

## The Role of Farmers in Conserving Incense Cultivation in Hutagurgur Village Humbang Hasundutan District

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Article Info	Abstract
<p><b>Received:</b> October 27, 2022</p> <p><b>Revised:</b> December 9, 2023</p> <p><b>Online available:</b> January 30, 2023</p> <p><b>Keywords:</b> <i>The Role Of Farmers, Culture Of Frankincense, Sustainability Of Frankincense Plants</i></p>	<p>One of the important factors determining the sustainability of frankincense production is the participation of farmers in maintaining the industry. In order to preserve frankincense cultivation, farmers play a crucial role. The aim of this study is to identify those characteristics that impact this function and to assess how farmers might best play it. This study uses a descriptive methodology and is qualitative in nature. The researchers used the interview guide to conduct in-depth interviews in order to collect the data. Farmers in Hutagurgur Village mostly play the position of a peasant, but the manager's function is still underdeveloped. Farmers' ability to preserve incense is influenced by a variety of variables, including attitudes, motivation, perceptions, age, social status, and culture. Farmer support is becoming more important in the cultivation of frankincense. The farmers' contribution to raising incense sap output is inversely correlated to their level of motivation. Positive attitudes of farmers strengthen their contribution to the preservation of incense. The performance of incense growers is improved by their strong mutual collaboration. The community's interest in sustaining incense farming is waning as a result of the traditional values that were formerly important to its preservation. The growth of frankincense in the Doloksanggul region, which contains latex of export grade and is highly profitable commercially, offers strong prospects for sustainability.</p>

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### INTRODUCTION

North Sumatra Province is one of the provinces that has various types of plantsplantation. One of the leading commodity plantsplantations, namely frankincense(styrax). Frankincense is included in the type of Non-Timber Forest Products (HHBK) and has high economic value. BPS data year2017 mentions thatincense plant area inNorth Sumatra Provinceseearchpie22,912.13 ha and production capie6,177.03 tons. One of the incense-producing districts in North Sumatra is Humbang Hasundutan District. According to the BPS census data update for North Sumatra Province August 31 2018, Humbang Hasundutan Regency has a frankincense planting area of 4,888 ha consisting of 4,010 ha of

mature plants (TM), 755 ha of non-yielding plants, and 122 ha of immature plants (TBM). The production produced from these productive plants reached 1,208.03 tons.

Incense found in Humbang Hasundutan Regency is one of the agricultural products which has been passed down from generation to generation and has been going on for hundreds of years. Local wisdom appears as part of the community's way of utilizing existing natural resources to meet their daily needs. Its existence or existence surviving until now is one proof that this incense forest management system, apart from having ecological benefits and social values, also has good potential and prospects when viewed from an economic aspect to be developed in the future (Sitompul, 2011). The superiority and uniqueness of the incense tree is the reason for incense farmers to maintain this heritage. This local wisdom must be maintained and maintained because protecting the incense tree is the same as respecting the heritage of our ancestors. The various demands of the incense farmers were conveyed,

Hutagurgur Village is one of the incense-producing villages. According to BPS data for Doloksanggul District (2017), the area of frankincense in Hutagurgur Village in 2014 reached 299 ha with production reaching 5.06 tons. According to data from Dolok Sanggul District in 2014, the area of local frankincense plants has decreased sharply to 150.6 ha and produproof that this incense forest management system, besidesction has reached 5.27 tons and until now there has been no significant increase. If this is allowed to go unpunished, it will threaten the sustainability of incense as a form of local wisdom that supports their economy.

The majority of residents in Hutagurgur Village cultivate incense, the activity carried out by each farmer in incense cultivation has been carried out for generations. Can be said that the availability of existing natural resources, namely frankincense which has a high contribution to the economy, especially in North Sumatra Province by having export quality which is very important to develop and preserve. Given the lack of manpower and the lack of interest from farmers in cultivating incense because they are constrained by a lack of accessibility, the lack of availability of up-to-date information regarding incense cultivation, old incense trees and a lack of experts in this field (Sitompul, 2011).

According to the Forestry Research and Development Agency (2019) states that in the incense cultivation process there are many steps that must be carried out to support incense productivity. The first step to pay attention to the incense tapping process is that the incense tree is 3-4 years old, the diameter of the tree reaches 10-15 cm. The sap tapping must pay attention to the physiology of the tree. . Next clean the stem, which aims to avoid fungus attached to the stem. However, the facts on the ground are that the existing technology used by farmers is still not in accordance with what is recommended by the Forestry Research and Development Agency (2019).

Baron and Byrne (2003a) explain that attitude refers to a person's evaluation of various aspects of the social world, so that this evaluation creates a person's likes or dislikes for issues, ideas, people, social groups, and objects. Van Den Ban and Hawkins (1998) define attitude as a person's feelings, thoughts and tendencies that are more or less permanent about certain aspects of their environment.

Maslow (1943) argues that motivation is a function of five basic needs, namely physiological, safety, social, esteem, and self-actualization needs. These needs are arranged hierarchically. The most obvious manifestation of physiological needs are basic human needs such as clothing, food and housing.

Conditions in the field show differences in motivation between farmers, namely farmers who have high motivation in incense cultivation tend to have high levels of income and become the main livelihood. Farmers who have low motivation tend to have low incomes and also do not make incense cultivation their main livelihood. Farmers who have high motivation tend to work hard in incense cultivation, the main motive is not only as a form of livelihood but so that the incense that is cultivated can last to the next generation.

Farmers have not carried out the cultivation or tapping process in accordance with the R&D statement. As is the case when carrying out the incense tapping process, some farmers carry out the process of wounding the incense sticks without seeing whether the tree is flowering or not. Farmers also do not see the age of the incense trees. The impact that will arise is that the incense tree will be damaged quickly, if the incense tree is forced to be tapped prematurely, the incense tree will be easily damaged. It is feared that incense trees, which should still be able to produce sap, will die more quickly and no longer produce sap. Furthermore, farmers do not clean the stems cleanly, because they are constrained by the very traditional tools used with a very high level of risk of work accidents. This high risk makes farmers reluctant to climb tall frankincense trees, most of which are trees with a height of over 20 m. Other factors that also influence farmers in treating frankincense trees in accordance with R&D directives are the attitudes, motivations and perceptions of farmers in cultivating frankincense.

## METHOD

This type of research used in this research is descriptive qualitative. This research was conducted to describe the role of farmers in preserving incense cultivation and as an aspect due to the fading conditions of incense cultivation. This research took place in Hutagurgur Village, Doloksanggul District, Humbang Hasundutan Regency, North Sumatra Province. Hutagurgur Village is a village that has a history and uniqueness regarding farmers in preserving incense cultivation. This variety of uniqueness then underlies the researchers to take the research location in Hutagurgur Village.

Data was collected through in-depth interview techniques, observation, documentation and literature study. These techniques are used to maintain the validity of the data, because in qualitative research the researcher is the key instrument in the research he does, so using more than one technique can help to avoid data bias. Data analysis was carried out in two stages, namely the analysis carried out by the researcher while in the field and the analysis carried out after leaving the field. There are several stages in the post-field analysis step, namely data reduction, data presentation, and drawing conclusions.

## RESULTS AND DISCUSSION

The role of incense cultivating farmers is dominated by farmers as farm workers, in every stage of cultivation up to harvesting the farmer plays his own role as a farmer. This is also expressed by the view of Mosher (1991) that the farmer is caring for plants and animals in order to get their production.

Frankincense has benefits from a modern traditional perspective, in traditional elements. Traditionally, to get a good aroma of incense in every traditional ceremony that has become a tradition, Indonesian people, especially Java, usually use incense. The use of this incense, when burning it is often mixed with sandalwood. Whereas in the Middle East the use of Frankincense sap is more often mixed with the sap of the Mirh tree. The use of sap as an ingredient in smoking tobacco is still being used today, because many people think that frankincense can improve breathing. In modern terms, the view of incense sap has various ingredients, including: Benzoic acid, Styrol, Vanillin (C<sub>8</sub>H<sub>8</sub>O<sub>3</sub>), Styracin, Coniferil benzoate, Coniferil sinamate, Benzoeresinol resin and suma resinotannol Cinnamic Acid (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>COOH).

The activities carried out by farmers in Hutagurgur Village are still classified as traditional, the activities carried out in the incense farming use traditional tools and have not been touched by the modernization of tools and technology. Traditional incense cultivation is still practiced today, bearing in mind that from an economic point of view it does not cost too much. The process of working on incense plants using traditional tools and takes a very long time. In trying to farm incense there are 2 aspects carried out by incense farmers, namely Cultivation Traditions and Customary Rituals.

Table 1. Description of achievements and the role of researchers

Role of Farmers	Description / Achievement	Researcher Perspective
<b>Farmer</b>	Farmers in Hutagurgur village tend to carry out their role as incense farmers. Every activity process carried out by incense farmers in incense cultivation is carried out independently without any assistance or giving wages to the workforce. Some of the incense farmers already have a lot of understanding in cultivating incense, therefore the incense farmers in Hutagurgur village do incense cultivation rarely to employ labour. In this case the role of farmers as farmers tends to be strong.	Most of the farmers in Hutagurgur village have a fairly high understanding of incense cultivation, which can be seen from the way farmers carry out cultivation activities, always working without labor. Farmers in Hutagurgur village still rely on local knowledge that has been passed down from generation to generation by the incense farmer's parents.
<b>Manager</b>	The role of farmers as managers is those who manage human resources, farming and other things. In the process in the field,	Farmers in Hutagurgur Village tend to act as farm workers. It is very rare to find farmers who act as managers. This is

there are farmers in the village of Hutagurgur, especially those who are active in cultivating incense, it is very rare to find farmers as managers. The tendency in the village of Hutagurgur is for farmers to carry out their role as farm workers. This is due to a lack of information and knowledge of incense farmers. In this case the role of farmers as managers is weak.

Source : Processed Data

### Age

Older farmers tend to be physically weak, but have high enthusiasm in cultivating incense. In contrast to farmers who are young, tend to still have a strong physique, but low spirits. This can be seen when the researchers were in the field, the elderly farmers were very enthusiastic about cultivating frankincense. This is done because the farmer wants this incense not to become extinct and to continue to regenerate for the next generation. Unlike the young farmers, they tend to find it difficult to cultivate frankincense and are less enthusiastic about carrying it out. This was conveyed when researchers interviewed in the field:

"Indeed, young farmers rarely want to harvest incense like this, because harvesting incense is not easy, and the risks are also big, so that's the possibility that makes them not want to harvest incense" (OP, LM, MI)



Figure 1. 65-year-old farmer harvesting

Source: Processed Data

### Culture

Koentjaraningrat (1981), states that culture has at least three forms, namely; (1) the form of culture as a complex of ideas, concepts, values, norms, regulations and so on, (2) the form of culture as a complex of patterned behavioral activities of humans in society, and (3) the form of culture as objects made by humans .

In Hutagurgur Village it is closely related to culture and customs. This also concerns the cultivation of incense. Incense farmers who used to comply with customary rules in carrying out incense cultivation, now most farmers have begun to abandon the ways handed down by their ancestors in cultivating incense. Farmers in Hutagurgur Village have traditional knowledge and understanding passed down from generation to generation from their ancestors to the farmers who carry out the incense cultivation. The existence of cultural values that are deeply rooted in incense farmers does not make these farmers fully maintain what their parents have taught them.

### Social

The pan community of Hutagurgur Village is very thick with traditions and ancestral heritage. Traditional ceremonies related to the human life cycle, such as births, marriages, and ceremonies related to death, are almost always carried out by the community. The culture of gotong royong is still upheld in road repairs, irrigation, building houses of worship and residents' houses, as well as working together to hold events in Hutagurgur Village for agricultural products. This illustrates that the relationship between families in the village is close. The arts that the villagers are interested in are regional arts such as Tortor Batak and Gondang.



Figure 2. The process of selling incense from farmers to large collectors  
Source: Yuni, 2020

### Sustainability of Incidences

According to Gips (nd) quoted by Jarnanto (2010), an agricultural system can be called sustainable if it has the following characteristics:

1) Able to maintain ecological function

Frankincense is an environmentally friendly plant. Sustainable forests are identified with ecosystems that are still maintained. Therefore it is very easy to recognize whether an ecosystem has been damaged or its condition is still maintained. From an ecological point of view, the incense plant has several important points which are advantages that support it as a viable business to develop. In frankincense plants, land resources tend not to

change from their designation. It can even be used as an effort to improve the quality of the environment. This is different from other business units that require land, which tends to change the function of land which can reduce the quality and carrying capacity of the environment.

#### 2) Economically sustainable

The meaning continues economically, namely that farmers can produce to fulfill their own needs or income, besides being able to get sufficient income, farmers can also return the labor and costs incurred. Basic sustainability is measured not only in farm products but also in the function of conserving natural resources and minimizing risks. Frankincense plants have a very high selling value, but due to a lack of market information, farmers tend to receive very little margin. Besides these people having many other commodities that are planted, frankincense is still the prima donna for the people of Hutagurgur Village. Very affordable maintenance costs, by not using fertilizers.

#### 3) Fair

Under conditions in the field, there are still many farmers who have not been able to meet their basic needs from incense because farmers often still receive very little margin. This is due to a lack of knowledge and involvement of related parties in incense farming activities, so farmers still carry out according to the old teachings and by following their own egos. Market opportunities that are still said to be minimal make farmers choose to sell their agricultural products directly to the toke/juragan incense in Hutagurgur Village, this is because farmers still do not know about the incense market or incense middlemen more closely. The capital spent by farmers to care for incense is not too much, because farmers only use natural resources to help the process of growing incense.

#### 4) Human

The conditions in the incense cultivation field cannot be separated from the customary values passed down by our ancestors. In every incense management activity, it is not uncommon for the ancestors to take part in traditional rituals for the continuation of incense cultivation. however, as time goes by, this spiritual process fades away day by day, before the introduction of religious teachings, the ancestors always perform these rituals so that the incense can last to the next generation. Currently, only a few farmers still maintain this method because according to the farmers, this method is a way to respect what has been passed down by their ancestors.

#### 5) supple

The people of Hutagurgur Village are currently very open to the current conditions. Precisely the difference between the past and present conditions is developing in a better direction, speaking of the past, almost all people manage incense in an individual way, this is done so that the incense plants they plant are not controlled by other people, therefore the village community Hutagurgur often worked alone in the forest. Unlike the current condition of society, most of the people work together in carrying out the farming process, due to a lack of capital to employ labor, therefore these communities work together and help each other in carrying out farming activities

## CONCLUSION

The role of farmers in Hutagurgur Village is dominated as Farmers, because in reality the farmers in Hutagurgur Village carry out the incense cultivation process themselves up to the harvesting and marketing process. Not all farmers carry out full cultivation in accordance with local wisdom, there are only a few farmers who still carry out full cultivation. The attitude of farmers who fully support frankincense cultivation tends to like frankincense cultivation and has good results. In contrast to the unsupportive attitude of farmers who tend to dislike incense cultivation and have poor results. Farmers who have high motivation in cultivating incense tend to be active, because incense cultivation

is the main livelihood for these farmers. In contrast to farmers who have low motivation in cultivating incense, because incense cultivation is one of the many types of plants that are cultivated. Farmers who have a positive perception of fully cultivating incense tend to be very easy to cultivate incense and produce good sap. In contrast to farmers who have a negative perception of full incense cultivation, they tend to find it difficult to cultivate incense and produce less than optimal sap. Older farmers tend to have a vulnerable physical condition, but have high spirits. In contrast to farmers who are younger tend to have a strong physique, but have low spirits. Traditional ceremonies in the incense cultivation process used to be very actively carried out, but after the introduction of religious teachings the ritual process has begun to decrease, because the people in Hutagurgur Village already have different beliefs. Hutagurgur Village is very compact in carrying out religious activities, not only in religious activities, in cultivating incense it is also very active in working together. Mutual cooperation activities are only new because the people in Hutagurgur Village already have different beliefs. Hutagurgur Village is very compact in carrying out religious activities, not only in religious activities, in cultivating incense it is also very active in working together. Mutual cooperation activities are only new because the people in Hutagurgur Village already have different beliefs. Hutagurgur Village is very compact in carrying out religious activities, not only in religious activities, in cultivating incense it is also very active in working together. Mutual cooperation activities are only new currently running on farmers. The sustainability of incense in Hutagurgur Village is very promising to continue to be developed. The incense cultivation system is fully in accordance with local wisdom which still dominates are still being carried out by some farmers, due to the lack of new information received by incense farmers so that incense cultivation in full accordance with local wisdom is still being carried out. Ecologically, frankincense is very environmentally friendly because it has benefits not only for the incense itself but for the plants around the incense plant. Economically, frankincense is very promising, because the price of incense sap is very high, but the obstacles are the marketing or trading system which is very long and the lack of market information received, so that farmers often receive very little margin

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