

## Livelihood Asset Maps: Livelihood Assets Concerning The Echo-Agro-Tourism Community-Based Management of The Komunitas Cengkih Afo in Tongole Ternate-North Maluku

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### ABSTRACT

Humans need livelihood assets for their survival which particularly are related to the resources that are available in their environment and/or can be accessed to meet their needs. Livelihoods assets which are including capabilities, assets, and activities that carry out to support the fulfillment of basic life needs. The Department for International Development (DFID) identifies 5 categories of assets used for livelihoods which consist of human, natural, financial, physical, and social capitals. The majority of people who live in Tongole Village work as farmers, and therefore by the presence of the echo-agro tourism activities, the livelihood assets of the community can increase and/or vary because there are other possible options to increase the economic income earned. The research is aiming to identify the use of livelihood assets by the farmer groups in Komunitas Cengkih Afo. The study has taken place in Tongole village, where the Komunitas Cengkih afo is located. Collecting data is using a purposive sampling method, which refers only to the member of the Komunitas Cengkih Afo. Data on livelihood assets is taken base on the criteria set out according to the pentagon diagram which consists of human, natural, financial, physical, and social capitals. Livelihood assets are categorized in high, medium, and low categories from each respondent. The influence of livelihood assets was analyzed using a scoring method and presented in a pentagon diagram for each capital. Results showed that human, natural, and social capital were the most utilized for all the members, while physical and financial capital was less utilized and/or at the moderate level.

Keywords: livelihood assets, echo-agro tourism, komunitas cengkih afo

### ABSTRAK

Manusia membutuhkan aset penghidupan untuk keberlangsungan hidupnya. Aset penghidupan atau *livelihoods asset* meliputi kapabilitas, aset dan kegiatan yang dilakukan untuk mendukung pemenuhan kebutuhan hidup. *Departmen for international Development* (DFID) mengidentifikasi lima kategori aset yang digunakan untuk penghidupan terdiri dari sumberdaya manusia, sumberdaya alam, sumberdaya finansial, sumberdaya fisik dan sumberdaya sosial. Pemetaan aset penghidupan ditujukan untuk menggambarkan bagaimana masyarakat memanfaatkan aset-aset tersebut untuk memenuhi kebutuhan hidupnya. Mayoritas masyarakat yang berdomisili di desa Tongole bekerja sebagai petani, dan dengan keberadaan eko-agro wisata cengkih Afo maka aset penghidupan dari masyarakat akan naik atau bervariasi karena ada peluang untuk memperoleh tambahan pendapatan. Penelitian ini bertujuan untuk mengidentifikasi aset penghidupan dari kelompok masyarakat petani di Komunitas Cengkih Afo. Pengambilan data dilakukan dengan menggunakan metode *purposive*, hanya mengambil petani yang merupakan anggota Komunitas Cengkih Afo. Data yang diambil digunakan untuk mengukur aset penghidupan berdasarkan kriteria seperti tergambar dalam diagram pentagon yang terdiri dari modal manusia, modal alam, modal keuangan, modal fisik dan modal sosial.

Aset penghidupan dikategorisasi dalam tingkatan tinggi, sedang dan rendah dari setiap responden dan dianalisis dengan menggunakan metode skoring dan ditampilkan dalam diagram pentagon. Hasil penelitian menunjukkan bahwa modal manusia, alam dan sosial adalah yang paling banyak dimanfaatkan oleh responden, sementara untuk modal fisik dan keuangan hanya sedikit digunakan dan berada dalam kategori sedang.

Kata Kunci: aset penghidupan, eko-agro wisata. komunitas cengkih afo

## INTRODUCTION

Humans need livelihood assets for their survival which is particularly related to the resources that are available in their environment and/or can be accessed to meet their needs. Livelihoods assets which are including capabilities, assets, and activities that carry out to support the fulfillment of basic life needs. The Department for International Development (DFID) identifies 5 categories of assets used for livelihoods which consist of human, natural, financial, physical, and social capitals (DFID, 1999). It also stated that livelihood is involving assets, activities, and accesses that simultaneously influencing the achievement of appropriate living standards of people as an individual (Ellis, 2000). A sustainable livelihood is being used for a goal of the Rural Revitalization Strategy. "Livelihood" refers to the way how people can make a living, where it somehow affects the ecological environment depending on their capabilities and assets (Li et al., 2020). It also shows that remoteness can affect increases household natural and human capitals but decreases household physical and financial capitals (Berchoux & Hutton, 2019). The assumption of livelihood diversification is based on the activity framework of the poor in rural areas which is determined by the control of assets including the social, human, financial, natural environment, and physical capital. This strategy includes agricultural activities outside of farming, the trade sector, the service sector, income from capital, additional working hours, and the processing and marketing of agricultural products (Wijayanti et al., 2016). The previous study conducted by (Wijayanto et al., 2019), stated that demographics will have a positive influence on livelihood strategies when forest-edge communities own livelihood assets. It is important to maintain and even improve the livelihoods of forest edge communities, it is necessary to increase the assets they have. Assets owned by the farmers will affect how they manage their land for the community forest (Oktalina et al., 2016).

Livelihood asset mapping is aimed to describe how people use these assets to meet their daily needs. This mapping can explain the conditions and dynamics between the assets used by individuals and/or collectively at a certain time and how these assets contribute to their livelihood (Jacobsen, 2012). The combination of assets used will affect the relationship between assets as conceptually visualized in the form of a pentagon. It is important, for the community is knowledgeable over the access level to their livelihood assets, it somehow will assist to determine the livelihood strategies which can be developed to sustainable practices. Thus the concept of sustainable livelihood implies that the individual or communities can cope and overcome stress or crisis and they capable to maintain or even improving their current and future skills as well as their asset without exploiting the own resources (UNDP, 2017).

FAO (2018) describes a framework to support extreme poverty reduction in rural areas by setting three global achievement goals which include: 1) reducing hunger, food insecurity, and malnutrition; 2) Poverty reduction through social and economic development efforts for all through programs aiming to increase food production, rural development and build livelihoods assets in sustainable practices; 3) Sustainable resource use. In the second and third objectives, if it is correlated with the eko-agro-tourism community-based management

applied by the Komunitas Cengkih Afo, it can be stated that although it applied within a small scale, the management of natural resources as a tourism destination is a manifestation of the global goal to support poverty reduction for rural communities.

Komunitas Cengkih Afo is a group of community members who are involving in echo-agro tourism community-based management in Ternate. They are offering to the public a tourism package for people who are interesting to enjoy Afo clove (the world's oldest clove tree) which is located in a hilly landscape with beautiful mountain views. The visitors also able to carry out activities such as hiking, sightseeing as well as and enjoying traditional culinary delivered by the Komunitas Cengkih Afo.

The majority of people who live in Tongole Village work as farmers, and therefore by the presence of the echo-agro tourism activities, the livelihood assets of the community can increase and/or vary because there are other possible options to increase the economic income earned. Several studies also find that nonfarm income diversification has a positive impact on farm productivity and food security (Alobo Loison, 2015). Base on the diversity of natural and cultural resources in Indonesia, the Ministry of Tourism has focused on developing Indonesian tourism products in 3 (three) categories, namely natural, cultural, and artificial tourism products (Kementerian Pariwisata, 2018). Tourism requires substantial investments in both financial and human terms, and the availability of human capital and economic capital affects the ability to engage in tourism (Su et al., 2019)

The livelihood assets of farmer households from each asset they own are described in the form of asset pentagons, the form of a pentagon has a line connecting to the central point in the middle of the pentagon area to describe variations in the ownership of livelihood assets by certain community groups and their access to the use of these resources (DFID, 1999). This condition is important to be analyzed as the main component in developing a strategy for the use of livelihood assets in sustainable ways. It is important to identify this component to be used for resource conservation that integrating with social, economic, and ecological benefits.

Based on the various conditions as mentioned above, this research was carried out to map the livelihood assets of farmer groups in the Tongole village concerning the agro-tourism community-based management of the Komunitas Cengkih afo as a study to identify the current use of livelihood assets by the farmer groups in Komunitas Cengkih Afo.

## **MATERIALS AND METHOD**

The study has taken place in Tongole village where the Komunitas Cengkih afo is located. the data collection is using a purposive sampling method, which refers only to the member of the Komunitas Cengkih Afo. This research is descriptive quantitative and qualitative, where the data taken is from field observation and direct interview with respondents. Descriptive research is research conducted to determine the value of the independent variable without making comparisons with other variables, (Sugiyono, 2013).

Data on livelihood assets is taken base on the criteria set out according to the pentagon diagram that consists of human, natural, financial, physical, and social resources (as seen in figure 1). Then we tabulate those informations on observation rate as seen in the table of livelihoods asset component which dividing into 1) human capital (consisting of the number of man labor, education level, agricultural skill, and health status); 2) natural capital (consisting of ownership of productive land farming, access to the echo-agro tourism of Cengkih Afo resources, access to water resources, access to forest resources, access to other communal resources); 3) financial capital (consisting of income shared from agricultural

products, income shared from eco-agro tourism activities, access to credit financial aid, access to grant aid, access to other supporting (non-cash) aid from external; 4) physical capital (consisting of, house ownership, other physical assets ownership, access to the electrical facilities and clean water supplies, access to public transportation and communication means; 5) social capital (consisting of networking, trust from external, norm, sanction and conflict mechanism). Livelihood assets are categorized in a high, medium, and low range from each respondent. The influence of livelihood assets was analyzed using a scoring method and presented in a pentagon diagram for each capital.

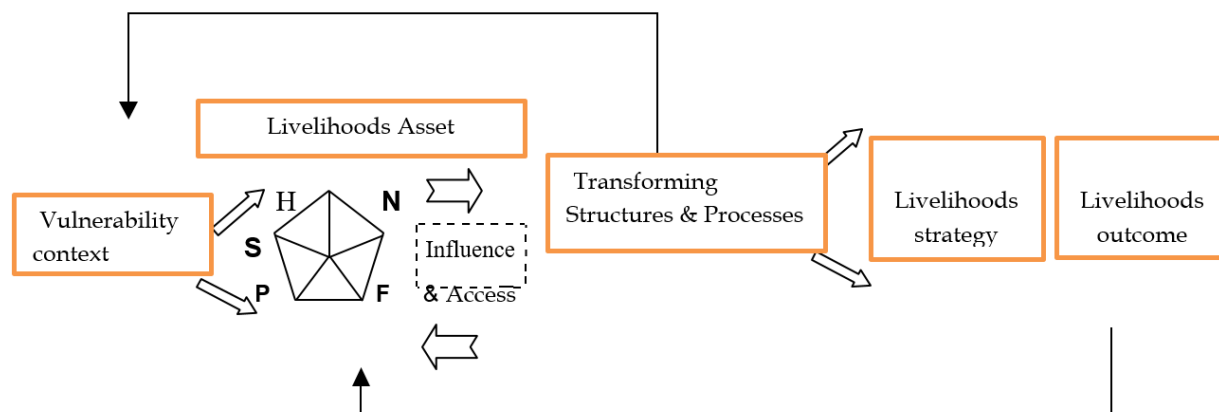


Figure 1. Sustainable Livelihoods Framework DFID (1999)

## RESULTS AND DISCUSSION

### Livelihoods asset mapping

Livelihood assets mapping is describing how farmers who are also a member of Komunitas Cengkih Afo in Tongole used their livelihood capitals to generate income in gaining the optimal livelihood level. Which capital influenced most the livelihood of farmers in the study site is found out by analyzing five capitals of the livelihood capitals as visualized in the pentagon diagram (seen in figure 1). Each of the capital is determined using a set of indicators and verifiers and formulated from related literature. The level of each capital, indicator, and verifier used for measuring the score is presented in Table 1.

Table 1: Level of importance of each capital and indicator for scoring

Capital	Indicator	Verifier
Human	Human Labor	Number of productive human labor
	Education	Education level of head of household, number of family members graduated from senior high
	Knowledge	Agricultural knowledge and/or other related
	Skill	Agricultural skills and/or other related
	Family health status	Number and frequency of family member with severe illness
Natural	ownership of productive land farming	Number of Land farming
	access to the echo-agro tourism of Cengkih Afo resources	Level of access
	access to water resources	Level of access
	access to forest resources	Level of access
	access to other community resources	Level of access
	income shared from agricultural products	Source and number of income
Financial	income shared from echo-agro-tourism sector	Percentage of income
	access to credit financial aid	Level of access and number of credit
	access to grant aid	Level of access and number of grant
	access to other supporting (non-cash) aid	Level of access, type, and number of aid
Physical	house ownership	Type of house
	other physical assets	Jumlah dan jenis alat produksi serta kemudahan mengaksesnya
	access to the electrical facilities and clean water supplies	Level of access
	access to public transportation means	Level of access
	access to communication means	Level of access
Social	Networking	Number of institution
	Trust from external parties	Level of trust from external parties
	Norms	Level of compliance
	Sanction	Level of compliance
	Handling conflict	Conflict management mechanism

Table 2: Scoring calculation of livelihoods assets

Livelihood Assets	High	Moderate	Low	Total
Human	19	14	2	35
Natural	26	9	0	35
Financial	9	26	0	35
Physical	4	30	1	35
Social	24	7	4	35

The total scores of the five capitals have been identified from 35 family representatives as seen in table 2, this score will be used to visualize the pentagon diagram. Results from the analysis

of the utilization of the livelihood assets of the farmers from the Komunitas Cengkih Afo in Figure 2.

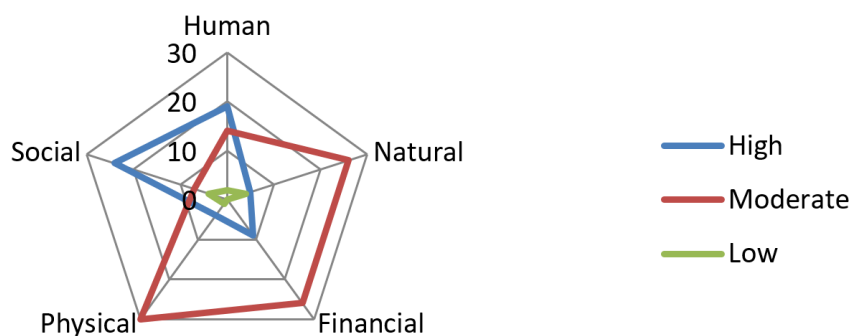


Figure 2. Pentagon diagram of the use of livelihood

Figure 2 shows that in echo agro-tourism community-based management, the member groups of Komunitas Cengkih Afo are more dominant in using human, natural, and social capitals. Human capital is indicated by knowledge, skills, and ability to carry out productive activities. It is proven that members of the Komunitas Cengkih Afo have the knowledge and skills to utilize their farming land as well as to participate in agro-tourism community-based management optimally. For example, they have learned from the external actor, who guided and accompanied them to build that site. Under his supervision, they have successfully managed this location to become a favorite tourist destination for local and foreign visitors. They are also able to provide excellent service to visitors by introducing traditional food that has made with traditional tools but has a taste that can be accepted by everyone. In developing this destination, they are also very enthusiastic about building networking with external parties and actively participating in promoting this place as a must-visit tourist destination in Ternate. According to the Regulation of the Minister of Home Affairs Number 33 of 2009 concerning Guidelines for Ecotourism Development in regions, it explains that Ecotourism is a natural tourism activity in the regions that important to elements of education, understanding, and support for natural resource conservation efforts, as well as increasing local community income. Agro-tourism provides economic opportunities for local communities to be developed as a source of income (Kemendagri, 2009). Agro-tourism is a tourism model that develops agricultural, livestock, and plantation products as an attraction for tourist. the human capital improved by the ecotourism activities which consequently increased the level of livelihood of rural households (Aazami & Shanazi, 2020).

Meanwhile, natural assets also have a high score. The Komunitas Cengkih Afo, as the native of Tongole village, has a value to utilize their natural resources on conservation-based management. They are accustomed to planting trees and /or plantation of cash crops on the slope to maintain soil stability, not intend to destroy the forest, and only taking it proportionally. They also use agricultural land to plant food crops such as bananas, cassava, and sweet potatoes. In addition, they highly respect the communal rights of every person in the village. It is also seen, that everyone has the same communal rights and/or can access communal resources fairly. The community that gains most of their livelihoods from resource-based activities are highly dependent on natural capital such as biological resources (Apine et al., 2019).

Similarly, social assets also in a high score. The komunitas Cengkih Afo have blood-related relationships with one another, sharing similar socio-cultural values and living in the same

territory for intra generation. Traditionally, they used to collectively manage their resources, for instance, they have spring called *air tege-tege*, where at this time the quantity of the spring has decreased, so they made a collective agreement that the water is only used as needed so that the conservation of the spring can be maintained. They also have pride and proudly believe that Cengkih Afo and its environment are part of their cultural heritage that must be well maintained and preserved. Therefore, according to them, developing this site as one of the tourism spots is part of their social responsibility for their future generation. The contribution of tourism has a broad dimension, not only economically but also includes socio-political, cultural, regional, and environmental aspects. Economically, the tourism sector contributes significantly as a source of foreign exchange, local revenue, and also community income that comes from tourism businesses that are developed and open up wide employment opportunities and high employment (Kementerian Pariwisata, 2018). Social capital has an important role in maintaining natural resources for creating a sustainable livelihood (Jele. Z, 2012). Rituals became a form of capital to access other capital. social capital that normally used to achieve other goals in accessing other capitals such as, natural, human, and physical capital. As seen in the study in North Halmahera, it shows that some traditional ritual has strengthened the social relations within the community, particularly regarding concept of the brotherhood and blood-related relationships, it created trust and networking were based on norms through the practice of helping each other in difficult and happy conditions (Singgalen et al., 2019).

While financial assets and physical assets are scored at a moderate level base on the fact that access of Komunitas Cengkih Afo members to financial capital varies. Most of them still depend on the external actor who assisted them to get financial access from external parties such as banks, private companies, individuals, and other local government offices. Financial capital means all financial resources that people usually use to cope with extreme events. It includes cash flow and production systems dependent on finance (Pandey et al., 2017). As described by, (Gai et al., 2020) from their results showed that the majority of respondents did not have savings. Saving ownership and community participation to save are very low. Likewise, for physical assets, the majority have great access to other physical public infrastructure, but they still need to increase their physical assets to gain more income. Moreover, the results demonstrate that household physical capital is positively associated with household financial and social capitals but negatively associated with household natural capital (Berchoux & Hutton, 2019).

The concept of community-based agro-ecotourism offered by Komunitas Cengkih Afo is a new model of agro-ecotourism management in the context of North Maluku because it was community-based management that involves local communities who live in the area. It also becoming interesting because of this tourism spot providing beautiful natural landscape combines with cultural heritages and historical value of cengkih afo (the world's oldest clove tree) which is something iconic related to the long history of people in North Maluku who planted cloves as the main crop that has been carried out intra-generation and being famous as the spice island.

## CONCLUSION

The most dominant livelihood assets utilized by farmers in Komunitas Cengkih Afo were human, natural, and social capitals. The order for other assets -physical and financial capital was at a moderate level. Human capital is indicated by knowledge, skills, and ability to carry out productive activities. Meanwhile, natural capital is correlating to how the farmers can able to utilize their natural resources on conservation-based management and applying equal

communal rights to every individual within the community. Similarly, social assets also have a high score. The komunitas Cengkih Afo have a blood-related relationship with one another, sharing similar socio-cultural values, and living in the same territory for intra generation and proudly believe that Cengkih afo is part of their cultural heritage.

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