

Culture and local wisdom of the lampung indigenous people on the Pesisir Barat in the utilization of the *Repong Damar* Agroforestry System

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Abstract

Forest resources have a very important role in people's lives, both directly and indirectly. Agroforestry can be an interesting example in the production of timber and non-timber forest products. Agroforestry is an intensive land management system that combines forestry plants and agricultural plants to achieve optimal results, while still paying attention to aspects of land conservation and carrying out cultivation in accordance with the needs of local communities. Indigenous communities on the Pesisir Barat inherit the values of *Repong Damar* through unique management, which is based on local wisdom of the local area. This research was conducted using a qualitative approach using the research desk method. This study approach seeks to explore data from various sources as secondary data so that the main source of research data is obtained using the research desk method or Secondary Data Analysis (SDA) with qualitative data. Indigenous communities in Pesisir Barat Regency manage *Repong Damar* by applying traditional values, namely regulated through customary law, inheritance of *Repong Damar*, and values in managing *Repong Damar* as a guideline for not destroying forests and continuing to manage them properly. Therefore, granting utilization permits, collaborative implementation, partnerships, and cooperation in empowering indigenous communities through local culture and wisdom in utilizing agroforestry systems carried out around the *Repong Damar* customary forest can help maintain sustainability and the ecosystem within it.

Keywords: Culture; Wisdom; Indigenous Peoples; Agroforestry; *Repong Damar*

1. Introduction

Forestry development strategy is to use forest resources sustainably to increase community, regional and state income. Forest resources have a very important role in people's lives, both directly and indirectly. Utilization of forest resources in the form of wood and non-timber forest product commodities can be increased to make a significant contribution to community income [1]. Agroforestry can be an interesting example in the production of timber and non-timber forest products. Agroforestry is an intensive land management system that combines forestry and agricultural crops to achieve optimal results, while still paying attention to aspects of land conservation and cultivation practices that suit the needs of local communities [2]. Like the *Repong Damar* agroforestry system on the Pesisir Barat, namely a combination of forestry plants such as damar (*Shorea javanica*) with medicinal plants and agricultural plants [1].

Repong Damar in Pesisir Barat Regency is an example of an agroforestry system that is managed sustainably by the local indigenous community. *Repong Damar* was designated as a Special Purpose Area (KDTI) in accordance with the Decree of the Minister of Forestry Number 47//Kpts-II/1998 [3]. This area has an area of 29,900 hectares and is managed on a community basis, with the ability to meet the social and economic needs of the community. The *Repong Damar* customary forest shows that a sustainably managed agroforestry management system is able to support the social and

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economic life of indigenous communities on the Pesisir Barat [4]. The knowledge of indigenous peoples on the Pesisir Barat regarding resin cultivation practices has been obtained and passed down from generation to generation from previous generations, then enriched with the knowledge of each generation.

Indigenous communities on Pesisir Barat inherit the values of *Repong Damar* through unique management, which is based on local wisdom of the local area. One of these local wisdoms is the management of the *Repong Damar* agroforestry system which goes through three stages, namely the darak phase, the garden phase, and the repong phase [4]. Each phase in the *Repong Damar* agroforestry system management process has its own characteristics and wisdom. This provides provisions for the community and damar farmers in terms of seeding, planting, caring for, harvesting and marketing these plants.

Apart from damar resin which has an economic impact on indigenous communities on the Pesisir Barat, the management of the *Repong Damar* agroforestry system also has a positive impact by encouraging communities to maintain and preserve damar forests and prevent extinction. So the management of the *Repong Damar* agroforestry system causes dependence on the Pesisir Barat indigenous people to support their living needs. The dependence of Pesisir Barat indigenous communities on *Repong Damar* is influenced by various factors including type of work, income, level of education, population growth, as well as the culture and wisdom of the local community. *Repong Damar* is appreciated by the Pesisir Barat indigenous people because it has noble values that are seen and considered sacred. Aspects of these values originate from the local wisdom of the community which regulates traditional ways of managing natural resources on the Pesisir Barat. The community still manages *Repong Damar* by adhering to the knowledge passed down from their ancestors, from land clearing, plant care to marketing the resin, including the process of extracting the resin.

The culture and wisdom of the Lampung traditional community on the Pesisir Barat has had a major impact on the function of the *Repong Damar* traditional forest. Unlimited and excessive use of forest products results in ecosystem damage, including loss of habitat for various types of animals and results in instability of forest functions. Management of the agroforestry system in the *Repong Damar* traditional forest area cannot be carried out haphazardly. Local community culture and wisdom is needed so that management is balanced between science and normative values that grow in local communities [6]. Therefore, support from the government and indigenous communities is very necessary to maintain the sustainability of forest ecosystems and utilize resources sustainably.

This article will discuss the culture and wisdom of the Lampung traditional community as an implementation to maintain community survival and preserve customary forests in the use of the *Repong Damar* agroforestry system. Various research, opinions and views will also be discussed to provide a better understanding and knowledge of local culture and wisdom in the *Repong Damar* agroforestry system. So that sustainable forest management is still needed so that the various forest products produced can be maintained and able to support all the activities of the Lampung traditional community on the Pesisir Barat. In this way, development and equity carried out in each region can be sustainable, including the entire Lampung Province region as a whole and its parts.

2. Material and methods

This research was conducted using a qualitative approach using the desk research method. This study approach attempts to explore data from various sources as secondary research data (Johnston, 2014), so that the main source of research data is obtained using the desk research method or Secondary Data Analysis (SDA) with qualitative data. The desk research method is carried out by exploring, collecting secondary data, analyzing and interpreting it according to the study topic (Pradana et al., 2021). The use of secondary data in desk research is relevant to current conditions, in the digital era with all the technological innovations, making desk research provide appropriate convenience and comfort for researchers. Secondary data used includes various sources such as books, journal articles, proceeding articles, legal documents, and other documents relevant to the main topic. Searches for journals, proceeding articles and other documents are carried out through online research databases.

Literature collection was carried out via <http://garuda.ristek.go.id/> and the Google Scholar database using the keywords "culture and wisdom of the Lampung indigenous people on the Pesisir Barat in utilizing the *Repong Damar* agroforestry system". The flow of the research process through the desk research method is:

- Determine the research questions.
- Develop research objectives.
- Arrange a research agreement.

- Analysis of research results.
- Presentation of results.

This study discusses information and scope regarding the culture and wisdom of the Lampung indigenous people in utilizing the *Repong Damar* agroforestry system to support the indigenous community's economy and sustainable management of *Repong Damar* based on scientific literature.

3. Results And Discussion

3.1. Case Study of Culture and Wisdom in the Utilization of the *Repong Damar* Agroforestry System

Management of natural resources based on culture and wisdom of indigenous communities in the use of the *Repong Damar* agroforestry system is a solution to maintain forest sustainability and human survival. The culture and wisdom of indigenous communities refers to the context of local knowledge-based management, economic and ecological benefits provided by customary forests on the Pesisir Barat, such as supporting subsistence needs, carbon absorption, water supply, and reducing emissions from deforestation and forest degradation [7]. Community culture and wisdom in utilizing the *Repong Damar* agroforestry system can be carried out through various approaches, such as community-based forest management, conservation partnerships between the community and government, and the use of information and communication technology [8]. Through this approach, land use conflicts involving the existence of traditional zones and protection activities for the diversity of rare plants and wild animals can be minimized.

Local culture and wisdom in the use of *Repong Damar* agroforestry on the Pesisir Barat is carried out to preserve nature and the sustainability of the resin ecosystem so that it can be used continuously. The use of the *Repong Damar* agroforestry system is a symbol of local wisdom which is passed down through the practice of extracting resin by traditional forest communities, so that forest sustainability is maintained. One important aspect of the local wisdom of the Pesisir Barat indigenous communities is the strict prohibition against cutting resin trees carelessly and excessively, so that this principle is firmly adhered to by the Pesisir Barat indigenous communities [9]. This local culture and wisdom is passed down from generation to generation and is also complemented by new knowledge from each generation which becomes a provision for resin farmers in carrying out resin cultivation efforts.

Indigenous communities in *Repong Damar* agroforestry cultivation use the principles regulated in local community customary law, as well as values passed down from one generation to the next, including the legacy of *Repong Damar* values [10]. These values are a benchmark for the community to preserve forests and carry out management with full responsibility, to maintain forest sustainability in accordance with the needs of the people on the Pesisir Barat. Thus, apart from providing an economic contribution to indigenous communities, the use of resin agroforestry systems can also increase awareness to protect resin forests from extinction and create a balance between economic benefits and environmental conservation [5].

Case studies regarding the culture and local wisdom of indigenous communities on the Pesisir Barat in the use of the *Repong Damar* agroforestry system have been carried out and have been proven to play a role in the survival of the community and the preservation of customary forests. Local culture and wisdom are efforts to manage the *Repong Damar* traditional forest on the Pesisir Barat. In more detail, the following is the culture and local wisdom of indigenous communities in utilizing the *Repong Damar* agroforestry system on the Pesisir Barat.

Based on the contents of **Table 1**, it can be seen that Pesisir Barat Regency has utilized the *Repong Damar* agroforestry system based on the culture and local wisdom of indigenous communities around the forest [6]. This culture and wisdom comes from the local thoughts and knowledge of the Pesisir Barat community which regulates traditional natural resource management practices. Communities in Pesisir Barat Regency manage *Repong Damar* by applying traditional values, namely regulated through customary law, inheritance of *Repong Damar*, and values in the management of *Repong Damar* as a guideline for not destroying the forest and continuing to manage it properly [4]. The Pesisir Barat indigenous peoples have traditionalized these values through distinctive management, namely based on a utilization system and management phases. The *Repong Damar* management phases include the darak phase, garden phase, and repong phase, each phase of which is based on the local wisdom of the local indigenous community [11].

Table 1 Cultural forms and wisdom of indigenous communities in utilizing the *Repong Damar* agroforestry system on the Pesisir Barat

No.	Forms of Culture and Local Wisdom	Explanation
1	Shifting cultivation system	This system is carried out traditionally involving crop rotation. When the land work on is considered to have reduced its fertility, people will look for other forest land to work on. When leaving the initial agricultural land, the people did not cut down the resin and fruit trees so that they grew to resemble a forest after many years. So that the sustainability of the resin will be maintained.
2	Customary law by <i>puyang</i> or ancestors	Pekon Pahmungan community in Krui is able to maintain a harmonious relationship with the forest by punishing anyone under 15 years of age who destroys or cuts down young resin trees. They will receive sanctions, namely planting resin tree seedlings on the land.
3	Ethics of managing the <i>Repong Damar</i> ecosystem	The community believes that <i>Repong Damar</i> will produce quality and abundant sap if the community prioritizes ethics in its management. So this will have an impact on the sustainability of the resin ecosystem.
4	Inheritance institutions with traditional rules	The community managing <i>Repong Damar</i> adheres to traditional values in passing down the assets they own. <i>Repong Damar</i> became a symbol social status, so that resin management still pays attention to ecosystem sustainability.
5	<i>Ngababali</i> ritual	The <i>Ngababali</i> ritual is carried out to ward off evil spirits or ask permission from the agricultural land guard or ask for protection. Through this ritual the aim is to protect the surrounding forest.

There are conditions that must be met in carrying out rituals in each phase of *Repong Damar* management. The community must prepare offerings or tools needed for the land clearing process in the first phase, namely the barracks phase. Apart from that, in carrying out land clearing during this darak phase, ethics must be prioritized in the process, namely that it must have criteria such as the community owning land that can still be cultivated, having ownership rights, the distance between the land and the resin collecting place is not too far [5]. However, if the situation does not include one of the criteria above, the farmer will have difficulty marketing his resin gum because the land is far from the marketing location for the resin sap.

In the second phase, namely the gardening phase, farmers believe that there will be *meghawan* (profit) because in this period the community gets a big opportunity to improve the economy and welfare of life by having plants other than resin plants, namely through the agroforestry utilization system. In the garden phase, there are ethics that must be upheld by farmers who plant productive tree species other than resin trees, namely various types of wood, jengkol, duku, and petai [5]. This ethic is planting resin tree species which must have resistance in the tree, meaning that it does not die or fall easily and does not require extra care from the farmer.

In the third phase, namely the repong phase. This phase is marked by the fulfillment of the diversity of plants found in *Repong* such as petai, durian, jengkol, duku, mangosteen and others. In this third phase, the community believes that if they wait up to 15 years or more from the garden phase to tap the resin trees, the results of tapping the resin sap will increase and there will be super quality resin sap, namely Cat's Eye Damar which is in the form of clear chunks which have high selling value on the market [5]. So apart from having an economic impact on the community, the management of *Repong Damar* also has a socio-cultural impact so that the community continues to maintain, preserve and avoid extinction.

The most important reason that indigenous peoples on the Pesisir Barat still plant resin trees is because *Repong Damar* is the main source of livelihood for the people of the Pesisir Barat and there are values, customs and traditions passed down by the *puyang* to continue managing *Repong Damar* in accordance with what was taught by them. the previous son. Apart from that, *Repong Damar* functions to confirm claims over ownership rights to land that has been cleared. If the land is left alone without continuing it to the repong phase, the land will return to forest. The traditions of the Pesisir

Barat community have been hereditary for generations that land that has returned to bushland or has become pulan ngugha may be managed by other people [5].

Apart from that, other research explains that the use of the *Repong Damar* agroforestry system has noble values which are of particular interest and attraction for scientists [11]. This attraction lies in the special cultural activities carried out by the Pesisir Barat indigenous people, so it is called tacit culture. The reason is that local knowledge of indigenous peoples in utilizing the *Repong Damar* agroforestry system is considered an element of culture that is not written, but exists in practices, institutions, interactions and a series of ceremonies carried out. So that the management and utilization of the *Repong Damar* agroforestry system is seen as a cultural heritage that must be preserved by the people of Pesisir Barat Regency..

Culture and local wisdom in the use of this agroforestry system are the result of social values that are highly valued in the social structure of the Pesisir Barat community. So it functions as a guide, regulator and guide of behavior in various aspects of life, both in social interactions between individuals and in relation to the natural environment. The culture and local wisdom of indigenous communities in utilizing the *Repong Damar* agroforestry system becomes an integral part of society, which is then passed on to the next generation traditionally through non-formal institutions, not through formal education [6]. This is considered a valuable treasure because it was obtained from ancestors who not only passed on values and culture, but also provided rules that must be followed by all local communities around the customary forest.

The values in local wisdom which are considered cultural heritage are actually vulnerable to extinction due to developments over time. The threat of extinction goes hand in hand with natural disasters, conversion of functions to other uses, depletion of resources themselves, and changes in the younger generation's interest in culture [11]. These four factors are thought to be the ones that are most likely to accelerate the extinction of *Repong Damar*'s local culture and wisdom, namely interference from outside parties, damage by human activities, and changes in the interests of the younger generation of the Pesisir Barat community. So it has an impact on reducing and even eliminating these cultural values and local wisdom.

3.2. Challenges and Opportunities for Lampung Indigenous Peoples in Utilizing the *Repong Damar* Agroforestry System

The challenges and opportunities for the Lampung indigenous community on the Pesisir Barat in utilizing the *Repong Damar* agroforestry system are very complex and varied. Some of the main challenges include changing resin forests into annual crops, changing resin forests into agricultural land and plantations, especially oil palm, cutting down trees, and burning land for settlements. The increasing population has an impact on the need for land for settlement and meeting community needs [12]. As a result, humans tend to use forests by cutting down trees and burning forest land. Cutting down trees is intended as raw material for building houses, while burning land is intended as land for houses to be built on.

Apart from that, another challenge for the Lampung indigenous community in utilizing *Repong Damar* agroforestry is the changing interest of the younger generation in Pesisir Barat Regency in managing damar gardens. Currently, the only people who are skilled at climbing resin trees are mostly harvest workers and farmers. This is different from the characteristics of the community in the 1990s until the 2000s, where many people can still be found carrying out activities in *Repong Damar*. An activity that is often carried out is climbing resin trees (pentakikan) to collect sap. These changes in characteristics and behavior are caused by problems in regenerating young resin farmers, namely changes in the interests and work orientation of the generation of young resin farmers [11].

On the other hand, there are opportunities for the Lampung indigenous community on the Pesisir Barat to utilize the *Repong Damar* agroforestry system, such as support from researchers and the government to preserve local wisdom to manage damar cultivation sustainably. The opportunity for utilizing *Repong Damar* agroforestry is quite large, namely the potential for a modernization ideology to hit the younger generation. Even though it has a negative impact on changes in interests and work orientation for the younger generation of farmers, the modernization ideology also has a positive impact for researchers to reveal the uniqueness of the damar forest management system that is traditional for the Pesisir Barat community. So that facts related to the management and utilization of damar agroforestry systems can be disseminated to a wide audience, including policy makers at the central level [5].

Several studies and research have been carried out regarding the challenges and opportunities for Lampung indigenous communities in utilizing the *Repong Damar* agroforestry system on the Pesisir Barat. One of them is research that analyzes a community-based sustainable natural resource management model in Krui by utilizing local knowledge [13].

Apart from that, studies show that the culture and local wisdom of the Lampung traditional community is the most important component in culture, including in the management of *Repong Damar*, which provides economic benefits for communities around the traditional damar forest in Pesisir Barat Regency, Lampung Province [5].

3.3. Solutions for Overcoming the Challenges of the Lampung Indigenous Community in Utilizing the *Repong Damar* Agroforestry System

The solution to overcoming the challenges of the Lampung indigenous community on the Pesisir Barat is to increase the role, awareness and strengthen the participation of indigenous communities in utilizing the *Repong Damar* agroforestry system. The culture and wisdom of indigenous communities in utilizing the *Repong Damar* agroforestry system can also be improved through collaboration between the government, NGOs, communities and researchers in sustainable financing and management. Apart from that, developments in technology and information can also be utilized in the management of the *Repong Damar* agroforestry system by indigenous communities to expand marketing access and increase the efficiency of sustainability of natural resources in the *Repong Damar* customary forest. Research states that the most influential socio-cultural factors are the ability of the people on the Pesisir Barat to maintain inheritance institutions that support sustainability, the community's ability to utilize indigenous knowledge, and the ability to own *Repong Damar* to be used as a symbol of social status [14]. So the strategy for developing the *Repong Damar* management system is largely determined by the strong and independent organizational factors of the *Repong Damar* farming community, the availability of road infrastructure, and the certainty of legal guarantees for the farming community in the *Repong Damar* area.

Other research states that collaboration between government, society and the private sector in various efforts, one of which is agroforestry activities, can increase the role and participation of local communities [13]. Utilizing resin land with an agroforestry system can also improve community welfare through the conservation of cat's eye resin (*Shorea javanica*) to participate in managing forest resources according to functions, rights and obligations. Therefore, granting utilization permits, collaborative implementation, partnerships and community empowerment cooperation carried out around forests can help preserve the diversity of wild plants and animals. Granting permits to utilize forest products from agroforestry systems such as resin is expected to reduce people's dependence on forests, especially in meeting their living needs. The granting of permits for this use must be accompanied by monitoring and evaluation to ensure the preservation and sustainability of resin trees and the use of resin sap by the community.

4. Conclusion

In principle, the culture and wisdom of the Lampung traditional community on the Pesisir Barat in utilizing the *Repong Damar* agroforestry system is a solution to maintain human survival and preserve customary forests. The local culture and wisdom that has existed for a long time regarding the management of *Repong Damar* is indeed in accordance with the needs of the community which ultimately becomes customs or habits carried out by the community. The use of the *Repong Damar* agroforestry system is a symbol of local wisdom which is passed down through the practice of extracting resin by traditional forest communities, so that forest sustainability is maintained. Apart from social and cultural benefits, the use of the *Repong Damar* agroforestry system by indigenous communities on the Pesisir Barat can also provide significant economic and ecological benefits for the community and surrounding areas. On the other hand, the challenges and opportunities for the Lampung Indigenous Community in utilizing the *Repong Damar* agroforestry system are very complex and varied. Thus, solutions are needed that can be implemented to overcome these challenges.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest in respect to this article.

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