

Perception of Patchouli Farmers on the Development of the Innovation Cluster in Panga, Aceh Jaya Regency

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Abstract: The purpose of this study was to identify the interests and attitudes of patchouli farmers towards the development of patchouli innovation clusters and to find out and analyze people's perceptions of the development of patchouli innovation clusters in Panga, Aceh Jaya Regency. The choice of location in this study was done intentionally (purposive sampling) with the reason that the research location is the place for the patchouli innovation cluster development plan. How to determine the sample in this study using the census method. The samples determined in this study were 80 patchouli farmers. The analytical method used in this research is the Likert scale and descriptive qualitative method. The results of the study showed that the attitudes (affective) and perception (cognitive) of patchouli farmers were good for the development of patchouli innovation clusters. Respondents hope the patchouli innovation cluster can be built immediately so that the standard of living of the community in the District of Panga can be prosperous. Perceptions generated from patchouli farmers are positive perceptions, the community is very receptive to innovations in Aceh Jaya on patchouli cultivation from upstream to downstream so that the cluster is very beneficial for the surrounding community.

1 INTRODUCTION

Patchouli (*Pogostemon cablin* Benth) is a plant that grows low close to the soil surface, has smooth leaves and rectangular-shaped stems. The dried leaves of the patchouli plant are distilled to produce patchouli oil. Patchouli oil is commonly used as a binding agent in the perfume, cosmetic and pharmaceutical industries (Maulidi, 2005).

Syaifullah, head of the Aceh ARC (2017) said that Patchouli Aceh (*Pogostemon Cablin*, Benth) is one of Aceh's leading commodities. Patchouli Aceh is the best patchouli in the world which has a Patchouli Alcohol (PA) content above 30%. Indonesia is a supplier of 90% of the world's patchouli oil needs and 15% of them have come from Aceh. Some patchouli oil-producing provinces in Indonesia, namely the provinces of West Sulawesi, South Sulawesi, Central Sulawesi, Gorontalo, Aceh, North Sumatra, West Sumatra, Jambi, South Sumatra, Lampung, West Java, Central Java, D.I. Yogyakarta, East Java, Bali, East Nusa Tenggara, and East Kalimantan. Production from these regions controls 80% to 90% of the world patchouli market. When viewed from the area of smallholder plantations, then West Sumatra is

the widest area, while in terms of production, that is the province of Aceh with the most production, estimated at 645 tons. In addition to the amount of production, Aceh Province is famous for the best patchouli quality in the world with one of its superior, namely Tapaktuan varieties.

According to Mahmud, (2019) the quality of patchouli oil in Aceh province has a yield (oil content) ranging from 2.6% -3.3%, while the average patchouli in the world only reaches 2.5%. This is based on the results of the research team of researchers from Bogor. Aceh patchouli production is spread in Aceh Jaya District, Southeast Aceh, Aceh Besar, Pidie, Pidie Jaya, Bireuen, Central Aceh, North Aceh, Aceh Tamiang, Gayo Lues, Sabang, West Aceh, Nagan Raya, Southwest Aceh, South Aceh, and Aceh Singkil. Aceh Jaya has a long history of patchouli oil production, along with areas that cultivate patchouli plants, namely Lamno, Sampoiniet, Lhokruet, Panga, Pasie Raya and Teunom since decades ago. Aside from having a long history of patchouli, Aceh Jaya is also easily accessible and has a very strategic position.

Table 1. Patchouli Aceh Jaya production in 2008 – 2017

Number	Year	Land area (Ha)	Production (Ton)
1	2017	146	25
2	2016	-	-
3	2015	-	-
4	2014	158	16
5	2013	342	35
6	2012	308	11
7	2011	330	26
8	2010	245	14
9	2009	245	14
10	2008	336	14
Total		2110	155

Source: Badan Pusat Statistik 2018

The patchouli production data table above, it can be seen that patchouli production from 2008-2017 experienced a fluctuation due to the lack of enthusiasm of the community towards patchouli cultivation activities. This lack of enthusiasm is caused by patchouli being susceptible to pests, which are very difficult to control and pests can make the income of patchouli farmers drastically decrease. For this reason, the development of patchouli innovation clusters will greatly help increase the enthusiasm of the community to do patchouli cultivation because this cluster is a container that can accommodate the community's production so that people are encouraged to do the patchouli production process appropriately. Therefore, the Aceh Jaya government took the initiative to create a program in collaboration with the Atsiri Research Center Unsyiah for the development of patchouli clusters.

2 METHODS

2.1 Location and Research Object

This research will be conducted in Panga District, Aceh Jaya Regency, Aceh Province. The choice of location for the study was due to the construction of the cluster in the area of Panga District, Aceh Jaya Regency. This research will be conducted in February-May 2019. This research uses descriptive qualitative methods.

The object of this research is the farmers who cultivate patchouli plants in the District of Panga, Aceh Jaya Regency. The scope of this research is limited to the perception of patchouli farmers on the

development of patchouli innovation clusters. The data used in the form of primary data obtained from interviews and questionnaires for patchouli farmers in the District of Panga, Aceh Jaya District and using secondary data. Perception is assessed using the affective aspect evaluation method while attitudes and interests use the cognitive assessment aspect.

2.2 Data Analysis

This research uses the descriptive qualitative method because the researcher wants to describe the public perception of the development of patchouli innovation cluster. Qualitative descriptive research is research that describes an object of research based on facts that appear or as they are in the field (Nawawi and Martini, 1996).

3 THE RESULT

3.1 Patchouli Farmers Mindset

The existence of mindset regarding eradication of pests on patchouli plants as well as support from various parties can increase the amount of production which is currently the amount of patchouli crop production that is still fluctuating. The following will explain the expectations of patchouli farmers based on aspects of mindset, the first is increasing public awareness in order to continue cultivating patchouli plants. This awareness can be in the form of providing financial assistance or providing input to farmers on the obstacles faced by patchouli farmers. The Aceh Jaya government expects the participation of patchouli farmers to jointly maintain the patchouli innovation cluster when it is completed.

Second is knowing important and want to increase knowledge about the patchouli innovation cluster. Patchouli innovation cluster is new for farmers in Panga, Aceh Jaya Regency. Their hope regarding this is that the government will continue to socialize and try to provide the latest information, thoroughly and packaged so that patchouli farmers can continue to understand easily.

Third is the increasing attention of the government by providing solutions to problems that are being experienced by patchouli farmers. The solution is expected as follows: financial assistance that will motivate the productivity of patchouli plants, counselling assistance or socialization about the importance of this cluster and the benefits of the cluster for patchouli farmers, making it easier to obtain the means of production and marketing means

of production yields, meeting to listen to farmers' opinions and training can improve the performance of farmers in cultivating patchouli plants.

3.2 Attitudes and Interests of Patchouli Farmers

Understanding of interests according to language (etymology), is the effort and willingness to learn and look for something. In terminology, interest is desire, liking, and willingness to something. According to (Hilgard, Ernest, Bower 1996) interest is a process that is constant to pay attention and focus on something that interests him with feelings of pleasure and satisfaction. In other words, interest is a feeling of preference and a sense of attachment to the patchouli inactivation cluster or atmosphere activities without anyone asking. Interest is the acceptance of a relationship between oneself and something outside of oneself. The stronger or closer the relationship, the greater the interest.

Table 2. Results of Indicators for the Evaluation Aspect of Patchouli Farmers in Panga

No	Indicators of Affective Assessment Aspects	Question	Indeks (%)	Rating Interval
1	Receiving	You are happy to observe the explanation about patchouli innovation cluster	65	Strongly agree
2	Responding	"You are happy to give questions to researchers when researchers are giving explanations about clusters"	78,75	Strongly agree
		"You dare to express opinions/questions when researchers have finished presenting material on patchouli innovation cluster"	55	Neutral
3	Evaluating	"You are optimistic about the development of patchouli innovation cluster"	73,75	Strongly agree

No	Indicators of Affective Assessment Aspects	Question	Indeks (%)	Rating Interval
4	Organize	You are interested in the development of patchouli innovation cluster	57,5	Neutral
5	Characterization	"The positive attitude of patchouli farmers towards patchouli innovation cluster development"	48,75	Strongly agree
		"You get clear information about patchouli innovation cluster"	96,25	Strongly agree
		"Knowledge of patchouli innovation cluster is beneficial"	52,5	Strongly agree
		"How big are your hopes for the development of patchouli innovation cluster in Panga District, Aceh Jaya Regency"	83,75	Strongly agree

Source: Primary Data (processed), 2019

The attitudes and interests of farmers towards the development of patchouli innovation clusters are explained in the affective evaluation aspects which have 5 indicators, namely:

- a. Receiving there were 52 (65%) respondents strongly agree with the statement above. It can be concluded that there are a lot of patchouli farmers who have sensitivity and (desire / pay attention) to an explanation of patchouli innovation clusters that they are able to accept material that has been submitted by researchers, while those who answer are neutral because they cannot understand and capture material quickly about clusters patchouli innovation is also caused by low levels of education.
- b. Responding there were 63 (78.75%) respondents who strongly agreed with the first statement and there were 44 (55%) respondents who were neutral about the second statement. It can be concluded that many patchouli farmers are not too brave to show their active attention to ask about the development of the patchouli innovation cluster.

- c. Evaluating there were 59 (73.75%) respondents who strongly agreed to the question. It can be concluded that respondents are optimistic about the patchouli innovation cluster development and the results show that there are 59 (73.75%) respondents who are very confident of successful patchouli innovation cluster development, while 21 (26.25%) are pessimistic about the patchouli innovation cluster development.
- d. Organizing there are 46 (57.5%) of respondents who are neutral about the statement. It can be concluded that patchouli farmers are not too interested in the development of patchouli innovation clusters. Perhaps the cause of the lack of interest is due to the lack of information transfer they get from the surrounding government so that they are still not too aware of patchouli innovation clusters. patchouli innovation cluster.
- e. Forming character (characterization) there are 39 (48.75%) who strongly agree with the first statement, there are 77 (96.25%) respondents who strongly agree with the second statement, there are 42 (52.5%) respondents who strongly agree with the statement third and there are 67 (83.75%) respondents who strongly agree with the fourth statement. It can be concluded that the attitude of the farmer's good attitude towards cluster development, farmers get clear information about patchouli innovation clusters that researchers explain, knowledge about the cluster is beneficial for farmers and farmers to have great expectations that patchouli innovation clusters will be built.

3.3 Patchouli Farmers' Perception

Perception is the act of compiling, recognizing and interpreting sensory information to provide an overview and understanding of the environment. Perception includes all signals in the nervous system, which are the result of the physical or chemical stimulation of the sensing organs. This research was conducted to determine the perception of patchouli farmers to patchouli innovation cluster development. Patchouli farmers 'perception of patchouli innovation cluster development is that patchouli farmers' perceptions are very good and very supportive of the patchouli innovation cluster development, patchouli farmers hope that patchouli innovation clusters in Panga sub-district, Aceh Regency can be built immediately to help the patchouli farmer's economy to prosper. Patchouli farmers also want to be involved in the development of the patchouli innovation cluster.

Table 3. Results of Indicators for the Aspects of Cognitive Assessment of Patchouli Farmers in Panga District

No.	Indicator Aspects of Cognitive Assessment	Indeks
1	Knowledge	There are 53 (66.25%) respondents who can repeat the material very well about patchouli innovation cluster that has been submitted by researchers.
2	Comprehension	There are 60 (75%) respondents who can remember and understand the material and can explain it in detail about the patchouli innovation cluster that researchers have conveyed.
3	Application	There were (71.25%) of respondents who were very capable of applying theories, ideas or goals of cluster development properly and correctly.
4	Analysis	There were 59 (73.75%) respondents who were able to think well and correctly about the material that the researchers had conveyed about the patchouli innovation cluster.
5	Synthesis	There were 57 (71.25%) respondents who were able to describe and conclude the material that had been explained by researchers about the patchouli innovation cluster.
6	Evaluation	There were 51 (63,75) respondents who were able to master the material on patchouli innovation clusters that researchers had explained in the discussion group discussion forum (FGD).

Source: Primary Data (processed), 2019

Based on the results table indicators of aspects of the cognitive evaluation of patchouli farmers in the District of Panga can be concluded as follows:

- a. Knowledge is measured by the way respondents can remember and repeat the material that researchers have conveyed without any assistance and assistance from anyone to recall the material. From 80 respondents there were 9 (11.25%) respondents who could not repeat material about

- patchouli innovation clusters that the researchers had explained, but there were also respondents who were unable to repeat well the material about patchouli innovation clusters that researchers had explained that was equal to 15 (15 18.75%) and there were 53 (66.25%) respondents who were able to repeat the material very well about the patchouli innovation cluster that was submitted by the researcher.
- b. Comprehension is measured by the way respondents can understand and comprehend material that has been known and can recall the patchouli innovation cluster that has been delivered by researchers in detail and can explain in their own words. From 80 respondents there were 12 (15%) respondents who could not understand the patchouli innovation cluster material submitted by researchers, 8 (10%) were respondents who did not really understand the material about patchouli innovation cluster that researchers had conveyed and there were 60 (75%) respondents who are able to remember and understand the material and can explain it in detail about the patchouli innovation cluster that researchers have conveyed.
 - c. Application is measured by the ability to connect, choose, organize, move, arrange, use, apply, classify, change the structure. From 80 respondents there are 7 (8.75%) respondents who are unable to apply theories, ideas or goals of the patchouli innovation cluster development that researchers have conveyed, but there are 16 (20%) respondents who are not able to apply theories, ideas or cluster development goals and 57 (71.25%) other respondents are very capable of applying theories, ideas or cluster development goals properly and correctly.
 - d. The analysis is measured by the ability to think logically in reviewing a fact/object in more detail. Characterized by the ability to compare, analyse, find, allocate, differentiate, categorize. namely the ability to think to capture & apply appropriately about theories, principles, symbols in new/real situations. From 80 respondents there were 9 (11.25%) respondents who could not think logically in reviewing the material that researchers had conveyed about the patchouli innovation cluster, but there were 12 (15%) respondents who could not think logically in reviewing material that had been researchers convey about patchouli innovation cluster and there are 59 (73.75%) other respondents who are able to think well and correctly about the material that researchers have conveyed about patchouli innovation cluster.
 - e. Synthesis is measured by the ability to think to integrate concepts logically so that it becomes a new pattern. Characterized by the ability to synthesize, infer, produce, develop, connect, specialize. From 80 respondents there were 6 (7.5%) respondents who were unable to conclude properly about patchouli innovation cluster material that had been submitted by researchers, but there were also 17 (21.25%) respondents who could conclude material about patchouli innovation cluster was not so detailed and complete and there are 57 (71.25%) other respondents were able to describe and conclude the material that has been explained by researchers about the patchouli innovation cluster.
 - f. Evaluation is measured by the ability to think to be able to consider a situation, value system, methods, problems and solutions by using certain benchmarks as a benchmark. Characterized by the ability to judge, interpret, consider and determine. Of the 80 respondents there were 10 (12.5%) respondents who could not understand what the researchers explained about patchouli innovation clusters, but also there were 19 (23.75%) respondents who understood but not all of them understood only a portion of the material about patchouli innovation which he understood, and in addition there were 51 (63.75) respondents who were able to master the material on patchouli innovation clusters that researchers had explained in the Focus Group Discussion (FGD) forum.

4 CONCLUSION

1. After conducting the research, it was concluded that the attitudes and interests of patchouli farmers towards the development of patchouli innovation clusters based on the 5 indicators tested were: (1) Receiving 65% of respondents strongly agreed and accepting the development of patchouli innovation clusters. (2) Responding of 78.75% strongly agreed and happy to give questions about patchouli innovation cluster material and 55% of respondents strongly agreed and dared to express their opinions when the researchers had finished presenting material about the cluster. (3) Evaluating of 73.75% of respondents strongly agreed and optimistic about the development of the patchouli innovation cluster while 26.25% of the other respondents were pessimistic about the construction of the cluster. (4) Organizing 57.5%

of respondents were neutral or the farmers' lack of interest in the development of patchouli innovation clusters caused the farmers were not interested because of lack of information obtained and frequent socialization or outreach by the local government. (5) Establish characterization of 48.75% of respondents strongly agree and have a positive attitude and attitude towards cluster development, amounting to 96.25% strongly agree and get very clear information from researchers about the cluster, amounting to 52.5% respondents strongly agree and according to these respondents knowledge of the cluster provides good benefits for them and 83.75% of respondents strongly agree and their expectations are very large towards the development of patchouli innovation cluster From the attitudes and interests in a scale of 5 (strongly agree). Because the most answers from respondents are scale 5 or (strongly agree) to the questions the researcher gave so it can be concluded that this shows that the cluster needs to be built immediately.

2. After conducting the research, it was concluded that patchouli farmers' perceptions of patchouli innovation cluster development based on 6 indicators tested were: (1) Knowledge of 66.25% of respondents who were able to repeat material very well. (2) Comprehension (75%) of respondents who can remember and understand the material and can explain it in detail about the patchouli innovation cluster. (3) Application of 71.25% of respondents is very capable of applying theories, ideas or the purpose of cluster development properly and correctly. (4) Analysis of 73.75% of respondents who can think properly and correctly about the material that researchers have conveyed about the patchouli innovation cluster. (5) Synthesis of 71.25% of respondents was able to describe and conclude the material that has been explained by researchers about patchouli innovation clusters and (6) Evaluation of 63.75% of respondents who can master the material about patchouli innovation clusters that the researcher explained in the Focus Group Discussion (FGD).

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