

Analysis of Padusan Village Society's Dependency Levels on Forest Resources

Mubarokah^{1,*}

¹*Program Study Agribusiness, Agriculture Faculty, Universitas Pembangunan Nasional "Veteran" East Java, Indonesia*

^{*}*Corresponding author. Email: o_mubarokah@yahoo.com*

ABSTRACT

This study aims to determine the types of forest resources utilized by Padusan villagers and its level of dependency on forest resources in the area. The method used in this study is a qualitative approach with descriptive analysis. The results show that the utilization of the "Surya" Forest Park area by the society was classified into 2, namely Padusan Tourism and Non-Tourism. The rest of the main livelihoods of Padusan villagers rely on nature as their source of livelihood as farmers with ultimate commodities of rice, sweet potatoes, and shallots. Along with the advancement of technology and the increasing quality of Padusan villagers, in its development, there has been a shift in the livelihoods of the population from agriculture to the service sector. The Society of Padusan Village fulfills their needs of food, clothing, and dwelling place by self-cultivation, buying and utilizing forest products. The dependency level of these societies on forest resources is higher in the tourist area compared to the utilization of non-tourism forest areas.

Keywords: *community empowerment, dependency level*

1. INTRODUCTION

Government Regulation No. 6 of 2007 concerning forest areas that can be utilized by communities around the forest include the use of the area and the use of environmental services and the use of non-timber forest products[2]. Forest sustainability and the economic life of forest communities are two important issues. In Indonesia, forest degradation in an area of 1.7 million hectares occurs every year. To achieve conservation and good management of the park, bottom-up decision-making is important; however, appropriate and supportive involvement in the decision-making process by the authority is essential, along with the understanding and cooperation of the local people [9].

Regarding this issue, alternative uses of forest land have emerged to support the economy of communities around the forest without disrupting forest destruction through the use of land below the stand. That basically all levels of society have awareness and playing an active role in forest conservation efforts. Confirmed rural people take grantee for permanent job near to their home, and can have better living situation, they will be satisfied to social-economic developing program and will not be harmful for forests[11].

For this reason, the commitment of various parties involved in providing opportunities for the economic revival of the community by the opportunity to utilize forest areas as a long-term effort that needs to be done consistently.

Padusan Village is an area around the forest with 64,827 hectares and 38.58% community livelihood as limited land

farmers and farm laborers [1]. Wanawisata has come as an economic savior for the community both for those who do not have a job or for the development of work that has been supported by the community. Communities around forest areas are highly dependent on forests both directly and indirectly. Confirm that community livelihoods around the forest are very dependent on the existing forest resources, both timber and non-timber forest products. According to [5] [8] there is a link between poverty and degradation of forest resources.[12]

Sustainable an area management activity with consideration to utilization and management principles that ensure availability and sustainability and to maintenance and improvement of the quality value and diversity of the existing resources. Vegetation area around the Dawuan springs including petung bamboo (*Dendroca-lamusasper*), candlenut (*Aleuritiesmollucana*), banyan (*Ficusbenyamina*), bendo (*Artocarpuselasticus*) and ivory 200 trees [7]. The relationship between the natural environment/forest and social systems is a complex relationship because both are interdependent and symbiotic. Forest Park called "Surya" is a production and conservation forest area located in Pacet District area of Mojokerto Regency besides producing pine wood and pine resin. This area can provide benefits for the community to meet primary needs by utilizing land below the stand as short-lived plants. In terms of utilizing environmental services in the region, ecotourism has developed which can provide employment for the community. In the eco-sociological concept, every related element must be treated fairly and no one is subject to the others [4].The management of Padusan ecotourism is complex and multi-faceted, so a sociological approach that focuses on people

must be seen as part of the ecosystem. The logical consequence of this view is the inclusion of attention to the interests of communities around the forest as an indicator of the success of ecotourism management. The ineffectiveness of community empowerment efforts so far has not been caused by a lack of community knowledge to read opportunities well and low accessibility.

Stated that in order to increase knowledge and accessibility, the role of Forest Village Community Institutions is very important with formulations that are socio-economic effective, culturally advanced and environmentally friendly[8].

Wanawisata is a tourism activity that still requires high natural resources. The local are aware that they will continue to confiscate forest land for economic activities. An increase in the number of tourists by 5-10% per year has an impact on the continued decline in agricultural land displaced by tourism accommodation needs. Community activities are now more directed at the tourism business and forest encroachment around settlements. Viewed from the perspective of the relationship between humans and the processes arising from this relationship, this change is predicted to bring up several considerations related to the quality and resources of forests. Departing from this problem, this study discusses forest resources that are managed jointly with the community, people's behavior in utilizing forest resources, as well as analyzing the level of dependency of the Padusan village community towards forest resources.

II. METHODS

The basis of research in this study is qualitative research with observation, interview, and documentation techniques in retrieving data. The sample in this study was 30 peoples from Padusan village community who were chosen by the purposive sampling technique. Data analysis techniques to determine the validity of the data using the method of triangulation and interpretive analysis. The behavior of the Padusan village community towards the forest environment with the following indicators: utilizing forest land for agriculture, utilizing forest land for tourism service businesses, managing forest sustainability, and ensuring forest security. The utilization of this area focuses on institutions in forest villages. Various types of plants began to be made both secondary crops as well as vegetables and fruits. Land use below this stand needs to be continued as a solution to improve aspects of the economy and efforts to conserve forests.

The dependency level of community in forest resources can be seen from the percentage of needs that can be agreed on by the forest. Based on the basic sources of basic needs of the community are grouped into sub-groups, which starts from the forest area (protected areas and production forests), cultivation, purchasing, assistance, and others. Furthermore, in each sub-group the sources of basic

needs are given a score. Calculation of the level of dependency can be sought by multiplying the score weight by the number of indicators divided by the number of subgroups. Based on the Indonesia HCV Toolkit Revised Consortium (2008) [3], ranking (level of scores) the important role of forests or natural ecosystems is based on a percentage like the following:

Table 1. Criteria Indicators for the Level of Community Dependence on Forest Resources

100%	If all needs are met by one source, that source is considered very important; Score = 4
50%-99%	If most needs are met by one source and rarely by another source, that source is considered important; Score = 3
25%-49%	If needs are met by several sources, each under 50%, the source is considered quite important; Score = 2
10%-24%	If needs are met by so many other sources, those sources are considered less important; Score = 1
0%-9%	If the needs are no longer met by forests or other natural ecosystems, the source is considered not important; Score = 0

III. RESULTS AND DISCUSSION

Communities around protected areas are groups of individuals, families, and traditional or modern communities that reside permanently or continuously in an area within or bordering protected forest areas. Forest Park "Surya" contributes not only to work income and community income but also to the fulfillment of community needs such as forage for cattle, various vegetables, and fruits.

1. Potential Forest Resources of "Surya" Forest Park

Forest Park Area (Tahura) "Surya" is a sloped land which has many limitations in its use. Various potentials that must be released include erosion and landslides in their use. Land use in these areas is dominated by mixed gardens managed by farmer groups under the auspices of the Padusan Village Community Forest Village (LMDH). Many types of forest resources, especially plants that can be used as a fulfillment of community food needs such as bananas, avocados, rambutans and vegetables, beverage ingredients, cooking spices, and spices. Based on vegetation analysis there are 7 species of plants that are considered as wood producers, namely cypress, tilt, mahogany, pine, sengon and toona found in Tahura Surya. Plants and animals are part of the ecosystem (Living Organisms). Whereas the main components of an ecosystem consisting of four elements, namely: biotic elements (living organisms), hydrology, lithosphere, and atmosphere. The four elements will affect one another. Tahura "Surya" is a center for the growth of various types

of plants that are dominated by pine trees. This area presents a very interesting natural condition with pine forests scattered with a variety of flower plants that are cultivated while the fauna collection is very limited. Various types of animals and vegetation types in the Tahura area are various wild animals and vegetation that grow and develop well. In addition to protected animals, there are still many other animals that still live freely such as partridge, Javanese gutters, cuckoo, cucak, measured, cembek, sriti, podang, peking and sikatan. While the mammals are gray monkeys, monkey budeng, porcupine and wild boar. Types of vegetation plants other than pine are spruce, sloping, mahogany and sengon while wild plants for bushes and shrubs are mutihan grass, elbow grass, and alang-alang.

The presence of wild animals in nature has a role in maintaining regeneration and maintaining the sustainability of many types of forest plants through pollination of shrubs, flowering plants, and distribution of seeds. Wildlife life is determined by the ability of habitat to support its life. If wild animals can live and breed in an area, it means that the area is still considered good in the environment. Vegetation is a living plant that covers an area that functions to regulate the flow of a number of biochemical cycles such as water, carbon and nitrogen which play a very important role as (1) energy balancing locally and globally (2) determinants of soil characteristics that affect plants, productivity and structure, (3) sources of living for a number of wild animal habitats, and (4) oxygen providers.

The wanawisata forest area is dominated by plantation land planted with pine with many plants interrupted by various vegetables such as tomatoes, beans, ferns. In addition to the biological component in this area, ecotourism has been developed which offers many objects that can be used by tourists ranging from nature tourism, artificial recreation, national standard swimming pools and hot spring baths (contain sulfur), cultural tourism and environmental observation and natural research, Padusan resort (overnight stay) and outdoor activities (outbound, flying fox, camping ground, tracking and rafting).

2. Interaction of Padusan Village Communities with Forest Resources

Interaction is a relationship that occurs between two or more factors that influence each other and react to each other [6]. Communities around the protected forest area of Mount Welirang KPH Perhutani II Region focus on interacting with the area to meet the primary, secondary and tertiary needs of life. For the community around the forest, the existence of Tahura "Surya" is very meaningful for its survival. Villager depend a lot on the resources in the forest, both forest and non-timber products that will provide added value to their lives. Interaction carried out by communities around protected forest areas by utilizing forest resources used to meet the basic needs of daily life. These basic needs include food, water, clothing needs, building materials, medicines, animal feed, and the need for sources of income.

The level of community dependence of a community group on forest resources can be seen from the percentage of those needs that can be met by the forest. Meeting the basic needs of the Padusan Village community today and in the future can be seen from the characteristics of meeting their needs. The characteristics of meeting the needs can be seen based on the way the community obtains the needed resources and the location of the community obtaining these resources are presented in table 2.

Table 2. Characteristics of meeting the basic needs of the people of Padusan Village, Pacet District, Mojokerto Regency in 2018

No	Types of Basic Needs	How to get	Location
1	Food a. Carbohydrate b. Protein c. Fruit and Vegetable	Raising, buy Raising, buy Raising, buy	Rice fields, forests, fields, stalls Yard, stall Forests, rice fields, Nearby stall
2.	Clothing	Buy	District Market
3.	Home Materials and Home Appliances a. Home b. Home Appliances	Buy Buy	Store building Store building
4.	Water	Waterfall and other water sources	Protected forest and Tahura
5.	Animal feed	Take from the forest	Protected forest and Tahura
6.	Medicines	Forests, Polindes, buy	Tahura, clinics
7.	Income a. Pesanggem b. Merchants in tourist areas c. Auxiliary staff and tourist services d. Villa manager e. Villa marketer f. Strawberry picking g. Firewood and grass seekers	Labor contract, nderes Selling Daily labor, parking Owner Salesperson Farmers and farm laborers Farmers and farm laborers, breeders	Tahura Surya Wanawisata Wanawisata Village around the forest Village around the forest Village around the forest Tahura, Forest

Source: Primary Data Processed (2018)

Table 2 shows that the people of Padusan Village fulfill their food, clothing, building materials and household appliances, water and medicines by buying, cultivating, and taking from the forests around the settlement. Communities buy their basic needs in stalls near their homes or by mobile vendors. This is because the distance between settlements and markets is far. To meet the needs

of clothing and building materials, the people of Padusan Village buy directly at the nearest sub-district market. To meet water needs, the community uses waterfalls and water sources around them. Animal feed needs are usually met by taking directly from fields, Tahura or protected forests. Whereas the need for cash is fulfilled by utilizing wanawisata in the forest area. The majority of the utilization of forest products is carried out by Padusan villagers who make a living as farmers, amounting to 32.6% and laborers at 54.1%. This is because the income earned by farmers and laborers is still low, depending on the conditions of the crop growing season and the presence or absence of work so that people use forest resources as an alternative to supplement their income to meet their daily needs.

3. Analysis of the Level of Dependence of Padusan Village Communities on Forest Resources

The forms of interaction of the use of forest resources are usually through the collection of forest products in the form of food, fuelwood, house and building materials, animal feed, medicines and other types of forest service products. In addition to utilizing forest resources, the community also works on interposed land under the stands to be planted with crops or intercropping plants. Within time, the Government has provided some assistance to the community in meeting their basic needs, such as food and medicine needs so that some people choose to buy to meet their basic needs. Alternative choices of sources of meeting basic needs chosen by the community depend on livelihoods, land ownership, and cash needs of each head of family.

Table 3. Average level dependency of community Padusan Village, Mojokerto in 2018

Source	Score		level dependency
Insite the Forest	Score (%)	Average (%)	
1. Cultivation 2. Travel Service	81,3 77,5	79,4	Depends
Outsite the Forest			
3. Cultivation 1. Buy 2. Aid 3. Others	75,0 82,5 14,3 51,4	55,8	Depends

Sumber: Primary Data Processed (2017)

Villagers need livelihoods as a source of income to meet their daily needs. The location of resources to meet basic needs can be considered important if the location is used 50% or more than the amount of one or more basic needs of community members to meet their subsistence needs without any other alternative that is affordable or cannot be replaced by substitute items. The threshold for important categories is defined as 50% or more than one or

more of the basic needs can be provided by the use of forests or other natural ecosystems. The level of dependency of the Padusan Village community on forest resources in detail is presented in Table 3.

In table 3, the dependency level of fulfilling the basic needs of the people of Padusan Village in meeting the food needs especially carbohydrates is fulfilled by buying, including some residents who plant rice in the fields. Meeting the needs of the majority of animal protein purchased. As for fruits, the community needs cultivation in fields or land below the stands. Vegetable needs are met by cultivation, and most buy from merchants in Padusan village or mobile vendors. The main and only source of clean water comes from Grenjengan waterfall and several springs in the Tahura area. All residents of Padusan Village community use clothing made from textile materials. Overall the needs for building materials and household appliances are obtained by buying. Padusan villagers mostly use LPG gas.

IV. CONCLUSIONS

- The potential of protected forest resources are widely used by the community around the area are various types of wild animal such as: partridge, Javanese gutters, cuckoo, gray monkey, budeng monkey, porcupine, and wild boar. The types of vegetation plants other than pine are spruce, slope, mahogany, and sengon while wild plants for bushes and shrubs are mutihan grass, elbow grass and alang-alang.
- In meeting the needs for food, clothing, building materials, and household appliances, air and medicines are done by buying, cultivating, and taking from the forests around the settlement. The community buys special needs at the stalls near the place of residence or the peddlers or the nearest sub-district market.
- The level of income of the Padusan Village community towards Forest Resources is high enough to meet direct or indirect needs.

REFERENCES

- [1] Pemerintahan Desa, 2018, Monografi Desa Padusan, Pemerintahan Desa Padusan Kecamatan Pacet Kabupaten Mojokerto.
- [2] Lembaran Negara, ,Peraturan Pemerintah Nomor 6 Tahun 2007. tentang Tata Hutan serta Pemanfaatan Hutan.
- [3] Consortium to Revise the HCV Toolkit in Indonesia. 2008. Toolkit for Identification of High Conservation Values in Indonesia. Jakarta.
- [4] Duraiappah A K 1998 Poverty and Environmental Degradation : A Review and Analysis of the Nexus World Dev.262169–79.
- [5] Kati Narhi, 2004, The Eco-social Approach in Social Work and The Challenges to the Expertise

- of Social Work, Departemen of Socil Science and Phi;oshopy/Sociology, University of Jyvakyala.
- [6] Marliani R., 2015, Psikologi Industri dan Organisasi, Pustaka Setia, Bandung.
- [7] MatheusNugroho et al, 2019, Forest Revegetation to Preventive Springs Degradation in Arjuna Mount East Java, Indonesia, *Preprints* (www.preprints.org), doi:10.20944/preprints201908.0277.
- [8] Mubarokah, 2017, Study of Social-Ecology System in Management of WanaWisataPadusan, Ecology, Environment And Conservation Journal, India.
- [9] Reardon T 2016. Links Between Rural Poverty and the Environment in Developing Countries : Asset Categories and Investment Povert.
- [10] Seiji Iwanaga et al, 2019, Policy effects for forest conservation and local livelihood improvements in Vietnam: a case study on Bach Ma National Park, Journal of Forest Research, Volume 24, 2019 Issue 5.
- [11] Seyed Mohammad Hosseini and Alois Skoupy, 2013, Socio-Economic Analyses Of Sustainable Forest Management In Central Part Of The Hyrcanian Forests Of Iran, (*Proceedings*), Department of Forestry Economics and Management, and Faculty of Forestry and Wood Sciences, Czech University of Life Sciences Prague.
- [12] Sri Lestari, Bambang Tejo P. and Bondan Winarno, 2018, Local people awareness towards social forestry program: a case study of Ogan Komering Ulu District, South Sumatra Province, Indonesia, Earth and Environmental Science, IOP Publishing. Doi:10.1088/1755-315/308/1/012075.