

Land Acquisition of Indigenous Community Based on Sustainable Strategies for the Construction of the Hydro-Electric Dam Nenggiri Gua Musang Kelantan

Humaira' Aishah, Asmawi Ibrahim

Faculty Of Applied Social Science, University Sultan Zainal Abidin (UNISZA), Terengganu, Malaysia

Email: humairamnasir24@gmail.com, asmawiibrahim@unisza.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v14-i8/21450>

DOI:10.6007/IJARBSS/v14-i8/21450

Published Date: 10 August 2024

Abstract

Along with the current economic development, the demand for electricity supply and clean water causes the construction of hydroelectric dams in this country to be more vigorous. The issue of taking land belonging to Orang Asli for the construction of dams occurs due to its strategic location in the forest. The acquisition of owned land used as a development area is detected to affect and affect the lives of the Orang Asli community. Therefore, this study was conducted to identify the the status of land ownership and the impact of dam construction on the Orang Asli community. In addition, to explain the strategies and measures taken by the authorities to guarantee the well-being and sustainability of the lives of the affected Orang Asli. This study uses an ethnographic approach that is through qualitative methods. The data collection process involves interview techniques, observation and document analysis. A total of ten key informants were involved in this study. The results of the study found several impacts of dam construction on the Temiar Indigenous people, which are from the aspect of heritage land, culture, and identity as well as the socioeconomics of the community. The strategies and measures taken by the authorities are seen to emphasize the well-being and sustainability aspects of the lives of the Orang Asli which are affected through physical development planning, economic development, and also human development.

Keywords : Land Acquisition, Owned Land, Dam, Temiar People.

Introduction

In Malaysia, conflicts between the Orang Asli and the government often arise due to issues of land acquisition from the Orang Asli for development activities such as farming, mining, quarrying, residential area construction, and logging. According to Suhakam (2013), land within Orang Asli areas is also taken for public purposes such as highway construction, gazettement as forest reserve areas, national park areas, state park areas, and reservoir

purposes as stipulated in the Land Acquisition Act 1960. It has resulted in conflicts between the State Authorities (PBN) and the Orang Asli. With the global economic transformation and rapid urbanization processes, Orang Asli land is also taken to develop dam projects to meet the demands of society and industry for energy resources and clean water supply. According to Syuhada, Nurhidayu, & Sofiyan (2018), dam construction is seen not only as a means to obtain clean water supply but also as a double-edged sword where dams also serve as sources of electricity in addition to being flood mitigation tools, irrigation sources, and recreational areas (Yusoff et al., 2022).

The construction of a dam requires a large area and sometimes has significant effects on the environment and the people residing in the area. Remote forests are often explored to be used as construction sites for such projects, and typically these areas are inhabited by minority Orang Asli groups. Dams have been a catalyst for socio-economic development in the country since the 1950s, even before the nation achieved independence. Until now, there have been 65 dams constructed in the country, and this number is seen to be increasing steadily in line with current needs. All constructed dams serve important functions such as water supply sources, flood mitigation, recreational areas, environmental conservation areas, agricultural activities, and hydroelectric dams. However, the exploration and acquisition of Orang Asli land for dam construction sites leave notable impacts, especially when they are forced to relocate to new areas (Lee et al., 2018).

Indigenous Land Acquisition Issues

For the Orang Asli community, the concept of ancestral land or communal land has existed for generations, where the area known as ancestral land is a space used by them for their daily activities. In the context of ancestral land, it is owned collectively and shared among community members, passed down from generation to generation. All members of the community have equal rights to the resources within it for their sustenance (Gomes, 2012). Some boundaries need to be maintained to ensure the sustainability of natural resources. Natural resources are harvested carefully, rationally, and limitedly to ensure they can be inherited for future generations (Tarmiji et al., 2013). However, the sustainability of the Orang Asli community's way of life, which heavily depends on the surrounding environment, is increasingly affected by indiscriminate and unchecked development, leading to the decline of these resources.

The exploration of ancestral or communal land for development purposes often neglects the lifestyle, needs, and welfare of the Orang Asli community, resulting in unsatisfactory outcomes in terms of the sustainability of their lives, as most of them still rely heavily on natural resources for their livelihoods. Rapid economic development acts as a double-edged sword, demanding the extraction and use of natural resources and land for local development activities but at an alarming rate, thus affecting the sustainability of the Orang Asli community's way of life and involving issues of encroachment on ancestral land (Abdullah et al., 2016). Several examples illustrate the described issue, such as the ancestral land of the Temiar Orang Asli in Gua Musang being developed for logging activities, land clearing for development projects, and agriculture. According to a report issued by the Kelantan State Forestry Department in 2019, the government approved an area of 1,181,211 m² for logging activities, while 20,195 hectares of land were approved for land clearing for agricultural activities (Abdullah et al., 2020). The ancestral land of the Temuan Orang Asli in

Bukit Lanjan, Selangor and the Seletar Orang Asli in Johor have been developed as residential and commercial areas.

In the context of this study, Orang Asli land was taken for the construction of the Nenggiri Hydroelectric Dam in Gua Musang, Kelantan. This issue of encroachment on their land is closely related to the well-being situation within the Orang Asli community (Wook, 2015). As explained by Ibrahim (2019), ancestral land and everything within it are crucial for the survival of the Orang Asli community, serving as the main source of food, water, income, medicine, fuel, and other necessities of life. The need for land or ancestral land of the Orang Asli community is not only important economically but also closely linked to the reinforcement of their identity and sense of self, as well as its importance from a spiritual aspect. Therefore, this study was conducted on the Temiar Orang Asli community affected by the construction project of the Nenggiri Hydroelectric Dam to assess the impact and the steps taken by responsible parties to ensure their well-being and the sustainability of their livelihoods.

Literature Review

In most countries, areas without legitimate land ownership records are considered 'government land' even if these areas have been inhabited for a long time (Fraser, 2019). The absence of legitimate land ownership rights often results in indigenous people's areas being encroached upon or developed without fair compensation. For example, a study conducted by Bozigar et al (2016), found that indigenous ethnic groups residing in Northern Ecuador, such as the Secoya, Shuar, Kichwa, Cof'an, and Waorani, face encroachment issues for natural gas extraction activities. Additionally, the Q'eqchi indigenous community in Guatemala faces land-grabbing issues in their area for palm oil and sugarcane cultivation (Alonso-Fradejas, 2013). The impacts of the excessive use and extraction of natural resources are also felt by the Mundurucu community in Brazil, which is threatened by the construction of the Sao Luiz do Tapajos dam (Hess & Fenrich, 2017).

The same situation is experienced by the Orang Asli community, as issues of ownership, land access, and resources continue to plague them (Wook, 2019). Social change factors play a role in the issue of Orang Asli land acquisition, as described by Dooley & Griffiths (2014), in their study on Orang Asli seeking justice for their rights and land security. According to the study, land use policies practiced by a country have led to violations of its rights over the community's territory. This is because the Orang Asli settlement areas in unexplored remote areas are rich in natural resources such as mining and agriculture. These natural resources can generate high economic returns and have a wide market. Therefore, the policy has focused on colonizing Orang Asli territories, where government officials are given the right to take Orang Asli land for specific purposes. Conversely, the Orang Asli community has no right to object to the reservation of land by authorities, whether the area has been gazetted by the government or not.

Furthermore, economic development is also identified as a factor in the issue of Orang Asli's ancestral land acquisition by both government and private entities. According to the Human Rights Commission (2019), the land rights of Orang Asli communities are not formally legislated in Malaysian law. Acts protecting the interests and rights of Orang Asli are often amended according to suitability and changing times. Individuals are only given land

Methodology

This study employs an ethnographic approach to identify the land ownership status and the impact of the construction of the Nenggiri Hydroelectric Dam on the Temiar Orang Asli. Additionally, it aims to elucidate the strategies and measures taken by authorities to ensure the well-being and sustainability of the affected Orang Asli community. Qualitative methods are utilized in the data collection process, while data collection techniques include interviews, observation, and document analysis. Ten individuals were selected as study informants, with four of them being key informants. The units of analysis in this study consist of representatives from the village population, including local leaders (village headmen and members of the Village Security and Development Committee), representatives from government agencies related to the livelihoods of the Temiar Orang Asli community such as the Department of Orang Asli Development (JAKOA), and the developer of the Nenggiri Hydroelectric Dam project, Tenaga Nasional Berhad (TNB).

Result and Discussion

Status of Indigenous Land Ownership Involved With Dam Projects

In the current context, the land ownership status in Pos Pulat, Pos Tohoi, and Kampung Kuala Wias remains classified as 'state land' (government land), where the land status in these areas is under application for gazette but has not yet had been approved. Several factors are slowing down the approval of these applications, including overlapping claims between Orang Asli settlement areas and forest reserve areas. To facilitate the gazette of Orang Asli areas the forest reserve areas must be excised first. This process requires a considerable amount of time to complete. The granting of land ownership to the Orang Asli in Kelantan is subject to the state government's laws, where land is the property of the state government. Kelantan is the only state with the highest Malay Reservation Land, nearly 99 percent. Consequently, it is deemed to be against established constitutional principles to transfer territory to the Orang Asli unilaterally.

Nonetheless, the state government consistently pays attention to the status and well-being of the Orang Asli people in Kelantan. In line with the efforts made at the federal government level, which allocates the Indigenous Land Ownership and Development Policy (DPPTOA), the Kelantan state government has also formulated a Special Policy for Planned Land Ownership to the Orang Asli in 2015 (Abdullah et al., 2020). The formulation of this policy aims to serve as the basis for the administration of Orang Asli land in Kelantan, encompassing the process of land ownership grants and methods of Orang Asli land development. Orang Asli land in Kelantan has been gazetted for public use under Section 62 of the National Land Code. It means that the Orang Asli community has the right to utilize and administer the property that is available to them, but they are not awarded permanent ownership rights to the land. The State Secretary (SUK), who presently reports to the Kelantan Land Commissioner (PTK), is the designated representative of the state government of Kelantan.

“Accepting the gazette policy approved by the State Authority to promptly gazette the gazette under Section 62 of the National Land Code 1965 for public use (Special for Orang Asli Community Development) under the control of the State Secretary for all areas approved by the state government.”

(Special Policy for Planned Land Ownership to the Orang Asli)

The Impact of Dam Construction on the Indigenous People

The development of the Nenggiri Hydroelectric dam has had several effects on the Orang Asli Temiar community at Pos Pulat, Pos Tohoi, and Kampung Kuala Wias.

Loss of Heritage Land

The results of the study found that the construction of the Nenggiri dam in the three Orang Asli settlement areas of Pos Pulat, Pos Tohoi, and Kampung Kuala Wias caused the residents to lose their heritage land that had been cultivated for a long time. It was well known that the Orang Asli community heavily relies on the land and natural resources in their surroundings, especially for the Temiar tribe, who engage in subsistence and commercial agricultural economies. Ancestral land holds significant value and meaning for every community member, as it is where daily activities occur. The land also includes sacred sites, ancestral graves, and cultivated gardens. The construction of the Nenggiri dam not only affects a forest area of 5,384 hectares but also submerges a significant portion of the Orang Asli settlement areas involved. Thus, the Orang Asli communities in these areas must relocate to new settlement areas planned by the authorities. When authorities or project developers take over the land, villagers lose their rights to manage and cultivate it. It has been stated by the informant as follows:

“If we count the effects, there are indeed many, the impact of the project. First of all, prehistoric sites will be lost. It's not just the loss of some land, even the edges of Gua Cha have been submerged. But we can't do anything because it's a government project for the sake of the nation and the state, we have to accept it.” (I2, 2023)

“There were also those who oppose it, but it's just fragmented. From what I understand, people say they cherish the land. They cherish their ancestral heritage. That's what they say. They don't crave development like us, they crave preservation. Yes, it's like a grove. But what I know most is that they (the villagers) cherish the area where their ancestors passed away, the graves. Especially along the Nenggiri River, there is a lot of history. Now TNB Research archaeologists are studying and searching for skeletons along the river. That's why they don't want to accept this project, they don't want to lose the history of the Nenggiri river, they don't want to lose their deceased relatives, graves, and so on.” (I1, 2023)

According to the informant interviewed, the ancestral graves and prehistoric heritage around Gua Cha will also be destroyed due to the construction of the dam in the area. Cha Cave has been an Orang Asli burial ground for a long time. The Orang Asli population still adheres to some traditional values and beliefs, which is why they have a great deal of regard for the ancestral burial sites. The construction of the Nenggiri dam not only affects the Orang Asli settlement

area but directly threatens the historical heritage found along the Nenggiri River and also in Cha Cave.

Culture and Identity

The loss of heritage land and the relocation of the community to a new settlement leads to the problem of cultural decline and the unique identity of the Orang Asli community. Land becomes the heritage of the remains of the Orang Asli ancestors and is also symbolic of the ancestral identity (Mohd Niza & Abdul Manaf, 2021). The relationship between nature, land, and the Orang Asli community is special. The perspective expressed by the Orang Asli in interviews that they are 'synonymous with the forest' is the basis of the understanding of identity, self-identity, and cultural continuity that has existed for a long time. It was stated by the informant in the interview as follows;

“Indeed we are synonymous with the forest. It's nothing, our life is with the forest, that's what we use it for.” (I2, 2023)

From a sociocultural standpoint, as community members adapt to their local ecological environment, it influences several aspects of the community, including values, thoughts, behaviors, and activities. The Orang Asli community still lives a traditional lifestyle centered around the forest and natural resources. The skills and traditional knowledge that the Orang Asli group has possessed for generations are also impacted by land acquisition and deforestation in the areas surrounding their settlements. It is essential to maintain and transmit to the next generation traditional knowledge and skills associated with forest life, such as hunting, harvesting forest products, identifying medicinal herbs and traditional remedies, and more. Furthermore, the younger generation is solely dependent on the old because they have not acquired the customary knowledge and abilities.

“That tradition depends on the forest because our cultural customs depend on the forest. For example, if we want to work, we won't want to buy equipment near the city, am I right? We need to use original things, that grow. When this forest is getting older, it is no longer possible to practice the tradition, I think it is getting slimmer.” (I1, 2023).

Interviewee statements show that the Temiar group still practices the Sewang rite. Instead of using synthetic sources that are supplied outside, the equipment used for Sewang is typically sourced from local forest plants. This demonstrates how important the forest and the surrounding environment are to the survival of their way of life and culture. The Orang Asli community is worried about the shrinking forest areas brought on by development, though.

Socioeconomics

Orang Asli villages are primarily found in rural or hinterland locations, and their placement is directly related to the use of the land for agricultural purposes. Tribes of the Senoi Orang Asli, including the Temiar, Semai, Semaq Beri, Jah Hut, Mah Meri, and Che Wong, are well known for their prowess and enthusiastic participation in farming. From an economic standpoint, these communities rely heavily on agriculture and subsistence farming to support themselves. Through the decades, subsistence farming techniques have developed into commercial

agriculture. Predecessors' land is farmed for a range of crops, such as rubber plantations and vegetable gardens, known locally as "selai". Many types of selai are grown as both short-term and long-term crops.

"Thus, the majority of people rely on selai, or rubber plantations, as their main source of income. Others labor in the fields. The younger ones relocate to urban areas. KL is the furthest away. There, they work on a variety of tasks. Not many young people go there (to the city), but some do come here. Yet most individuals work in the village. Those without other community chores and those with rubber tap rubber."
(I2, 2023)

"We depend on rubber yields, if you follow along. However, a lot of people don't tap now days since the cost has decreased. In addition, we grow bananas and durian." (I1, 2023)

From the research findings and interviews conducted among informants, villagers in all three Orang Asli settlements are mostly involved in agricultural activities such as rubber, durian, and banana cultivation, as well as engaging in village work like gathering forest produce as their main source of income. Although there are also a few villagers working in plantations and various other sectors in major cities, the majority still rely on cultivated crops. This situation indicates that land use among the Orang Asli community is highly significant and serves as a crucial source of their livelihood. Land acquisition in these areas not only affects the settlement areas but also causes them to lose their sources of livelihood.

Strategies and Actions in Ensuring the Sustainability and Well-Being of the Affected Indigenous People's Lives

Realizing the impact on the well-being and sustainability of life that the Orang Asli people involved in this project have to face, several proactive strategies and measures have been compiled and developed by the project developer, Tenaga Nasional Berhad (TNB).

Resettlement

Development projects such as hydroelectric dam projects often involve land acquisition and displacement of communities. This situation not only affects the socio-economic aspects of the community but also threatens their well-being. In the context of resettlement carried out by TNB, several elements for the development of the Orang Asli community have been planned. Aspects such as physical development, economic development, and human capital development are taken into account to ensure that the affected Orang Asli community can enjoy an improved standard of living after relocation. The government through the project developer has allocated funds to finance the Orang Asli population involved in the relocation to new settlement areas, assisting in terms of land (farms), housing, and basic facilities.

The project developer or TNB also takes into account the voices of the Orang Asli villagers by involving them in the decision-making process, such as granting them the right to choose relocation sites, proposing house designs, and providing opportunities to suggest

measures to improve their socio-economic status in the new settlement areas. This statement has been supported by one of the informants.

“If we talk about it, TNB and us have been frequently discussing directly from the beginning of the project until today. They (TNB) call everyone, whether it's in meetings, or whatever it is, we're all involved.” (I1, 2023)

The elements of resettlement or development package in terms of physical development (housing), economy (income restoration & compensation), and also human capital have been drawn up by TNB as follows;

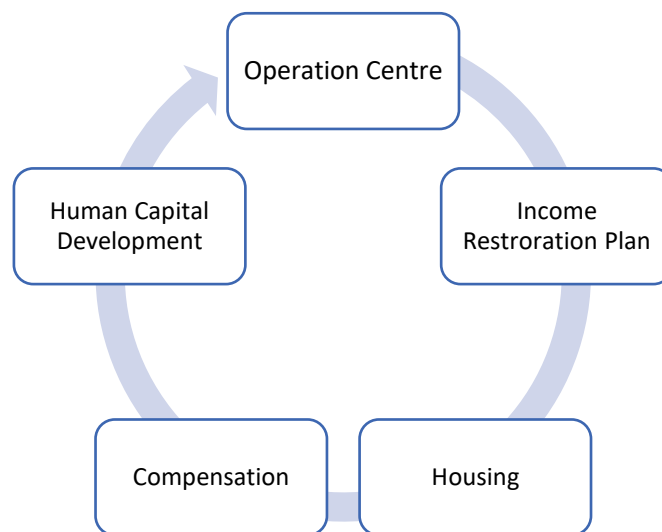


Figure 2: Resettlement Development Strategy

This was said by the informant, the relocation general manager for the Nenggiri Hydroelectric Dam project, during the interview session.

“So in Nenggiri, we refer to his phrase as resettlement. So, if this relocation adheres to an international norm, and according to your perspective, it is more than just shifting; it is a package. This means that we first establish housing and infrastructure, then we create sources of income or income restoration. One resettlement scheme will contain aspects of housing, income restoration, and compensation.” (I3, 2023)

Establish an Operation Centre

The operation center was established to allow affected residents to voice their concerns and obtain comprehensive information regarding the project. This operation center has been set up in several areas in Pos Pulat, Pos Tohoi, and neighboring Malay villages. TNB also appointed a special consultant, TNB Research, to assist in managing the operation center tasks.

“TNB has opened operation centers in Pulat, Tohoi, and nearby Malay villages. These places are like information stations. So if there's anything, villagers have a place to refer to. If there are concerns from the villagers, they can directly talk to TNBR. TNBR will record the complaints or concerns raised and try to resolve them as best as possible. In Tohoi, the operation center is located near the school. In Pulat, it's near the container area. There are always people there, and there's a schedule if villagers want to meet. It can be said that in terms of communication with the villagers, TNBR may already be familiar with them.” (I3, 2023)

Income Restoration Plan

In the context of economic development for residents affected by the loss of land and agricultural fields, the state government, through the project developer TNB, has agreed to allocate 6 acres of land for each Head of Household (KIR). Five and a half acres of land with rubber plantations will be given to each KIR; the remaining half acre will be set aside for vegetable or fruit gardens. The allocation of land to residents is aimed at replacing the crops affected by the dam construction project, as well as enabling the revitalization of the residents' economy after relocating to new settlement areas. This is because the main source of income for the people living in the village is agriculture. The selection of rubber trees resulted from discussions and agreements between the project developer and village residents after they were asked to provide suggestions regarding the loss of income sources.

Furthermore, the impacted indigenous tribes will receive a monthly living stipend from the project developer once they have relocated to the new settlement locations. The monthly livelihood allowance payment rate is in line with past projects like the Water Transfer Tunnel project in Pahang, Selangor, and Cameron Highlands. This concept is still being discussed, though, and it might be expanded further based on recent events. The monthly livelihood allowance is given for 48 months, or until the rubber trees reach maturity and begin to yield.

“In terms of income restoration, it's where we relocate and establish farms. These farms are intended as the villagers' income source. However, before these farms start yielding returns, we provide an allowance similar to livelihood assistance. It's akin to the government's rubber replanting project; that's more or less the concept. The specific monthly livelihood allowance rate hasn't been determined yet, but for now, TNB is using the existing rate from previous projects in Cameron Highlands, Hulu Jelai, and the Water Transfer Tunnel project in Pahang-Selangor. So, at this draft stage, that rate is being used, but there's consideration to increase the payment rate to account for the current rise in the cost of living.” (I3, 2023)

Housing

The project developer will replace the old homes of the affected residents by providing a new residential house for each family in the new settlement area. The construction of these new residential houses involves a total of 190 units, covering all three affected indigenous settlements with a total population of 1,115 people. The structure of the houses to be provided will include three bedrooms, a kitchen area, and a living room. The State Government has agreed to grant half an acre of land to each Head of Household (KIR) as the house site, while the area of each house to be built will be approximately 800 square feet, larger than the original houses, which were about 600 square feet only.

In addition to the residential houses, the project developer will provide complete infrastructure similar to what is available in the original villages but with improvements. Basic facilities or infrastructure to be provided include schools, football fields, community halls, roads, electricity, water supply, multipurpose halls, and mosques. Settlements equipped with infrastructure and basic facilities are essential to ensure the comfort of the residents' lives in the new area.

Compensation

The locals have asked for compensation for their losses since they have lost revenue from products they have grown, such as rubber and fruit trees. As a result, each impacted resident will get monetary compensation from the project developer. The payment rates already established in TNB development projects and other government organizations' previously conducted projects will be used to evaluate the trees or crops planted by the people. In addition, residents will receive compensation if they have added to or modified their original home structures at their own cost, going above and beyond the original home's cost or worth. The project developer's judgment and evaluation will determine the compensation payment rate for the expense of changing the house's structure.

“As of right now, the plan we've assembled calls for the provision of replacement homes. Therefore, we don't pay for the previous homes until the new one is more spacious or valuable. However, the current concept accounts for the fact that, for instance, if a villager has already received a free PPRT house from the government, our new house will be larger than the original, and we won't make up the difference. But when a villager gets a house, a lot of them enlarge the front portion of it as well. Therefore, we advise management to take remuneration into account for those additions. Since we view it as compensation, they have already suffered a financial loss. Therefore, these issues are negotiable. We evaluate the expenses they expended, and if not reimbursed in full, maybe half will be, even though the house we offer might still be worth more than the rooms or expansions they made, or the building of a neighboring house.” (I3, 2023)

Human Capital Development

Several initiatives to develop human capital have been devised and coordinated to support the Orang Asli community's post-relocation psychological and physical transition. The residents involved will receive more detailed theoretical and practical training and exposure, particularly related to rubber planting activities. To further increase the capacity and production of the farmed rubber crops, Orang Asli residents who transfer to new settlement sites will not only be given rubber plantations but will also receive supervision and training. Furthermore, the Orang Asli community living in the surrounding areas is anticipated to benefit economically from the construction of the Nenggiri Hydroelectric Dam. As a result, they will also be introduced to tourism and aquaculture courses.

“For example, we provide rubber plantations. These rubber plantations are desired by the communities themselves. We will put equal emphasis on developing these rubber manufacturing processes to guarantee excellent yield. They will receive both theoretical and hands-on training from us. For now, they are studying independently. Perhaps as a result, their rubber planting methods are not very precise. Indeed, we are in charge of a division known as “social impact management,” where we will plan additional initiatives. For example, we’ll have a lake after this, therefore we’ll teach tourism, aquaculture, and similar courses.” (I3, 2023)

Conclusion

Based on the research findings, the construction of dams in the Sungai Nenggiri area not only alters the biophysical landscape of the area but also threatens the well-being of the Orang Asli community from various aspects. The forest areas, which serve as the Orang Asli community's habitat and are considered a source of livelihood, will be destroyed and lost due to the rapidly developing construction. The high dependence on land use and natural resources, as well as the traditional lifestyle practiced for generations, pose difficulties for the affected Orang Asli community, especially in their socio-cultural and economic aspects. The construction of dams has also led to the mass relocation of residents from all three Orang Asli settlements to new settlements. When relocating to new settlement areas, they need to adapt to the changes, including lifestyle, culture, economy, and so on. This situation is expected to give rise to several new issues, particularly concerning the well-being and sustainability of life for the relocated Orang Asli community.

Nonetheless, it appears that the project developer (TNB) placed a strong emphasis on the quality and well-being of the impacted Orang Asli population in their planning and tactics. Along with measures for the development of human and economic capital, the emphasis is not only on physical growth. The project developer effectively addresses the challenges and concerns raised by the impacted residents. Effective strategies used by TNB include allowing locals to voice their opinions during the debate process and providing information constantly. This is necessary to ensure that the rights and aspirations of the Orang Asli population are met after they are relocated to the new settlement zones.

The findings obtained from this study will help in understanding the cultural and social aspects of the Orang Asli community found in Peninsular Malaysia, especially about the issue of land acquisition, i.e. customary land better known as perennial land. The research results can increase knowledge related to the Orang Asli, giving a real understanding of the position and perennial land owned by them in terms of the law and related legislation, namely the land and community of the Orang Asli. The government and the agencies involved through joint efforts from academics can plan and produce development policies to maintain the rights and interests of the Orang Asli based on the cultural ecological ecosystem. This study will also show the efforts made by the government and the agencies involved to ensure the well-being and sustainability of the life of the Orang Asli community.

References

- Abdullah, R., Simin, H., Ibrahim, A., Hashim, S., & Nizam, H. (2020). *Tanah Saka Warisan Temiar* (1st ed.). Kuala Lumpur: Akademi Seni Budaya Dan Warisan Kebangsaan (ASWARA) Malaysia.
- Abdullah, R., Simin, H., Ibrahim, A. (2014). *Kelestarian Hutan Dari Perspektif Suku Kaum Semaq Beri Di Negeri Terengganu, Malaysia*. Prosiding Persidangan Antarabangsa Kelestarian Insan (INSAN) 2014. Johor: Universiti Tun Hussein Onn Malaysia
- Abdullah, J., Chik, R., Mohamed Azmi, A. S., & Abu Bakar, N. (2016). Towards a More Sustainable and Inclusive Compensation Plan for Orang Asli: Telom HEP, Pahang, Malaysia. *Environment-Behaviour Proceedings Journal*, 1(1), 52. <https://doi.org/10.21834/e-bpj.v1i1.195>
- Alonso-Fradejas, A. (2013). *"Sons and daughters of the Earth": Indigenous communities and land grabs in Guatemala* (Series No 1). ood First / Institute for Food and Development Policy.
- Bozigar, M., Gray, C. L., & Bilsborrow, R. E. (2016). Oil Extraction and Indigenous Livelihoods in the Northern Ecuadorian Amazon. *World Development*, 78, 125–135. <https://doi.org/10.1016/j.worlddev.2015.10.035>
- Dooley, K., & Griffiths, T. (Eds.). (2014). *Indigenous Peoples' Rights, Forests and Climate Policies in Guyana: a special report* (ISBN 978-0-9544252-8-9). Amerindian Peoples Association.
- Fraser, A. (2019). *Achieving the Sustainable Management of Forests*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-15839-2>
- Gomes, A. (2012). Alter-Native 'Development': indigenous forms of social ecology. *Third World Quarterly*, 33(6), 1059–1073. <https://doi.org/10.1080/01436597.2012.681491>
- Hess, C. E. E., & Fenrich, E. (2017). Socio-environmental conflicts on hydropower: The São Luiz do Tapajós project in Brazil. *Environmental science & policy*, 73, 20-28..
- Ibrahim, A. (2019). *Analisis Penyertaan Orang Asli Batek Dalam Ekopelancongan di Taman Negara Pahang*. [Unpublished Doctoral Dissertation]. University Sultan Zainal Abidin.
- Kasim, R. (2021) Kepentingan Perwartaan Tanah Rizab Orang asli, *Research in Management of Technology and Business*. Available at: <https://publisher.uthm.edu.my/periodicals/index.php/rmtb/article/view/1783> (Accessed: 03 June 2023).
- Krishnasamy, D.S. (no date) Impak Sosioekonomi Program Penempatan Tersusun Kajian Kes Masyarakat Orang asli di Parlimen Cameron Highlands. dissertation.
- Lee, K. E., Shahabudin, S. M., Mokhtar, M., Choy, Y. K., Goh, T. L., & Simon, N. (2018). Sustainable water resources management and potential development of multi-purpose

- dam: the case of Malaysia. *Applied Ecology and Environmental Research*, 16(3), 2323-2347.
- McLoughlin, L. A. (2019). US Pagans and Indigenous Americans: Land and Identity. *Religions*, 10(3), 152. <https://doi.org/10.3390/rel10030152>
- Niza, S. A. S., & Abdul Manaf, A. (2021). Tahap penerimaan Masyarakat Orang asli Terhadap Pemilikan Tanah Berstatus Geran. *Journal Of Social Scinces And Humanities*, 18(1), 152–170. <http://journalarticle.ukm.my/16568/1/45933-148016-1-SM.pdf>
- Yusoff, R., Abdul Halim, S., & Pereira, J. J. (2022). IMPAK PEMBINAAN EMPANGAN TEMENGGOR KE ATAS SOSIOEKONOMI KOMUNITI ORANG ASLI JAHAI DI RANCANGAN PENGUMPULAN SEMULA AIR BANUN, PERAK. *Asian People Journal (APJ)*, 5(1), 85–100. <https://doi.org/10.37231/apj.2022.5.1.315>
- Suhakam. (2013). Laporan Tahunan Suruhanjaya Hak Asasi Manusia Malaysia. Tanah Dituntut Orang Asli Milik Kerajaan Negeri. Wikipedia, ensiklopedia bebas <https://www.malaysiakini.com/news/4384> [11Ogos 2023].
- Suhakam. (2019). Laporan Tahunan Suruhanjaya Hak Asasi Manusia Malaysia.
- Syuhada, N., Nurhidayu, S., & Sofiyah, M. (2018). The effects of forest disturbance on lakes and reservoirs capacity in Malaysia. *The Malaysian Forester*, 81(1), 73-99.
- Tarmiji, M., Fujimaki, M. and Norhasimah, I. (2013) (PDF) *Orang Asli in Peninsular Malaysia: Population, spatial distribution and socio-economic condition*. Available at: https://www.researchgate.net/publication/286193594_Orang_Asli_in_Peninsular_Malaysia_population_spatial_distribution_and_socio-economic_condition (Accessed: 05 November 2023).
- Wook, I. (2015). *The Rights of the Orang Asli in Forests in Peninsular Malaysia: Towards Justice and Equality* [Thesis]. Victoria University Research Repository (VURR). <https://vuir.vu.edu.au/33650/>
- Wook, I. (2019). Addressing the Rights of Indigenous Peoples to Resources in Malaysia: A Procedural Justice Approach. *International Journal on Minority and Group Rights*, 26(1), 40–66. <https://doi.org/10.1163/15718115-02601003>