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PROFITABILITY ANALYSIS OF PEPPER BREEDING BUSINESS CV. ENDATU MULYA IN GAMPONG BLANG PANYANG, MUARA ONE DISTRICT, LHOKSEUMAWE CITY

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Abstract

The prospect of pepper commodities in Indonesia can be seen from the potential of the large domestic market. Indonesia is one of the largest pepper exporter countries. Pepper is one of the plants that breed with seeds, but many farmers prefer to stem cutting to develop it because it is more effective and afficient in the cultivation of pepper plants. Increasing of pepper with cuttings is more profitable because it produced a homogeneous plant population and has the same characteristics as the earlier seed, but it is difficult to abtain high quantities of quality plant material which causes the price of pepper seeds to be expensive because seedlings is still small scale, farmers do not pruning que to prefers to produce fruit and the age of plant material that is not appropriate. This study aims to determine how the level of profitability faced by Mr. Yusuf as the owner of the pepper nursery business. The research was conducted in Gampong Blang Panyang,, Muara Satu sub-district, Lhokseumawe City from Oktober 2018 until November 2018. Data analysis method used descriptive quantitative analysis to analize income, profit, break event point and profitability. The results showed the number of production in the last harvest reached 102.000 pepper seeds. With total production cost of 201.060.580 IDR, in production process and total revenue of 714.000.000 IDR, in production process and profit of 512.939.420 IDR in production process. Pepper nursery farming business in Gampong Blang Panyang able to produce profitability level of 71,7%.

Keywords: pepper nursery farming, profitability.

1. INTRODUCTION

Agricultural development is one of the dynamic processes to improve the agricultural sector in order to produce sufficient food to meet the needs of the community. For this reason, we need to use existing resources such as humans, capital, organization, technology and knowledge to utilize and at the same time preserve natural resources to ensure prosperity in the survival of farmers and the nation (Soekartawi, 1995).

Pepper or pepper is one of the plants that reproduce by seeds, but many farmers prefer to do cuttings to develop it. Pepper is a vine that lives in tropical climates where the seeds are very often used as a cooking spice. The aroma and taste of pepper is very distinctive, so it is sometimes a part of mainstay recipes (Mediatani, 2015).

Pepper for the people of Aceh is one of the leading export commodities since 400 years ago and even famous to Europe. The crossing areas are mainly in the north-east coast of Aceh covering Aceh Besar, Pidie, North Aceh and East Aceh, while on the west coast of Aceh, pepper is widely grown in West Aceh and South Aceh. The area of pepper in Aceh has decreased drastically in the last fifty years due to pests and diseases, especially wilt and leaf curl. In 1997 the area of pepper was only 2,130 ha, whereas before the attack of pests and diseases, the area of pepper plantations reached 19,932 ha. With a relatively expensive selling price, the people's desire to plant pepper grows back. It is now estimated that the pepper plantation area in Aceh is around 1,500 ha. Pepper

farmers admit that it is easy to sell processed white pepper at a price of Rp. 160,000 – 180,000/kg, while black pepper is released at a price of Rp. 120,000/kg.

One of the largest pepper producing areas on the island of Sumatra is the Bangka, Lampung and Bengkulu Islands. Bangka is one of the areas that has the potential for the development of pepper farming. The provinces of Bangka on the islands of Sumatra and Lampung are even able to meet 50% of pepper farming in Indonesia, which means that from 82 thousand tons there are around 41 thousand tons of pepper produced from the Lampung and Bangka provinces. Most of the pepper plantations that are managed are owned by the community, meaning that pepper plantations in Indonesia's regions are still not widely developed by SOEs, even though the potential for pepper farming from Indonesia is quite calculated.

Aceh Province is a pepper producer, one of which is a pepper nursery in the Aceh area, Lhokseumawe City, precisely in Blang Panyang Village, Muara Satu District, which is a climbing pepper nursery business, on a land area scale of 0.5 ha. Mr. M. Yusuf's business has actually been established since 2004, but in 2011 it received a BPPT agricultural permit (Badan Aceh for the Assessment and Application of Technology). With his sincerity and determination, his business development is now quite good with the number of seed production increasing.

From the pepper nurseries produced, namely climbing pepper, it was developed through stem cuttings and the obstacle in this business was environmental factors that sometimes changed which resulted in changes to the pepper nursery hood so that pepper seedlings were difficult to grow. Taking pepper seeds that are far away so that the vines that have been cut really must be maintained and planted as soon as possible so that the vines do not dry out.

Measuring the success of a farm can be known by looking at the ability of the farm to gain profits in a certain period. Farming profitability analysis is very necessary in analyzing pepper seed farming, whether farmers get profit or loss in continuing pepper seed farming. Profitability analysis using profitability ratios will measure the effectiveness of the overall management aimed at the size of the level of profit obtained. The higher the profitability ratio, the better it describes the ability to generate profits.

In order for a business to be continuously profitable, management must use its resources optimally, productively, and efficiently to control the costs that must be incurred in order to generate maximum profit. The size of the profit or profitability obtained by a business is influenced by the amount of costs incurred, the level of profits obtained, and the income that has been reduced by the amount of expenditure incurred on the climbing pepper nursery farm CV. Endatu Mulya belongs to Mr. Yusuf. In building a farm,

2. RESEARCH METHODS

The location of the research was carried out in the Panjat pepper plant nursery farm CV. Endatu Mulya is located in the garden in Gampong Blang Panyang, Muara Satu District, Lhokseumawe City. The location was chosen purposively, because the area is one of the farms that has obtained an agricultural permit from the BPPT (Agency for the Assessment and Application of Technology) Banda Aceh.

The data collected in this research are primary data and secondary data. Primary data is data obtained by direct observation in the field and from direct interviews with business owners as respondents in this study using a list of questions (questionnaires) and secondary data obtained from relevant literatures such as books, official websites, journals and articles. articles published on the internet online and through related service agencies such as the Department of Agriculture, District Offices related to this research.

The data obtained is quantitative data so that it is processed and presented in tabular form. The analytical method used for the analysis of farm profitability is the calculation of the break-even point, Margin Of Safery (MOS) and Marginal Income Ratio (MIR) generated based on production, sales and cost data.

Before calculating how much profitability, the first thing to analyze is to look for the depreciation value, total production costs, income, profits and break event points. The formulas include:

1) Depreciation Formula
   Depreciation = Economic Age Unit Price
2) Total Production Cost Formula
   TC = FC + VC
   Information: TC = Total Cost
   FC = Fix Cost
   VC = Variable Cost
3) Income Formula
   TR = PXQ
   Information : TR = Revenue
   P = Price
   Q = Production Quantity
4) Profit Formula
   = TR – TC
   Information : □ = Profit
   TR = Total Sales (revenue) Production
   TC = Total Production Cost
5) Break-even Analysis (BEP)

BEP (Q) $= \frac{FC}{P-VC}$

BEP (Rp) $= \frac{FC}{1-VC}$

Information : BEP (Q) = break-even point in units
BEP (Rp) = break even point in rupiahs
FC = Fixed cost
VC = Variable cost
P = Unit Price
S = Sales Volume

6) Profitability Analysis

MIR(%) $= \frac{TR-VC}{TR}$

II (%) = MOS x MIR x 100%

Information :
MOS = safety point (*margin of safety)*
MIR =*Marginal Income Ratio*
II = Business Profitability
TR = Total Revenue
VC = Variable Cost
BEP = Break-even Value

3. RESULTS AND DISCUSSION

3.1 Fixed cost

3.1.1 Land rental fee

The cost for renting land for pepper seed farming is Rp. 1,250,000/year.

3.1.2 Equipment Cost

Table 1 Equipment Costs in Pepper Breeding Farming

Description	Jlh	Unit	Price (Rp/unit)	Total Cost (Rp)	Economic Life (Years)	Cost of depreciation (Rp/5 months/year)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Hoe	3	Unit	50,000	150,000	5	12,500
Shovel	3	Unit	75,000	225,000	5	18,750
Cuttings	5	Unit	26,000	130,000	5	10,833
Cater knife	5	Unit	15,000	75,000	3	10,416
Big bucket	2	Unit	35,000	70,000	5	5.833
Paranet	30	Roller	980,000	29,400,000	3	9,800,000
plastic cover	30	Sir	105,000	3.150.000	1	3.150.000
Water hose	4	Roller	200,000	800,000	4	83.333
Pipe	50	stem	40,000	2,000,000	4	208.333
Water pump machine/sanyo	1	Unit	2,800,000	2,800,000	10	116,666
Well	1	Unit	8,000,000	8,000,000	25	133,333
Water faucet	15	Unit	30,000	450,000	5	37,500
Bamboo	50	stem	30,000	1,500,000	5	125,000
Nail	10	Kg	30,000	300,000	5	25,000
wheelbarrow	3	Unit	355,000	1,065,000	5	88,750
Car	1	Unit	66,000,000	66,000,000	15	1,833,333
Total				**116,115,000**		**15,659,580**

Source: Primary Data (processed), 2018.

Based on the table, it can be seen that the total equipment costs incurred by the climbing pepper nursery farm CV. Endatu Mulya Rp. 116,115,000. The depreciation value of the entire production equipment/process is Rp. 15,659,580.

3.2 Variable cost

3.2.1 Cost of Production Facilities

Table 3. Details of the Cost of Pepper Seeds in Climbing Pepper Nursery Farming CV. Endatu Mulya

Description	Amount	Unit	Price (Rp/unit)	Total Cost (Rp)
Buy seeds	100,000	stem	500	50,000,000
Own garden seeds	70,000	stem	500	35,000,000
Total	**170,000**			**85,000,000**

Source: Primary Data (processed), 2018

Based on table 3, the total cost of pepper seeds incurred by pepper nursery farms is Rp. 85,000,000/production process. The biggest cost is used to purchase pepper seeds, which is Rp. 50,000,000.

Table 4 Details of the Cost of Production Facilities in Pepper Breeding Farming

Description	Amount	Unit	Price (Rp/unit)	Total Cost (Rp)
Soil/sand	5	Truck	100,000	500,000
husk	50	Bag	20,000	1,000,000
charcoal				
Nasa organic	2	Bottle	18.000	36,000

fertilizer				
Fungicide	2	Bottle	30,000	60,000
KCl Crown	50	Kg	10,000	500,000
NPK	50	Kg	17,000	850.000
Manure	1	Truck	1,500,000	1,500,000
polybag	3	Kg	35,000	105,000
Label	76,500	Unit	100	7,650,000
Total				**12,201,000**

Source: Primary Data (processed), 2018

Based on the table above, it can be seen that the total cost of production facilities incurred by pepper seed farming is Rp. 12,201,000/production process. The smallest cost of production facilities is used to purchase 2 bottles of Nasa organic fertilizer, which is Rp. 36,000. The biggest cost was spent on labeling pepper seeds sold to the government as many as 76,500 seeds, amounting to Rp 7,650,000, of the total 102,000 seeds produced, the rest were sold to other consumers.

3.2.2 Labor Cost

Table 5 Types of Activities and Labor in Pepper Breeding Farming

Type of activity	Working Time (days)	Number of Kindergarten	Wages/Tk	Total Wage (Rp)
(1)	(2)	(3)	(4)	(5)
Soil tillage, soil filling into polybags.	60	5	100,000	30,000,000
Cutting pepper seeds, planting seeds into polybags (nursery).	90	6	30,000	16,200,000
Maintenance, watering, until the seeds are ready to sell	160	6	30,000	28,800,000
Post Harvest (unloading)	10	15	68.000	10,200,000
Total				**85,200,000**

Source: Primary Data (processed), 2018

Based on table 5 that the use of labor in pepper nursery farming for the first type of activity is each paid 100,000/day, from the total workforce of 5 people who work for 60 days (2 months), for the second type of activity each is paid Rp. IDR 30,000/day, from the total workforce of 6 people who work for 90 days (3 months). And for the third type of activity each is paid Rp. 30,000/day, from a total workforce of 6 people who work for 160 days. For post-harvest loading and unloading costs, the total is calculated at Rp. 100/polybag, with a workforce of 15 people, each of which is paid Rp. 68.000/day who works for 10 days/production process.

3.2.3 Other Costs

Table 6 Other Costs on Pepper Breeding Farm

Description	Total cost (Rp/month)	Total cost (Rp/production)
Electricity cost	300,000	1,500,000
Transportation costs (fuel)	300,000	1,500,000

Total	**3,000,000**

Source: Primary Data (processed), 2018

Based on the table above, it can be seen that the total other costs incurred in pepper seed farming are Rp. 3,000,000. Other costs incurred for electricity costs used for water pumps are Rp. 1,500,000, while the costs incurred for transportation costs are used to find pepper entres which are used as seeds, which are Rp. 1,500,000.

3.3 Total Production Cost

Table 7 Total Production Cost in Pepper Seedling Farming

No.	Description	Amount (Rp/PP)
(1)	(2)	(3)
Fixed cost		
1. Depreciation cost		15,659,580
	Total fixed costs	**15,659,580**
Variable cost		
2. Cost of pepper seeds		85,000,000
3. Cost of production facilities		12,201,000
4. Labor cost		85,200,000
5. Other Fees		3,000,000
	Total variable cost	**185,401,000**
	Total cost	**201,060,580**

Source: Primary data (processed), 2018

Based on table 7, it can be seen that the total cost incurred on pepper seed farming is Rp. 201,060,580/production process. The largest total cost was spent on variable costs, which wasIDR 185,401,000, while the smallest total costs incurred for fixed costs are Rp15,659,580.

3.4 Production, Selling Price and Revenue

Table 8 Amount of Production Value Obtained by Pepper Breeding Farming in One Production Process

Description	Amount	Unit	Selling Price (Rp)	Income
Purchased seeds	60,000	stem	7,000	420.000.000
Seeds from your own garden	42,000	stem	7,000	294 million
Total	**102,000**			**714,000,000**

Source: Primary data (processed), 2018

Information:

The total number of pepper seeds purchased was 100,000 stems, but 60% of those that were alive were 60,000 stems. The total number of seedlings from the garden itself is 70,000 stems, but 60% of the seeds that live are 42,000 stems.

Based on table 8, it can be seen that the pepper nursery farm was able to earn an income of Rp. 714,000,000 from the total seeds produced as many as 102,000 stems/production process.

3.5 Advantage

Table 9 Details of Profits per Production Process of Pepper Breeding Farming

Description	Unit	Total
Total income	Rp	714,000,000
Total production cost	Rp	201,060,580
Profit	Rp	512,939,420

Source: Primary Data (processed), 2018

Based on the table above, it can be seen that the profit obtained by pepper seed farming is Rp. 512,939,420/production process.

3.6 Break Even Point (BEP) Analysis

Based on the calculation, it can be seen that to cover fixed costs and avoid losses, the owner of the pepper nursery must produce at least 2,649 polybags of pepper seeds/production process, while the minimum income that must be obtained based on the break-even point is Rp. 21,161,594./production process. The comparison between the results of the calculation of the break-even point with the actual conditions are as follows:

Table 10 Comparison of Break-even Point with Actual Conditions of Pepper Seedling Farming Per Production Process

Description	Break-even Point	Current State
In Unit (polybag)	2,649	170,000
In Rupiah (Rp)	21,161,594	714,000,000

Source: Primary Data (processed), 2018

Based on table 10, it can be seen that pepper seed farming is above the break-even point, this is evidenced by the ability of the farm to produce 170,000 polybags of pepper seeds/production process, and earn an income of Rp.714,000,000/production process. The excess of sales income over variable costs in pepper seed farming shows that the farm is able to cover fixed costs and earn large profits.

3.7 Profitability Analysis

= 0.74 x 100%
= 74%
= 0.74

From the description above shows that pepper seed farming is able to provide 74% profit from sales to cover fixed costs and break events. If it is related to actual sales, it will be known the sales volume that is allowed to decrease so that pepper seed farming does not suffer losses or is called MOS. MOS is a measure of the safety of pepper seed farming in the event of a decline in sales. The calculations include the following:

= 0.97 x 100%
= 97%
= 0.97

From the above calculation shows that the level of sales at the pepper nursery farm will experience a loss if it falls below 97% of the actual sales. The level of profitability can be directly related to the percentage of MOS with the level of farming profits or MIR, in order to show the

percentage of profit levels achieved by pepper seed farming. The calculation of the profitability of climbing pepper nursery farm CV. Endatu Mulya, among others, are as follows:

II (%) = MOS x MIR x 100%
= 0.97 x 0.74 x 100%
= 71.7 %

From the profitability calculation above, it shows that the Panjat pepper nursery farm CV. Endatu Mulya has the ability to earn a fairly large profit or profitability, it can be seen that the profitability value is 71.7% > of the bank loan interest rate, which is 12%. Of the total costs incurred for the farming is Rp201,060,580, while the income earned was Rp and the profit earned is Rp 512,939,420.

4. CONCLUSION

Based on the results of research and data analysis that has been carried out on the Panjat Pepper Seedling Farm CV. Endatu Mulya in Gampong Blang Panyang, Muara Satu District, Lhokseumawe City, the following conclusions can be drawn:

1. The total cost/production process at Pepper Panjat Seedling Farming is Rp. 201,060,580 with an income of Rp. 714,000,000, so the profit obtained is Rp. 512,939,420.
2. Climbing Pepper Nursery Farming CV. Endatu Mulya is a farm engaged in agriculture which is able to generate a profit (profitability) of 71.7%.

REFERENCES

Abidin, Z. 1994. *Dasar - Dasar Pengetahuan Tentang Zat Pengatur Tumbuh.* Bandung : Angkasa.

Agustono. 2011. Peran Sektor Pertanian dalam Pertumbuhan dan Stabilitas Produk Domistik Regional Bruto di Kabupaten Bojonegoro. *Sripsi.* Jurusan Sosial Ekonomi Pertanian Fakultas Pertanian UNS dan PERHEPI Komisariat Surakarta.

Amanah, S. 2009. Pertumbuhan Bibit Stek Lada (Piper nigrum Linnaeus) Pada Beberapa Macam Media dan Konsentrasi Auksin. *Skripsi* Fakultas Pertanian. Universitas Muhammadiyah Surakarta. Solo.

Azzaino Z. 1983. *Tataniaga Pertanian*. Departemen Ilmu-ilmu Sosial Ekonomi, Pertanian,
Fakultas Pertanian. Institut Pertanian Bogor. Bogor.

Badan pengkajian dan Penerapan Teknologi. 2002. *Pengembangan Teknologi Budidaya Tanaman lada.* Diakses dari http://www.bppt.go.id

Bastian. 2012. *Ilmu Ekonomi. Konsep Pendapatan Asli Daerah*. Diakses dari http:id.shvoong.com/social-sciences/economics/2177328-konsep-pendapatan-asli-daerah-pad/.

Budian, DW. 2014. Analisis Pendapatan dan Keuntungan Usahatani Kentang di Kabupaten Karo. *Jurnal Wahana Inovasi 3 (1).*

Carter,W. K, & Usry. 2006. *Akutansi Biaya,* Edisi Ketiga Belas. Salemba Empat, Jakarta.

Direktorat Budidaya Tanaman Rempah dan Pagar (Diratpahgar). 2008. *Budidaya lada yang baik dan sehat.* Diakses dari http://ditjenbun.deptan.go.id/.

Evizal, R. 2013. *Tanaman Rempah dan Fitofarmaka*. Bandar Lampung: Lembaga Penelitian Universitas Lampung.

Gustiyana, H. 2004. *Analisis Pendapatan Usahatani untuk Produk Pertanian.* Jakarta: Salemba empat.

Hernanto. 1994. *Ilmu Usahatani*. Jakarta: Penebar Swadaya.

Hernanto, F. 2007. *Ilmu Usahatani*. Jakarta: Penebar Swadaya.

Lawani, M. 1995. *Budidaya dan Penanganan Pasca Panen Panili*. Yogyakarta: Kanisius.

Mediatani. 2015. *Cara Sukses Menanam Lada Dengan Mudah*. Diakses dari Http://mediatani.Com/cara-sukses-menanam-lada/.

Mulyadi. 1999. *Akuntansi Biaya*. Yogyakarta: Aditya Media.

Mulyadi. 2001. Analisis Biaya dan Profitabilitas Produk Roti pada Bella Bakery di Pondok Grede Bekasi. *Skripsi* InstitutPertanian Bogor.

Mulyadi. 2012. *Akuntansi Biaya*. Edisi ke-5.Cetakan Ke Sebelas.Yogyakarta: Sekolah Tinggi dalam Bidang Ilmu Manajemen.

Nurasa, T. 2002. Analisis Kelayakan Finansial Lada Hitam (Studi Kasus di Provinsi Lampung). *Jurnal* Pusat Penelitian dan Pengembangan Sosial Ekonomi Pertanian. Jawa Barat.

Rismunandar. 2003. *Lada Budidaya dan Tata Niaga.* Edisi revisi. Jakarta: Penebar Swadaya..

Sarpian, T. 2003. *Budidaya Lada dengan Tajar Hidup*. Jakarta: Penebar Swadaya.

Sarpian. 2004. *Lada: Mempercepat Berbuah, Meningkatkan Produksi, Memperpanjang Umur*. Jakarta: Penebar Swadaya.

Soekarno. 1997. *Pengantar Teori Mikro Ekonomi*. Edisi 2. Jakarta: Raja Grafindo Persada.

Soekartawi.1995. *Analisis Usahatani*, Jakarta: UI-Press.

Soekartawi. 2003. *Teori Ekonomi Produksi*. Jakarta: PT Raja Grafindo Persada.

Sotedjo, M,M. 1994. *Pupuk dan Cara Pemupukan*. P.T. Jakarta: Rineka Cipta.

Sadono, S. 2008. *Mikro Ekonomi Teori Pengantar*. Jakarta: P.T Raja Garfindo Persada

Sumantri., Bambang., Basuki., Sigit, P., Mery., Isronita. 2004. *Analisis Kelayakan Finansial Usahatani Lada di Desa Kundurun Kecamatan Ulu Musi Kabupaten Lahat Sumatera Selatan.* FP Universitas Bengkulu.

Suratiyah. 2006. *Ilmu Usahatani*. Jakarta: Penerbit Swadaya.

Tetti H.S,. 2013. Analisis Profitabilitas Pengembangan Usahatani Salak di Desa Persalakan Kecamatan Padang Sidimpuan Selatan Kabupaten Tapanulu Selatan. *Skripsi* Universitas Indonesia: Jakarta.

Wudianto. 2002. Stek Batang Tanaman Perkebunan. Pusat Penelitian Tanaman Perkebunan. *Jurnal* Jakarta.