

CHAPTER I

INTRODUCTION

This chapter consists of background, problem formulation, objectives of the research, benefits of the research, limitation of problem, and systematic of writing.

1.1 Background

Indonesia is one of the top ten producers of essential oils in the world, occupying the sixth and seventh position as producers of patchouli oil, cloves, eucalyptus, fragrant Citronella, cinnamon, and vetiver. According to Dr. MeikaSyahbanRusli, MSc, the lecturer at Institut Pertanian Bogor who is also the Chairman of Ketua Dewan Atsiri Indonesia, 40 percent of the types of essential oils produced in Indonesia. Indonesia's export market share from the world market for some essential oils includes 85 percentof patchouli oil, 70 percentof nutmeg oil, 63 percentof clove oil, and 15 percentof Citronella oil.

Essential oils are natural extracts from certain types of plants, both derived from leaves, roots, stems, twigs, flowers, or fruit obtained through the distillation process. The essential oil is one of the world's natural products that are widely used as basic ingredients of medicines, perfumes, food flavorings and preservatives, aromatherapy, vegetable pesticides, and so on. The usefulness of this essential oil also causes it to become one of the export commodities which generate high foreign exchange earnings for Indonesia.

In recent years, essential oils have received considerable attention from the Indonesian government through various programs at the Ministry of Agriculture. Growth in the number of exports of essential oils in Indonesia can be seen in **Figure 1.1**.

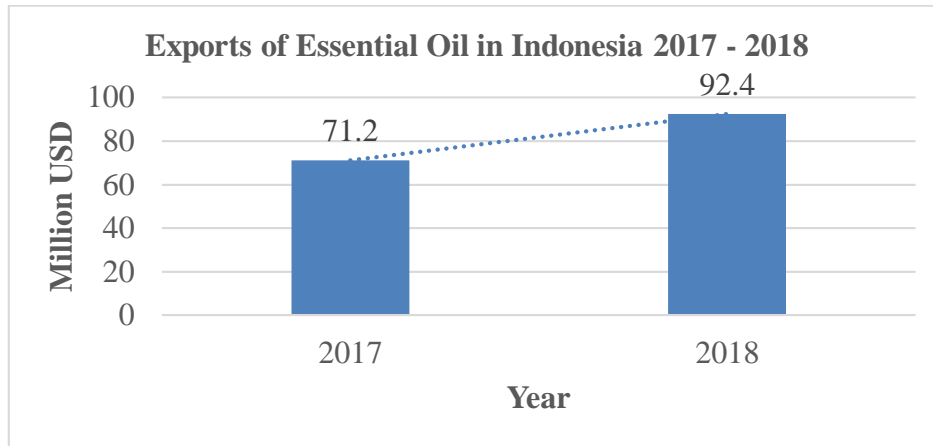


Figure 1.1 Exports of Essential Oil in Indonesia (Sumber : www.kemendag.go.id, 2019)

Plants that can produce essential oils are around 150-200 types. Out of 200 types of essential oils in the world, there are at least 50 types that can be produced in Indonesia. There are so many types of plant that can produce essential oil and one of them is lemongrass or *Cymbopogon citratus* or often called *Cymbopogon nardus* (Lenabatu). Lemongrass is a plant that enters into the family of grass or Poaceae. Lemongrass is one of the popular plants to be used as essential oil. It is because lemongrass has a good scent and can be used to make many products.

One of the potential city that can produce citronella oil is Kota Solok. Solok is a city in West Sumatra that has the potential for the development of lemongrass. Solok has critical lands that can be used to farm lemongrass because lemongrass can grow in infertile soils. Besides, the climate and the geographical conditions of Solok are also suitable for lemongrass.

Citronella oil is the featured product of Kota Solok according to Peraturan Walikota Nomor 39 Tahun 2009. However, product quality and selling value have not been facilitated for farmers and agribusiness entrepreneurs, with post-harvest optimization, processing, and development of derivative products will open up local markets, so citronella oil become the icon for the community's well-being, increase farmers' income, create employment, and reduce poverty in the level of social economy.

In accordance with the Peraturan Dinas Pertanian Kota Solok that formed base on Peraturan Daerah (Perda) Kota Solok Nomor 5 Tahun 2016 concerning the formation and arrangement of regional equipment, Peraturan Walikota Solok Nomor 36 Tahun 2016 concerning the position, organizational structure, tasks, functions and procedures, also Peraturan Walikota Solok Nomor 64 Tahun 2016 concerning duties, functions, and details of the structural position task in the Dinas Pertanian Kota Solokis led by the Head of Service who has the task of assisting the Mayor in carrying out government affairs which are regional authorities and co-administration tasks in agriculture. The advantages of Kota Solok compared to other cities/regions in West Sumatra are because the existence of Kebun Percontohan Balitro Laing that has become a demonstration plant for lemongrass and other essential oils.

The production of essential oil in Kota Solok in 2018 only reached 1700.5 kg. Details of essential oil production can be seen in **Table 1.1** below.

Table 1.1 Production of Essential Oil in Kota Solok 2018

No	Group of Farmer	Production of Oil/Year (kg)
1	Damar Jaya	128,00
2	Kalumpang Saiyo	42,50
3	Agribisnis Kota Solok	1170,00
4	Kebun Percobaan KP Balitro	360,00
Total		1700,50

(Source : Dinas Pertanian Kota Solok, 2018)

Based on Table 1.1, oil production per year is still far below the world demand for citronella oil which has been stated by Paimin and Yuniarti. So that the production of distillation companies has not been able to meet the world demand from citronella oil which is quite high. Therefore it is necessary to increase production so that the needs of citronella oil can be fulfilled optimally.

The main raw material in the process of producing citronella oil is lemongrass leaf. Lemongrass leaves are taken from lemongrass that are planted in the plant

land. Based on interviews with one of the citronella oil distillation operators, information was obtained that on average 1 hectare of citronella could produce 8 tonnes of citronella leaves in a single harvest. The frequency of harvesting lemongrass plants is 3 times per year, which means that in one year 1 hectare of land can produce as much as 24 tons of lemongrass. Potential area of citronella plantations in Kota Solok can be seen in Table 1.2 below.

Table 1.2 Potential Area of Citronella Plantations in Kota Solok

No.	Kelurahan	Area of Land (Ha)
1	Kec. LubukSikarah	9.25
	a. Kelurahan VI Suku	6.25
	b. Tanah Garam	3
	c. IX Korong	-
	d. KTK	-
	e. SimpangRumbio	-
	f. Aro IV Korong	-
	g. SinapaPiliang	-
2	Kec. TanjungHarapan	31.5
	a. Laing	25
	b. Nan Balimo	1
	c. KampungJawa	5.5
	d. TanjungPaku	-
	e. Koto Panjang	-
	f. PPA	-
	Total	40.75

(Source : Dinas Pertanian Kota Solok, 2018)

Based on **Table 1.2**, it is known that in the year of 2018, from the total of 362,55 Ha available land only 40,75 Ha that had been planted by lemongrass in Kota Solok. The rest of it is just an empty land that has not been handled properly. With the productivity of the land is about 24 tons/Ha/year, so we can obtain the yearly productivity of lemongrass land in Kota Solok just like in **Table 1.3**.

Table 1.3 Productivity of Lemongrass Land in Kota Solok

No.	Kelurahan	Luas Lahan (Ha)	Produktifitas Lahan (Ton Daun/Tahun)
1	Kec. Lubuk Sikarah	9,25	222
	a. Kelurahan VI Suku	6,25	150
	b. Tanah Garam	3	72
	c. IX Korong	-	-
	d. KTK	-	-
	e. Simpang Rumbio	-	-
	f. Aro IV Korong	-	-
	g. Sinapa Piliang	-	-
2	Kec. Tanjung Harapan	31,5	756
	a. Laing	25	600
	b. Nan Balimo	1	24
	c. Kampung Jawa	5,5	132
	d. Tanjung Paku	-	-
	e. Koto Panjang	-	-
	f. PPA	-	-
	Total	40,75	978

It is known that currently only 212.56 tons of lemongrass have been successfully processed into citronella oil in the Kota Solok. While from **Table 1.3**, it is known that the Kota Solok has the potential to produce lemongrass leaves as much as 9063.75 tons of leaves per year. That means that the current production of citronella oil is not optimal in Kota Solok. So it is necessary to increase production capacity so that the lemongrass leaves can be used optimally.

Every year, the lemongrass plant land grows. It was recorded that in 2015 the lemongrass land area was 21.5 hectares and in 2018, the area of lemongrass was 30 hectares. With the increasing breadth of lemongrass land, the production of lemongrass is also increasing. In one hectare of lemongrass plants, it can produce 17.5 tons of leaves. Every 1 ton of leaves can produce 8 kg of citronella oil, where the selling price of this oil is Rp 270,000 - 280,000 / kg. Thus one hectare of lemongrass can make Rp 39,200,000.

The amount of revenue is quite promising in agriculture to become a source of income. Production costs are also not very large, only planting at the beginning which requires large costs. The production cost of lemongrass until harvest is 30% of the acquisition value. Based on the data on the acquisition of income above, the total production cost is Rp 11.760.000, thus the profit obtained in one hectare is as much as Rp 27.440.000.

To add to the economic value of essential oils, businesses need to process them again into several ready-to-use products. At present, most of the industries that carry out the processing of essential oils are derived overseas. In the city of Solok itself there are only 3 SMEs that process essential oils into derivative products with details of 2 SME soap makers and 1 SME citronella oil maker. World export-import statistics show that the consumption of essential oils and their derivatives has increased by around 10% from year to year. The increase was mainly driven by the development of demand for the food flavoring industry, the cosmetics and fragrance industries (Mulyadi, 2009). As a result, the value of Indonesia's essential oil imports is higher than the value of exports. Based on data from the Indonesian Atsiri Council, the number of imports of essential oil derivatives by Indonesia in 2008 was US \$ 401 million while exports were only US \$ 103 million, aka a deficit of three to four times the value of exports.

The large market potential of essential oils in Indonesia and even overseas has not been fully utilized by the public, business actor, and even the government. Essential oil is one commodity that has high economic value, low production costs, easy processing, and can increase regional income. So that the government of Kota Solok plans to build SME centers where the entire process of producing essential oils and derivative products is processed in this center. However, the government still does not know whether the construction of this SME will generate profits and improve the regional economy in accordance with the potential market for essential oils at this time.

Based on the description, it is deemed necessary to conduct a feasibility study on the citronella oil industry. To find out whether with the overall merger of the essential oil industry is feasible or not. The feasibility study is carried out from the lemongrass harvest, processing of essential oils, to processing of derivative products from the citronella oil itself.

1.2 Problem Formulation

Based on the background that has been explained, the problem formulation from this research is whether with the existence of this SME center, this essential oil business is feasible or not.

1.3 Objectives of the Research

The objectives of this research are to find out whether the business of essential oil and its derivative products is feasible to be the medium business industry in Kota Solok

1.4 Benefits of the Research

The benefits of this research are:

1. For the government of Kota Solok, this research is expected to be one of the supporting factors in making the right decisions or steps in this business investment.
2. For other academics, this research is expected to be a reference material or comparison material for further research.

1.5 Limitation of the problem

The limitation is the research is conducted only for the essential oil business which will be built into the SME center in Kota Solok

1.6 Systematic of Writing

The writing of this proposal is divided into three chapters with systematics as follows:

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| CHAPTER I | INTRODUCTION
This chapter consists of background, problem formulation, objectives of the research, benefits of the research, limitations of the research, and also the systematic of writing. |
| CHAPTER II | LITERATURE STUDY
This chapter consists of theories relating to research namely essential oils, business feasibility studies, and related research. |
| CHAPTER III | RESEARCH METHODOLOGY
This chapter consists of steps in conducting research, namely preliminary studies, literature studies, data collection and processing, analysis, and closure. |
| CHAPTER IV | DATA COLLECTION AND PROCESSING
This chapter contains data collection and processing for each aspect of feasibility study, which are market and marketing aspect, technical and technological aspect, human resource and management aspect, legal aspect, environmental aspect, and financial aspect. |
| CHAPTER V | ANALYSIS
This chapter explains the analysis that comes from the results of data processing. Analysis is an elaboration of a subject for various parts and a review of the part itself and the relationship between parts to obtain an appropriate understanding and |

understanding of the overall meaning of a subject. The analysis carried out covers each aspect of the feasibility study.

CHAPTER VI CONCLUSION

This chapter explains the conclusions and suggestions.

