

E-ISSN : [2986-3155](#), P-ISSN : [2986-3856](#)DOI: <https://doi.org/10.38035/gijlss.v1i1>

Received: 30 January 2023, Revised: 23 February 2023, Publish: 1 March 2023

<https://creativecommons.org/licenses/by/4.0/>

Strategy Adaptation Public Cultivator

Muhammad RajabUniversiti Malaysia Terengganu, Terengganu, Malaysia , email: muhammad.rajab@gmail.com

Corresponding Author: Muhammad Rajab

Abstract: This paper was written based on research that describes the adaptation strategies carried out by cultivating communities. The majority of the people work as cultivators which is their main livelihood. However, there are several obstacles they encounter in farming, such as weather conditions, the slope of the land, the distance to the market place, and limited farming tools. This study aims to explain the adaptation strategies carried out by cultivating communities. The theory used in this research is the adaptation strategy theory introduced by Conklin (1954). Data collection was carried out by means of passive participatory observation, in-depth interviews and documentation studies. The research findings show knowledge of adaptation strategies developed by cultivating communities: First, adaptation strategies to the natural environment. Second, the adaptation strategy knowledge system that was carried out to the limitations of technological tools in farming was carried out by making tools from natural materials, namely Sungkaik and coffee grinders or gulungih.

Keywords: Adaptation Strategy, Cultivation Society, Ethnoscience, Knowledge System.

INTRODUCTION

In general, the people of Renah Kayu Embun Village work as cultivators . This is supported by existing land for farming activities. Apart from growing coffee and *casiavera* (sweet skin) , recently the community has tried to increase their income by growing short-lived crops, such as chilies, onions, potatoes and other types of vegetables using the available land.

However, there are several difficult conditions faced by the community in cultivating their agricultural land. Erratic weather conditions sometimes become obstacles in farming. If the long dry season makes it difficult for cultivators to grow crops because of the lack of water content for plants in the soil. In addition, the cultivating community is also faced with sloping land conditions. The land in Renah Kayu Embun Village is not all flat, but there are also sloping lands for farming. In general, land on flat land is better than land on a slope or on a slope. This is because in flat places, the soil on the surface is not eroded by large amounts of rain.

Meanwhile, in a sloping place or on a slope, the land is less fertile. This becomes a difficulty for the community in farming because land management cannot be equated with

land cultivation on flat land. Apart from the weather and the slope of the land, the cultivating community is also faced with limited technological tools for cultivating the land. The presence of technology will support or facilitate humans in dealing with the problems of everyday life. However, the farming community in Renah Kayu Embun Village cannot afford to buy all of these tools because the prices are high. Another limitation faced by the farming community in Renah Kayu Embun Village is the distance to the place where their crops are marketed to the Sungai Lilin City market, which is around ± 27 km. This situation makes it difficult for people to sell their crops.

From the explanation above, there are several difficulties faced by cultivator communities in cultivating crops. Even though they faced many difficulties, they made their own way to survive.

In this study, researchers limit the problem to the knowledge system of the cultivating community which is manifested in the action of adapting strategies in facing various difficulties to survive. Based on the limitations of this problem, a research question can be asked: How is the adaptation strategy carried out by the cultivating community in Renah Kayu Embun Village?

In ethnoscience studies, adaptation strategies to the environment for a society are influenced by culture. Culture is a system of ideas and knowledge possessed by a society that influences their patterns of action. Haviland stated that humans adapt through the medium of culture when they develop ways to do things according to the resources they have and also within the limits of the environment in which they live.¹

Knowledge of managing the environment is a manifestation of the culture that is owned by the community. The different cultures they have will influence people's mindsets and give rise to different patterns of action in perceiving the environment in which they live. In other words, the relationship between humans, culture and the environment is very close.

To understand the adaptation strategy of cultivating communities to the local natural environment, it can be explained using ethnoscient theory first introduced by Conklin. The basic assumption is that "effective environment" is cultural in nature because the environment is perceived *differently* by people with different cultural backgrounds.²

The starting point of ethnoscience is to describe the environment as seen by the people studied by using the language concepts of the local community, namely by expressing the taxonomies and classifications that exist in local terms, however in the language or words they speak there are knowledge of citizens about their environment. In this way, it can be seen that the relationship between society and the environment is really perceived by a group of people with the "knowledge" they have.³ The adaptation strategy in this study is understood as a knowledge system owned by farming communities. All forms of their behavior are owned knowledge.

LITERATURE REVIEW

Adaptation

Adaptation / adjustment self is change self in accordance with circumstances environment but Also change environment in accordance with circumstances (desires self). Change self in accordance with circumstances environment its nature passive (autoplatic), for example a midwife village must can adapt self with norms And espoused values _ public village place He on duty . On the other hand , if individual try For change environment in accordance with desire Alone its nature is active (alloplasty), eg a midwife village want to

¹William A. Haviland . 1985. *Anthropology Edition Fourth Volume 2* , Translation RG Soekadijo . Jakarta : Erlangga. Hal 3.

² Heddy Shri Ahimsa-Putra. *Anthropology Ecology : A number of Theory And The development . Journal Anthropology* edition I. No 1 July-December 1998. Laboratory Anthropology FISIP University Andalas.Pg 7.

³Ahmad Fedyani Saifuddin . 2005. *Anthropology Contemporary : A Introduction Critical About Paradigm* . Jakarta: Prenada Media. pg 277.

change behavior women in the village For breast-feed baby in accordance reluctantly management lactation (Sunaryo , 2002).

According to Robbins (2003), adaptation is a process that puts trying human _ reach goals or need For face environment And condition social change in order to remain survive .

Based on two the meaning above can concluded adaptation is acquired defense _ since born or obtained Because Study from experience For overcome problem . That is in a manner individual or group demanded adapt when enter something environment new , for example ; family , company , nation , organize or respond environment .

Ethnoscience

Term ethnoscience or ethnosience own meaning something knowledge the knowledge you have by something nation or tribe . Sudarmin (2014) defines that ethnoscience as set knowledge the knowledge you have by community / tribe / nation certain obtained _ with method certain which is tradition community / tribe / nation certain And in a manner empirically , the truth can tested And be held accountable . Ethnoscience identified by Vlaardingerbroek (1990) as studies knowledge in context culture as adaptation culture to place stay somebody And practice it in life everyday . Culture existing local _ in public can utilized For knowledge education or learning (Sudarmin , Febu , Nusnowati , & Sumarni , 2016).

Sudarmin (2014: 17) mentions There is three field study study ethnoscience . Third field study the are 1) emphasizing ethnoscience on culture situation faced socially . _ Study study This show symptoms about considered material _ important for public And method organizing symptom the with the knowledge he has . 2) emphasizing ethnoscience on study in disclose culture that exists in society in the form of mark And prohibited norm _ nor allowed as well as development technology . 3) emphasizing ethnoscience on culture as something events that can make public gather And characteristic influence behavior everyday . Study study third is the most frequent studies used as material study study in public science .

METHODS

The approach used in this research is a qualitative approach. This approach was chosen with the consideration that in order to have a deeper understanding of the adaptation strategies of cultivating communities. In accordance with the focus of the study, the subject of this study was the farming community in Renah Kayu Embun Village. In order to obtain information that is in accordance with the research objectives, the informant selection technique in this study was *purposive sampling* , namely the researcher deliberately determines who will become an informant according to the data needed in an effort to achieve the research objectives. Informants were selected by all parties who could contribute in explaining the adaptation strategies of farming communities.

Data collection techniques in this study are: first, passive participatory observation. Second, *in-depth interviews* , especially with farming communities and community leaders. Third, the study of documentation on the data of farming communities.

This research was analyzed with ethnoscience in order to gain an understanding of the knowledge system of the cultivating community which was implemented in the adaptation strategy actions carried out by the cultivating community. The knowledge system possessed by the cultivating community is seen as a guide that underlies their behavior in adapting to the local environment.

RESULT AND DISCUSSION

Making Dug Wells

The construction of dug wells in Renah Kayu Embun Village has been carried out since the beginning of the farming community. This method is done to overcome

obstacles to sudden changes in weather. Weather conditions greatly affect the various types of plants they grow, because each plant requires different weather conditions. So, if there is a dry season, they must take steps to keep their plants thriving. The way out that they do is by digging wells. Dug wells can be used by cultivators when the dry season comes.

Based on the results of observations and interviews with several informants in the field, it appears that dug wells were made as an alternative for farming communities in overcoming difficult weather conditions. This has been done since ancient times when people started farming. If the dry season is long, the farming community will dig wells. Not all farming communities have these dug wells, only those who have the right location and are able to make them. The location that is considered appropriate is in the lowlands and close to the river so that it makes it easier to find water sources.

This first visible adaptation strategy is part of the ethnoscient mindset of farming communities about how they can cope with weather conditions in order to survive. This mindset is then realized in the pattern of action in the form of efforts to make dug wells. The adaptation strategy carried out by these cultivators is a manifestation of the culture they have. It is the existing culture that influences the interaction of the farming community with the surrounding environment.

Make a Water Storage Tub

In addition to making dug wells, the cultivating community is also looking for other alternatives in dealing with changing weather conditions, namely cultivating people to build a water storage tank. If the cultivators cannot afford to make dug wells, they will make a water storage tank. This alternative has been carried out by the cultivating community since 2008.

From the results of observations and interviews in the field, it appears that the holding tanks are a way to cope when the dry season arrives. The goal is to get water for their plants. Almost all of these water storage tanks are owned by cultivating communities because the manufacturing process is easier and can be made in the lowlands or highlands.

This adaptation strategy is a form of ethnoscientific thinking because it departs from people's understanding of the environment. Through this understanding, it will shape people's behavior to deal with difficulties in their environment in order to survive.

This, as stated by Conklin, is an "effective environment" (*effective environment*), namely an environment that influences human behavior, is cultural in nature, meaning that the environment is a physical environment that has been interpreted, interpreted, through certain sets of knowledge and value systems.

In this regard, the cultivating community does business by making water storage tanks. This effort is carried out inseparable from the understanding they have about their environment. Water storage tanks will be made in low or high plains by providing empty land as a place. So, if the rainy season arrives, the water will be collected in the tub and can be used at a later time if the dry season comes.

Do Nuhauh Ahai

Nuhauh Ahai is the native language of the people in Renah Kayu Embun Village, which means the tradition of asking the creator for rain. This is said to be a tradition because of a habit that has been carried out for a long time which is the belief of the people in Renah Kayu Embun Village for a long time. Based on the explanations from several informants above, it was explained that the *Nuhauh Ahai tradition* is a way that is owned by the people of Renah Kayu Embun Village. If there is a prolonged dry season, the cultivating community asks *Abuya* or the ustadz to perform *Nuhauh Ahai*

because the implementation process must be special' with the recitation of the holy Qur'an. *Nuhauh Ahai* is done if the community has experienced a prolonged drought.

In ethnoscience studies, adaptation strategies to the environment for a society are influenced by culture. This is similar to what the farming community in Renah Kayu Embun did, who performed the *Nuhauh Ahai ritual* to get rain for the creator. This ritual has been carried out by farming communities from ancient times until now in order to survive. This adaptation strategy is a form of effort in dealing with the dry season, so that their plants remain fertile and so that water is fulfilled for the daily needs of the family. The business is influenced by the culture they have.

Making sloping land into stairs or *Jenjea Tatah*

The land owned by the cultivating community is not all flat, but there are some sloping lands. The sloping land belonging to the cultivators has a slope of around 25% - 50% and is a bit of steep and steep land. Cultivator communities who have sloping land will continue to use the land in farming to supplement their income. In this case the cultivating community certainly needs a way to adjust to the sloping land conditions, because processing cannot be compared to processing on flat land. The method used by the cultivating community is to make the sloping land into stairs or *Jenjea Tatah*.

Based on the results of observations and interviews in the field, it appears that cultivators also carry out adaptation strategies on sloping land. They still take advantage of the sloping land by making the sloping land into stairs. This is done to plant types of plants such as chilies, potatoes, onions, and tomatoes. Making ladders is done with the aim that the application of fertilizer is effective, the plants will remain in place and will not be eroded by water during the rainy season.

If the cultivating people do not want to plant vegetable crops, they will not build ladders but instead they choose plants with strong roots such as coffee and cinnamon. This is because coffee and cinnamon plants have strong roots so they are not easily eroded and do not use fertilizers.

Conklin stated that "effective environment" is an environment that influences human behavior, is cultural in nature, meaning that the environment is a physical environment that has been interpreted, interpreted, through certain sets of knowledge and value systems.

In this regard, cultivators in Renah Kayu Embun Village generally have knowledge about the environment and what types of plants are suitable for planting on sloping land. They know that this type of vegetable is not suitable for planting on sloping land because the application of fertilizer is not effective. So that this will affect the actions they take, namely the community makes sloping land into stairs.

Making *Sungkaik* and Coffee Grinders for Processing Yields

Researchers found limitations in technological tools for cultivating land in the cultivator community in Renah Kayu Embun Village. The cultivating community cannot afford to buy all of these tools because they are expensive. The farming communities only use traditional tools and make tools from natural materials.

Based on the results of observations and interviews in the field, researchers saw that there were tools used in the form of traditional tools for farming. In addition, the farming community also developed an adaptation strategy by utilizing natural materials, namely cinnamon bark as a tool for *Sungkaik* and coffee grinders or *gulunguih*. *Sungkaik* is used by farming communities to scrape off the sweet skin so that it is clean and can be sold at a high price. Meanwhile, a coffee grinder can be used to clean the coffee skin before drying the coffee. These two tools are very useful for the community to improve the quality of their crops.

With the tools made, they can improve the quality of their crops, which can be sold at high prices. Almost all of the farming communities have a tool called *a sungkaik* and a coffee grinder because almost all of them grow cinnamon and coffee.

Conklin stated that "effective environment" is an environment that influences human behavior, is cultural in nature, meaning that the environment is a physical environment that has been interpreted, interpreted, through certain sets of knowledge and value systems. Because of this, the "objective" physical environment can be "seen" or "understood" (*perceived*) differently by people with different cultural backgrounds.

In this regard, cultivators form businesses by making new tools that can be utilized in processing crops. This action is a form of community knowledge about the surrounding natural environment to sustain life, in which part of nature, namely cinnamon bark, can be used as a tool. So they won't buy it at a high price.

Usoh As Traditional Transportation To Bring The Harvest

The condition of the long distance to the place where the harvest is marketed makes the community adapt to the existing conditions. The adaptation strategy adopted by the cultivating community is using *Usoh*.

From the results of observations and explanations from several informants, it was explained that before the existence of *usoh*, the community carried crops using human power. This has not been done until now because this method is considered to be difficult for cultivators, so they have made a method using *usoh* which has been carried out since 2003 until now. *Usoh* can be used by cultivating communities to bring their crops if there is no car to transport them to their village.

The farming community who have *usoh* are only a few people, namely people who raise cows. For people who don't have *usoh*, they rent out other people's *usoh*.

The adaptation strategy carried out by the cultivating community by utilizing *usoh* is a form of *ethnoscience* thinking, namely the efforts made by the community to survive the difficult conditions they face. The effort departs from their understanding and knowledge of the environment they face. Carrying goods and crops with human labor was considered difficult and labor intensive. So that in order to survive, the cultivating community will make efforts to solve the problems they face, namely by using *usoh* as a means of transportation to carry goods or crops.

Selling Harvest to Saragea and Burok

Apart from using *Usoh* as transportation to bring their crops, the cultivating community also has another alternative in selling their crops, namely selling their crops to *Saragea*. *Saragea* is the native language of the people in Kumun Debai District, which means buyers from other villages go directly to the village location. The location is far from the marketing area, about 27 km, so many cultivators have sold their crops to *Saragea*. But the selling price is cheaper than the market price.

Based on the observations and explanations from some of the informants above, that the farming community would sell their crops to *saragea* and *burok*. This also has convenience for farming communities because it is easier to sell it and there is no need to go to the market. The difference between *saragea* and *burok* is that *saragea* will buy young plants or the price is not too expensive, around 5-10 million, such as chilies, potatoes and other types of vegetables. While *burok* is buying plant products that are expensive and can reach 50-70 million, such as coffee and cinnamon. *Burok* is usually called a *toke* which has a bigger business than *saragea*.

Selling crops to *saragea* and *burok* is part of the adaptation strategy carried out by cultivating communities to survive. The way this is done is part of the results of public

knowledge of the condition of the long distance to the place where the harvest is marketed. So they are looking for an easier way to sell it to *Saragea* and *Burok*.

Raising Cows as a Support in Farming

The adaptation strategy carried out by the cultivating community can support farming and increase income, namely adding a side job by raising cattle. The side job chosen by the farming community is raising cows belonging to people in other villages. Caring for other people's cows is chosen because they cannot afford to buy it. In addition, keeping cows also helps in the farming process, because cultivators will use cow dung and husk ash that has been burned as cow fumigation at night which is used for plant fertilizer. This knowledge is a form of adaptation strategy for cultivators in saving costs for buying plant fertilizers. Besides that, cows can also be used by cultivators to make *usoh* as a tool for transporting crops. So people can hire their *usoh* to transport the crops. This can increase their income.

Based on the observations and explanations from some of the informants above, it was explained that some farming communities raise cattle as a support for farming and as an income supplement. In addition, there is a concept that is embedded in the cultivating community, namely " *Sapo nga many, masa lukohnyo toh nga dapeak* " (Whoever tries more, he is the one who gets more sustenance). The concept embedded in them is a guideline for cultivators to keep trying to find other alternatives to support farming and increase income. This can be seen in the efforts of farming communities to supplement their income by finding side jobs by raising cattle.

ethnoscience analysis in this study is to reveal the knowledge system possessed by the cultivating community. The knowledge system possessed by the cultivating community is manifested in their strategic adaptation actions to the environment in farming. This knowledge system is a guide for them in interacting with the environment in Renah Kayu Embun Village. All forms of adaptation strategies in farming carried out by the cultivating community in Renah Kayu Embun Village are in order to survive.

CONCLUSION

Community in the Village the majority work as cultivators which is their main livelihood. However, in the process of cultivating crops, there are several difficult conditions that the cultivating community finds, namely the natural environment and technological tools such as changing weather conditions, the slope of the land, and the distance to the place where the crops are marketed, as well as the limitations of farming tools. In this case, the cultivating community carried out an adaptation strategy to overcome the constraints they faced.

Knowledge of adaptation strategies developed by cultivating communities: *First*, adaptation strategies to the natural environment by means of; (1) dug wells, built water tanks, and performed *Nuhauh Ahai*. The three ways are done to get water. (2) making sloping land into ladders or *Jenjea Tatah* so that the application of fertilizer is effective. (3) *usoh* as traditional transportation for carrying crops, as well as selling the crops to *saragea* and *burok*. This method is done with the aim of making it easier to market the harvest. (4) keeping cows as a support in farming in order to increase income. *Second*, the adaptation strategy knowledge system that was carried out to the limitations of technological tools in farming was carried out by making tools from natural materials, namely *Sungkaik* and coffee grinders or *gulunguih*.

REFERENCES

Ahimsa Putra. S Heddy 1994. " *Ecological Anthropology. Several Theories and Their Developments*". Indonesian Society . Jakarta: LIPI. XX year. No. 4.

- Dude , Burhan . 2008. *Qualitative Research , Communication , Economics , Public Policy , and Other Social Sciences* . Jakarta: Kencana .
- Haviland, William A. 1985. *Anthropology Fourth Edition Volume 2* , Terj RG Soekadijo. Jakarta: Erlangga.
- Hidayah, Zulyani. 1996. *Encyclopedia of Tribes in Indonesia* . Jakarta: LP3ES.
- Alexander, Johan. 1992. *Ecology of Agriculture in Indonesia* . Jakarta: Djbatan.
- Koentjaraningrat. 1998. *Introduction to Anthropology II*. Jakarta: PT Rineka Cipta.
- Moleong, Lexy J. 2002. *Qualitative Research Methods* . Bandung: Rosdakarya Youth.
- Nasution. 1986. *Qualitative Naturalistic Research Methods*. Bandung: Tarsito.
- Poespowardojo, Soerjanto. 1993. *Cultural Strategy. A Philosophical Approach* . Jakarta: PT Gramedia Pustaka Utama.
- Saifuddin, Achmad Fedyani. 2006. *Contemporary Anthropology. A Critical Introduction to Paradigm* . Jakarta: Kencana.
- Soekanto, Soerjono. 1999. *Dictionary of Sociology* . Jakarta: Rajawali Press.
- Sugiyono. 2009. *Quantitative Qualitative Research Methods R & D*. Bandung: Alfabet.