRR, and B/C Ratio are qualified and feasible for partnership program. The differences of financial performance with and without partnership assumption can be seen in Table 8.

Financial performance data assumptions "with" and "without" the partnership cannot be separated from the calculation of cash inflows, cash outflows, cash surplus, sales and BEP level as the calculation basis (Figure 2 and 3). To determine the level of sales which results in a gain or loss of farmer group and sawmills where this level is included as a performance indicator of the partnership, the break event point analysis which is depicted in the BEP level graph was made.

Table 8. Comparative of financial performance assumption with and without partnership (2008–2016)

	Assumption	NPV	IRR	B/C Ratio
Farmer Group "Binawarga Tani"	Without Partnership	Rp305.884.930	39,24%	1,40 kali
	With Partnership	Rp320.474.163	39,06%	1,55 kali
Sawmill UD Jaya Abadi	Without Partnership	Rp1.529.192.799	46,38%	1,22 kali
	With Partnership	Rp1.617.792.556	44,77%	1,23 kali
Sawmill UD Dalfa Kamila	Without Partnership	Rp1.956.485.150	46,58%	1,57 kali
	With Partnership	Rp1.992.211.344	45,97%	1,58 kali
Sawmill UD Putra Mandiri	Without Partnership	Rp631.850.957	43,21%	1,13 kali
	With Partnership	Rp728.589.566	40,69%	1,16 kali

Source: Processed Data of Farmer Group and Sawmills 2013

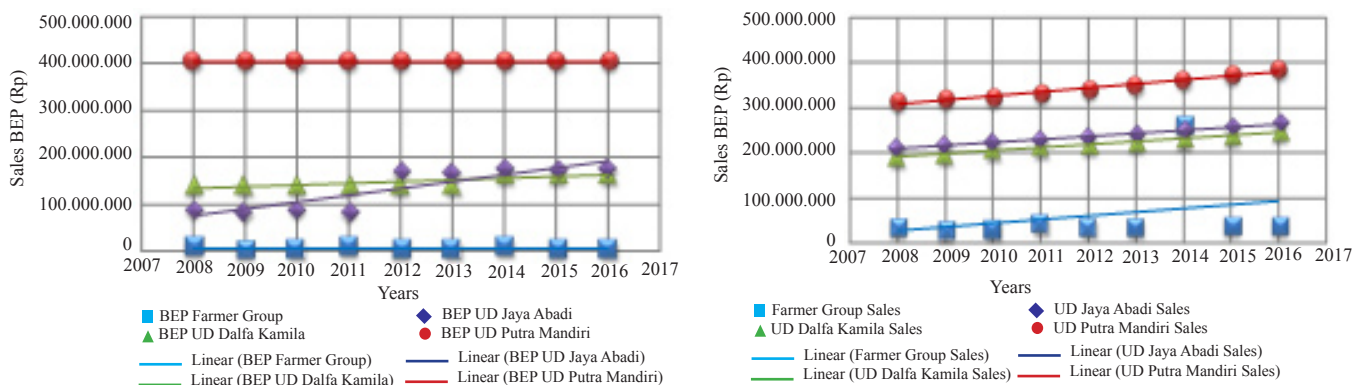


Figure 2. Sales and sales BEP rate chart without partnership assumption (2008–2016)

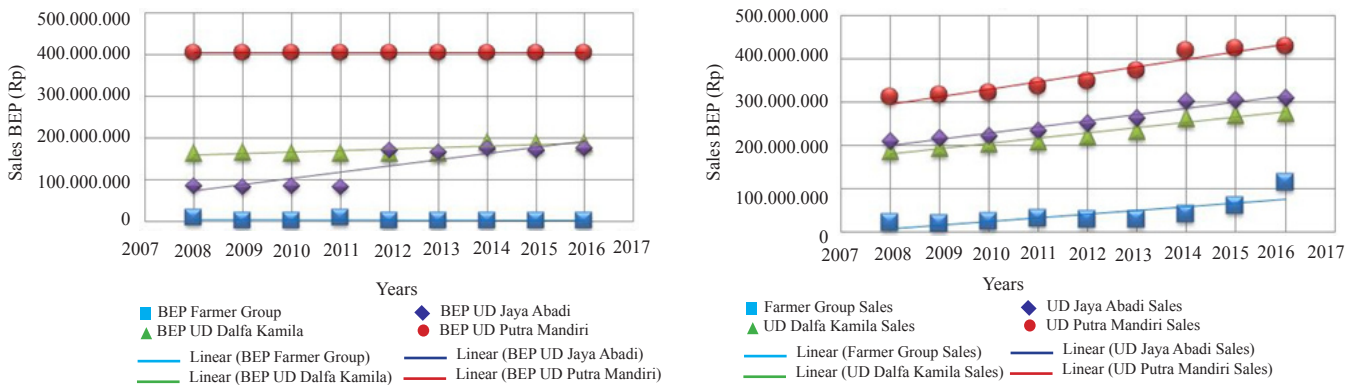


Figure 3. Sales and sales BEP rate chart with partnership assumption (2008–2016)

In general, business improvement of the farmer group and sawmills gets better from year to year, particularly after the partnership in 2011. It can be seen from the number of sales and profits which continue to increase with costs that tend to be fixed, so that cash surplus increases every year. In addition, marketing distribution channels become shorter and there is a certainty of production for sale. Sawmill also obtains security of supply of raw materials to meet the demand for lumber from the mill partner/customers.

### Managerial Implication

General trade partnerships between the farmer group of "Binawarga Tani" and the three sawmills need to be strengthened with a written agreement that is binding both parties. This is where the roles of extension workers and related government services are needed to facilitate coordination between the two parties.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

The partnership between farmer group "Binawarga Tani" and the three sawmills has given adequate benefits for both parties (mutual benefits) with an increase in the values of production and sales better than those before the partnership especially for UD Jaya Abadi that has a strategy of product diversification and marketing which are not owned by its competitors.

General trade partnerships between farmer group and the three sawmills have a positive influence on the values of cash inflows and enable them to generate a cash surplus for the perpetrators of partnerships. With or without a partnership, farmers' groups have been

able to achieve business efficiency with BEP that gets better every year.

General trade partnerships have a positive influence on the financial performances of the farmer group and three sawmills with the delta value NPV of Rp14.589.233 for the farmer group, Rp88.599.757 for UD Jaya Abadi, Rp35.726.194 for UD Dalfa Kamila, and Rp96.738.609 for UD Putra Mandiri. In regards to the non-financial matter, partnership has created a sustainable business with the certainty of market and supply of raw materials.

### Recommendations

To further maximize cash surplus, the farmer group needs to improve one component of cash inflows, both operational cash flow and incremental cash flow to further increase sales volume or quality of logs of wood.

Improved performance of the partnership based on NPV, IRR and B/C Ratio can be carried out by starting to set aside group profit sharing for business turnover to increase sales and wood quality. In addition, reduction on acquisition costs of raw materials needs to be implemented to achieve efficiency so that BEP value is not at high level of sales. Improved BEP will have an impact on improving the performance of partnership.

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