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*By A. Nurlia*

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## Gender Role in Farmers' Livelihood Strategies at Peatland Area of Fire-Prone in Ogan Komering Ilir Regency South Sumatra Province

A Nurlia<sup>1\*</sup>, M. Pahmat<sup>1</sup>, E A Waluyo<sup>1</sup>, D H Purnama<sup>2</sup>, Sabaruddin<sup>3</sup>

<sup>1</sup>Environment and Forestry Research and Development Institute of Palembang, Jl. Kol. H. Burlian Km. 6,5 Punti Kayu Palembang, Indonesia

<sup>2</sup>Department of Sociology, Faculty of Social and Politic Sciences, Sriwijaya University, Palembang, South Sumatra

<sup>3</sup>Department of Soil Science, Faculty of Agriculture, Sriwijaya University, Palembang, South Sumatra

\*ari\_nurlia@yahoo.com

**Abstract.** Peatland management cannot be separated from the involvement of men and women. Gender role in farmer's livelihoods on peatlands are an important factor for the implementation of community livelihood strategies after the policy of prohibiting burning in land management. The research is a survey research using a qualitative approach. The research was conducted in Pulu Beruang Village and Kayu Labu Village, Ogan Komering Ilir Regency. Data collection was carried out through field observations, interviews and Focus Group Discussions conducted in each village. Research indicated that in both villages, the dominant role in agricultural activities is significant by men, while women's role in household activities. In terms of access to natural resource management, women and men have equal opportunities. The existence of peat management policy that tends to limit men in carrying out their livelihood systems makes women play a role in earning a living. Men dominate asset ownership, but women have an important role in decision making.

### 1. Introduction

South Sumatra is one of the provinces in Sumatra Island which is a province with a second area of peatland after Riau province with an area of more than 1.2 million hectares. Almost every year peatlands in South Sumatra experience fires, especially during the dry season [1]. These fires have a broad impact on various social, economic and especially environmental aspects. The issue of forest fires in Indonesia has caused haze problems for neighboring countries, especially in the Southeast Asian Region [2]. The haze disaster that occurred in Indonesia in 2015 was a very severe haze disaster [3]. The impact will continue to disrupt transportation, such as increased traffic accidents and in terms of health, haze will cause acute respiratory tract infections (ARI) [4], [5], [6].

The extent of the impact of forest and land fires that occurred especially in 2015 has become a starting point for increasing the attention of stakeholders on land and forest fires, especially on peatlands. Various policies on peatland began to be implemented, including the establishment of the Central Government Peat Restoration Agency (BRG), the formation of TRGD by the Regional Government, and law enforcement on forest and land burning as a declaration with the governor, regional police chief and military commander II / SWJ regarding the prohibition of burning forests. The prohibition on land management by burning will affect the livelihood strategies implemented by



farmers to some extent. Government policies in peatland management have forced farmers to change their livelihood systems.

Several studies related to peatland management have been carried out. However, the programs and research conducted are limited to the biophysical aspects, policy aspects, and general social aspects. Research that looks at peatland management from a gender perspective is still not widely done. Gender is a characteristic inherent in men and women who are socially and culturally constructed [7]. The current phenomenon, women as well as men have strong links with the environment. Women in their daily lives tend to be closer to the environment, even the effects of forest and land fires are more often felt directly by women. Basically, men and women have the same roles, rights, opportunities and access to environmental management. Gender role is the role of women or men which is applied in a tangible form according to the local culture that is adopted and accepted [8]. What are the livelihood strategies of farmers in peatlands and how gender plays a role in this strategy? This study aims to determine gender roles in farmers' livelihood strategies in areas of forest and peatland fires.

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## 2. Methodology

### 2.1. Study Area

The research was conducted in September - November 2018 and was completed and updated from February to March 2020. The research location was in Pulu Beruang Village, Sub-District of Tulung Selapan and Kayu Labu Village, Sub-District of Pedamaran Timur, Ogan Komering Ilir Regency. Ogan Komering Ilir was chosen as the research location because Ogan Komering Ilir is one of the districts with the largest forest fires in South Sumatra Province [9].

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### 2.2. Data Collection

Data collection was carried out with triangulating methods through field observations, structured and in-depth interviews, and Focus Group Discussions conducted in each village. The selection of respondents was done intentionally based on the grouping of social status in the community (rich, moderate, and poor). Classification of social status was assessed based on ownership of assets and information obtained from key figures. The number of respondents were selected using the Krejcie and Morgan formula [10] with a population of 331 households (3 hamlets) in Pulu Beruang village and 240 Households (hamlet 1, hamlet 2, and hamlet 5) in Kayu Labu village. hamlet 3 and hamlet 4 in Kayu Labu Village were not the objects of research because they were not close to forest and land fires. The number of respondents in Pulu Beruang Village were 75 respondents and the number of respondents in Kayu Labu Village were 70 respondents.

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### 2.3. Data Analysis

Data were analyzed descriptively using qualitative research methods from Yin [10], which was divided into five-phased cycle (Compiling, Disassembling, Reassembling, Interpreting, and Concluding). The Compilation aimed to sort and grouping field notes collected from fieldwork and other data collection. This was done to create a database consisting of a collection of data from various sources. The second phase was done to break the compiled data into fragments or all pieces and then do the third phase by rearranging the data according to the research concept. The phenomena obtained in the field were then validated and deepened through focus group discussions, interviews, and field observations to obtain valid data. The relationship between these facts was then analyzed through data obtained and associated with the concepts used in the study and interpreted to be drawn later to understand the phenomena that occur.

## 3. Result and Discussion

### 3.1. Livelihood Strategies at Peatlands Area of Fire-Prone

Previously, the livelihood of the majority of the people in Pulu Beruang Village and Kayu Labu Village was as farmers using the sonor system. "Sonor" comes from the process of preparing agricultural land which is preceded by burning peat surface [11]. This system belongs to the oldest form of shifting cultivation in South Sumatra Province, where most of rice farming was carried out by slash and burn cultivation [12]. However, Sonor cultivation is also carried out on mineral land. The

difference is that on peatland, rice is planted in a dispersed manner while on mineral land, rice seeds are planted in the soil [11].

Sonor system is a system that has been carried out for generations because it is cheap and easy to do. However, sonor system is also suspected to be one of the most contributing causes to the occurrence of forest and land fires so that this system cannot be applied again by the community. One policy prohibiting land management by burning is the issuance of a declaration with the governor, regional police chief and military commander II / SWJ regarding the prohibition of burning forest. This policy has forced people to abandon their habits and look for alternatives to land management without burning. In order to achieve its needs, the community must have a strategy in determining its livelihood. The analysis of farmer household livelihood strategies in this study uses a grouping according to Scoones [13] there are three classifications of livelihood strategies that can be carried out by farmer households, there are (1) agriculture, (2) diversification of non-agricultural livelihoods and (3) migration (Table 1).

**Table 1.** Livelihood strategies in Pulu Beruang Village and Kayu Labu Villages

Livelihood Strategies	Percentage (%)	
	Pulu Beruang	Kayu Labu
On-Farm (Agriculture)	61,33	74,29
Off-Farm (diversification of non-agricultural)	26,67	25,71
Migration	12,00	0,00

Source : [14]

The majority main livelihoods of Pulu Beruang village are farmers or rubber planters (around 61,33%). Easy maintenance of rubber and the relatively fast results made people choose rubber as their main livelihood strategy. Rubber sap is sold once a week with prices ranging from IDR 4,500,- up to IDR 6.500,- /Kg. In one hectare of rubber plantation, each week can produce until 80 kg rubber. In addition to the agricultural sector, other livelihood strategies applied by farmers in Pulu Beruang Village are non-agricultural diversification (26.67%) in trade sector and swallow nest development and circular migration in working as plantation laborers (12%). While the livelihoods in the village of Kayu Labu are more diverse because the social structure of the community is also diverse. The indigenous tribes that inhabit the Kayu Labu village area are still in the clan of the Penesak tribe, especially in hamlet 1, hamlet 2, and the Javanese tribe who inhabit hamlets 5 that come gradually through independent transmigration. The livelihoods of rural communities include farmers, fishing, makers of purun mat crafts, trader, plantation company workers and some civil officers.

Ethnic groups also indirectly influence the type of livelihood of farmers. In general, people from the Javanese tribe will maintain their livelihood as farmers. As in Hamlet 5, Kayu Labu Village, the prohibition on burning did not dampen the enthusiasm of the community to continue farming. Besides farming rubber, the community in Hamlet 5 also farms vegetables and fruits. In contrast to the people in Hamlet 5, the communities in Hamlets 1 and 2, which are mostly from the Penesak tribe, depend on their lives on Fishing and working at Palm Oil Company (Table 2).

**Table 2.** Community livelihoods in Kayu Labu Village and Pulu Beruang Village

No.	Kayu Labu Village		Pulu Beruang Village	
	Hamlet	Livelihood	Hamlet	Livelihood
1.	Hamlet 1 and 2 (Induk)	Fishing	Hamlet 1	Rubber Farmers
		Oil Palm Farmers (plasma)		Swallow
		Rubber Farmers		trade or food stalls
		Maker of purun mats (woman)		Workers in Palm Oil Company
		Swallow		
2.	Hamlet 2	Fishing	Hamlet 2	
		Oil Palm Farmers (plasma)		
		Rubber Farmers		
		Maker of purun mats (woman)		



No.	Kayu Labu Village		Pulu Beruang Village	
	Hamlet	Livelihood	Hamlet	Livelihood
3.	Hamlet 5 (Senasi Mulya)	Swallow Rubber Farmers Oil Palm Farmers (plasma) Vegetable and fruit farmers Rice farmer	Hamlet 3	

Source (primary research data)

In both villages, livelihoods as farmers are still the most important livelihood strategies. The difference is the farming system where people have started to leave the land clearing system by burning. However, in reality land management without burning still causes many problems for the community. In addition to the more expensive costs and longer waiting times for land ready for planting, the land cultivated by the community becomes vulnerable to pest [1]. Communities, especially in Pulu Beruang Village with livelihoods as rubber farmers, hope that the policy implemented by the government regarding non-burn land management is only applied to peatland management. The community is aware that fires that occur on peatlands can cause smoke which is very detrimental to health so they strongly support the implementation of non-burning policies on peatlands. However, they hope that the policy does not apply to mineral lands because fires on mineral lands tend to be easier to control, and there are only a few opportunities for forest and land fires.

### 3.2. Gender Role in Farmers' Livelihood Strategies

Gender role in households of both villages was basically done spontaneously without the existence of planning for division of tasks. The division of tasks is carried out based on descending habits in the community where men are in charge of making a living and women are involved in household activities. In general, female farmers hold control in all household activities (domestic), starting from cooking, taking care of children, cleaning and cleaning up the household and its surroundings [15]. But at this time women not only have a role in the domestic (domestic) sphere but also have a role in the community (public) that can be carried out actively and strategically to overcome family economic problems [16].

In both villages, some women not only have domestic roles but also play a role as breadwinners to overcome their household economic problem. In Pulu Beruang Village smoking habits that are generally carried out by men are thought to be one of the causes of forest and land fires. This has led to a ban on access for men to fisheries resource utilization areas found in the concession area. Since then, some women have begun to take on the man role in earning a living by fishing in the river found in plantation concession area.

Women also have a role in agricultural activities on mineral land. The main commodity produced by mineral land in both villages is rubber latex. Sales of rubber latex can be done every week. Generally, buyers (collectors) who take rubber sap directly from the seller (farmer). Collectors sell the rubber sap they get directly to rubber processing factories in the city of Palembang. In agricultural activities, men and women will share their roles in managing the farm. Women generally help in activities that do not require much physical labor such as harvesting rubber, and men have a role in activity of land preparation and sales activities. The activities of planting, fertilizing and weeding are generally carried out together.

In Kayu Labu village, especially hamlets 1 and 2, women and men share roles in terms of earning a living. Men play a role in earning a living by fishing in Batanghari and tulung rivers and women have a role to make a living by searching for purun plants. Purun is a plant that is commonly found around peat swamps and oil palm plantations. Women use purun as raw material for making mats to help the family's economy. There are two types of purun used by the community, its purun sabal and purun halus. Purun sabal has a larger diameter but has a lower durability compared to purun halus. Mats made from purun sabal have a lower price than mats made from purun halus. Some women also carry out other activities to help their families' livelihood by becoming fruit and vegetable farmers.

### 3.3. Gender Equality in Access to Natural Resources and Capital Ownership

Women and men have an equal opportunity in terms of access to natural resources. Based on Hubies [8] gender equality means that women and men have the same status and have the same potential to realize their rights in the social, economic and political fields. In the past men accessed natural resources to harvesting wood, and women accessed natural resources to search for purun. Big fires happened in 1997/1998 caused wood to burn and left only the stands of Gelam (*Melaleuca cajuputi*) and Prepat (*Combretocarpus rotundatus*). As a result, the activity of harvesting wood (bebalok) on peatlands is decreasing. Bebalok activities are now carried out again by several people, by collecting wood buried in peat. In addition to utilizing wood, in the past wetlands were also used as a place for fishing. Wetlands have a diversity of fish species that can be utilized by the community. Nowadays these types have decreased even almost no more because of the receding water conditions. This shows that humans and peatlands have been interconnected for a long time ago where humans have used peatlands in their lives.

Basically, the equality of access to natural resources between men and women is still unchanged. However, increasingly degraded environmental conditions create restrictions on access to natural resources. Restrictions on access that occur are only partial and temporary in nature, such as the company policy in Pulu Beruang Village which limits men's access to natural resources such as fishing because it is feared that it can cause fires due to smoking habits that are generally done by men. At a time when there are male restrictions on natural resources, women have more opportunities to replace men accessing natural resources. Women are considered more able to utilize nature without doing damage.

For access to resource assets in the form of agricultural land, men and women have equal access to their use. The existence of joint management between men and women shows that there are no restrictions on access between women and men. Women and men share roles in managing their land. Work that is more in need of energy will be carried out by men, while work that requires more accuracy and does not require a lot of energy will be done by women. Some work is done jointly in order to obtain more results in a shorter time, for example, the job of harvesting rubber sap.

In contrast with access to resources that tend to be the same between men and women, asset ownership in both villages is owned entirely by men. Men are considered to have an important role as the head of the household and the main breadwinner that have responsibility for all assets owned. In addition, ownership of assets in the name of men is carried out so that it is easier to manage the administration, for example, to administer taxes on homeownership and motor vehicles. However, even though all assets are owned on behalf of a man, men still cannot make a decision without women's approval. Women are the main person in charge of household finance. In this decision making women have a very important role. Men can have all assets, but financial arrangements are owned by women. This shows that both men and women have a very important role in determining household decisions.

### 4. Conclusion

Livelihoods as a farmer are the main livelihood strategies in both villages even though ethnic groups and diverse social structures create various other livelihoods in the village. Gender roles in community life in households in the two villages were basically carried out spontaneously without any distribution planning. The dominant role in agricultural activities is significant by men, while women have a significant role in household activities. In terms of access to natural resource management, women and men have the same opportunity. Men and women work together to manage natural resources to meet household needs. Men have an important role as head of the household and main breadwinner who are responsible for all assets owned, and women as the main responsibility for household finances.

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