
Work Ethic and Multiple Livelihood Strategies of Wonosewu Forest Farmers Households in The *Alas* Area of Mount Bromo, Karanganyar

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ABSTRACT

The aim of this study was to explore deeper on Work Ethic and Multiple Livelihood Strategies of Forest Farmers Households of KTH Wonosewu members who live in Sewurejo Village, Mojogedang District, Karanganyar Regency. This research design uses a qualitative approach. The data collection techniques were done using observation, in-depth interviews, documentation, literature study, and fishbone analysis. Data were analyzed using the Interactive method of Miles & Huberman in the form of data reduction, data presentation and conclusion drawing. The findings of this study are that KTH Wonosewu forest farmers have a high work ethic in managing agriculture and implementing a dual livelihood strategy by also working in the livestock sector. The work ethic possessed by KTH Wonosewu forest farmers is shown by future-oriented work motivation, respect for time, and responsibility for their work. The existence of a high work ethic and the efforts made by implementing a dual livelihood strategy, so KTH Wonosewu forest farmers have been able to improve their welfare bit by bit. This research can provide insight into the high work ethic and the application of diversification of income sources to encourage welfare improvement.

INTRODUCTION

The welfare of forest farmer households is one of the goals of agricultural development. The Ministry of Agriculture's Strategic Plan 2020-2024 reflects this goal, stating that agricultural policies in this period aim to support food security, economic growth, and the sustainability of agricultural resources, all of which contribute to the well-being of farmers' households. Farmers' welfare is thus an outcome achieved through successful agricultural development.

Income generation and poverty alleviation are critical issues for improving farmers' economic welfare (Dan et al., 2021). However, data from BPS (Central Bureau of Statistics) reveals that in 2021, over half (51.33%) of poor households in Indonesia relied on agriculture as their main source of income. This highlights the fact that most farmers in Indonesia remain below the poverty line. Meanwhile, the contribution of the agricultural sector (food crops, plantations, and livestock) to GDP tended to decline from 12.24% in 2000 to 10.59% in 2013 (Hermanto & Hardono, 2015). The data indicates that there has been a shift in the national economy from the agricultural sector to the non-agricultural sector as a source of national income.

Karanganyar Regency is one of the regions with various potentials in the agricultural sector. In 2020, agriculture became the sector with the second highest contribution by contributing 13.26% of Karanganyar Regency's GRDP (Gross Regional Domestic Product) (BPS, 2021). In 2019, 12.99% of the 84,456 people living in poverty in Karanganyar Regency worked in the agricultural sector (Kementan, 2020).

The *Alas* area of Mount Bromo in Karanganyar Regency has great potential in the agricultural sector. Since 2018, the forest area has been designated as a *KHDTK* (Kawasan Hutan Dengan

Pengelolaan Khusus - Special Management Forest Area) under the management umbrella of UNS (Universitas Sebelas Maret - *Sebelas Maret* University). The area of Mount Bromo's KHDTK is around 126,291 hectares with an elongated shape from east to west, has undulating to hilly topographic conditions and is passed by rivers. The administrative boundaries of the KHDTK are Delingan Village and Gedong Village in Karanganyar Regency, and Sewurejo Village in Mojogedang District. Various potential agricultural commodities are found in the Mount Bromo KHDTK, including cassava, corn, bananas, *brof* nuts (legume), avocados, lemongrass, ginger, and coffee.

The *KTH* (Forest Farmer Group) of Wonosewu is one of the three *KTH* that manages the Mount Bromo's KHDTK. The *KTH* of Wonosewu was founded in 2019 on the initiative of the forestry extension officer and the local village head. They consist of 30 farmers who live in Sewurejo Village, Mojogedang District, Karanganyar Regency. On average, each farmer manages one to four plots of land, with each plot measuring around 300 m² to 400 m².

The welfare of *KTH* Wonosewu is relatively good, as reflected in the level of income, housing conditions, ownership of tertiary goods, and other indicators such as nutritional fulfillment and health levels. The well-being of *KTH* Wonosewu is inseparable from their work ethic. They practice sustainable agriculture within the *Alas* of Mount Bromo and outside the *Alas*. The socio-cultural background of the forest farmers shapes the work ethic of *KTH* Wonosewu - Forest Farmer Group.

Taking into consideration the background information provided, this research provides an interesting new perspective to reveal the work ethic and dual livelihood strategies of Wonosewu forest farmer households in managing agriculture and livestock in the forest area of Mount Bromo to improve their welfare. In contrast to research from Ansari et al. (2024) which focuses on the factors that influence the work ethic of farmers and the economic values contained in the work ethic of farmers (Ansari et al., 2024), as well as research from Fauzia et al. (2023) which highlights the structure of livelihoods and to determine the form of livelihood strategies carried out by farmer households which include dual livelihood patterns and migration (Fauzia et al., 2023), and research from Lemiyana et al. (2024) which shows the form of work ethic of Malay women as traders and the important role of work ethic to fulfill the economy (Lemiyana et al., 2024). This research will present a study that discusses the work ethic and dual livelihood strategies carried out by farmers. By integrating analysis related to work ethic and dual livelihood strategies carried out by farmers, this research can provide new research on work ethic and dual livelihood strategies carried out by farmers.

METHOD

This research was conducted using qualitative research methods. According to Denzin & Lincoln (1994), qualitative research methods are research that can interpret an existing phenomenon. This method can be used to describe narratively a natural situation that occurs along with the consequences of an action on life (Fadli, 2021). The type of qualitative research used in this research is case study. According to John W. Creswell (1998), this type of case study research can examine a phenomenon (case) that occurs in an activity and can be carried out within a certain period (Assyakurrohim et al., 2023). This research method is suitable for use in this study because it can explore more deeply the phenomenon of work ethic and welfare of forest farmers of *KTH* Wonosewu naturally and can explain the processes and social interactions that occur in a phenomenon (Sugiyono, 2018). Meanwhile, a case study research design is conducted to explore in depth the programs, events, processes, or activities of a particular individual or community (Creswell, 2013).

The data sources in this research come from primary and secondary data. Primary data is obtained directly in the field by researchers who come from the object of research through direct interviews with sources (Hasan, 2002: 82). This interview was conducted with 6 resource persons consisting of the chairman, secretary and members of the forest farmer group, the head of Sewurejo village, the head of UPT PPK KHDTK UNS and the extension agent of the North Lawu forestry service. Meanwhile, secondary data was obtained from other parties who have published data relevant to this research (Mudrajad, 2003: 127). Furthermore, this research uses several data collection techniques, namely observation by direct observation of the object under study using the sensory organs (Arikunto, 2006: 156), in-depth interviews or in-depth interviews by means of question and answer while meeting face to face between the interviewer and the interviewee, with or without using interview guidelines where the interviewer and the interviewee are involved in a relatively long social life (Sutopo 2006: 72), documentation during the research process, literature study from various relevant sources, and fishbone analysis which according to Gaspers (2002) is carried out to find the cause of a problem (Hamidy, 2016).

This research uses data analysis techniques from Miles & Huberman (2014), namely reducing data which is done by sharpening and organizing data and discarding unnecessary data so that the desired data conclusions are obtained. Next is the presentation of data in the form of a set of descriptive narrative information arranged systematically. Data analysis ends with drawing conclusions to see the results of data reduction that refers to the formulation of the problem and the objectives to be achieved and find answers to existing problems (Miles et al., 2014).

FINDINGS

Agricultural Potential in Efforts to Enhance the Welfare of KTH Wonosewu

The KTH Wonosewu (Wonosewu Forest Farmers Group) was established in 2019 at the initiative of the forestry extension officer and the local village head. The group consists of 30 farmers who live in Sewurejo Village, Mojogedang District, Karanganyar Regency. The head of the KTH Wonosewu stated that forest farmers gained knowledge and skills in farming from personal experience, forestry extension officers, and empowerment conducted by UNS.

Each farmer is granted a permit related to land use rights between one and four plots with an area of 300 m² to 400 m² per plot. The land managed by KTH Wonosewu gets its water source from rainfed. Field data shows that 388.11 hectares or 60.47% of the area in Sewurejo Village is dry land (BPS Karanganyar, 2021). Rainfed agriculture uses infiltration rainfall that forms soil moisture in the root zone or is referred to as a green water source, because the area has erratic rainfall so it has a great risk regarding water (Rockström et al., 2010). Rainfed agriculture relies on infiltration rainfall that forms soil moisture in the root zone or is referred to as a green water source because the area experiences erratic rainfall, leading to a high risk of water scarcity (Rockström et al., 2010).

The KTH Wonosewu generally cultivate secondary crops and fruits, including cassava, corn, *broli* nuts (legume), avocado, lemongrass, and ginger. The following is a list of agricultural commodities developed by these forest farmers in the KTH Wonosewu:

Table 1. Potential Agricultural Commodities of KTH Wonosewu

No	Commodity	Productivity (kg/plot)	Sales Price (Rp/kg)	Harvest Period (Month)	Estimated Farm Income (Rp/PS)
1.	Cassava	500	2.500	7	1.000.000
2.	<i>Broli</i> nuts	300	5.500	3	1.650.000
3.	Corn	100	5.000	3	500.000
4.	Lemongrass	20	2.500	2	50.000

Description:

- 1 plot = 300 m² – 400 m²
- PS = Planting Season

Source: Data Analysis (2023) 1

KTH Wonosewu forest farmers use an intercropping system to plant peanuts, corn, and cassava. Farmers obtain cassava seeds by buying them at Bejen Market. Farmers also usually buy other production inputs at the market, such as subsidized fertilizer with a purchase price of IDR360,000/quintal. In addition to the crops listed in Table 1, KTH Wonosewu also grow cassava trees. KTH Wonosewu typically plant banana trees at a density of 125 trees per plot.

Table 2. Estimated Farm Income of KTH Wonosewu in Seven Months

Commodity	Estimated Farm Income (Rp/PS)	Harvest Intensity in 7 Months	Total Revenue (Rp/Plot)
Cassava	1.000.000	1x	1.000.000
<i>Broli</i> nuts	1.650.000	2x	3.300.000
Corn	500.000	2x	1.000.000
Lemongrass	50.000	3x	150.000
Total Estimated Farm Income per Plot			5.450.000

Source: Data Analysis (2023) 2

Based on Table 2, it can be seen that the estimated farm income has the potential to generate a significant amount of money, reaching Rp5,450,000/plot every seven months. This means that the estimated monthly farm income per household is Rp778,571/plot from the harvest. For farmers with four plots, there is the potential to earn additional income totaling Rp3,114,284.

DISCUSSIONS

Work Ethic of the KTH Wonosewu

Work ethic is a person's view on how to do work to get the desired results (Srijanti et al., 2007). The work ethic of KTH Wonosewu is reflected in their farm management practices. They have high confidence that the seeds planted will grow well, so they are eager to plant agricultural commodities to be cultivated. Farmers believe that their farming efforts will be fruitful, even though there is no guarantee of the harvest. The optimism of forest farmers at the start of each planting period fuels their strong work ethic. Additionally, work ethic is related to several things, including being future-oriented, respecting time, and being responsible for work (Kurniawan & Suratman, 2018). It's likely that some of these indicators are also reflected by KTH Wonosewu.

Future-oriented

KTH Wonosewu are future-oriented with high work motivation. This is reflected in their perseverance in cultivating their crops. This high work motivation is driven by the need to meet the needs of their families. Therefore, farmers diligently care for their plants, hoping for an optimal harvest. KTH Wonosewu are not confined to agriculture; they also engage in side businesses. According to a previous analysis, their average monthly income falls below the national and regional averages for agricultural workers in Central Java. Net income from agriculture in Indonesia is IDR 1,031,400/month, while in Central Java it's IDR 926,900/month (BPS, 2021). Thus, to meet their livelihood needs, many Wonosewu farmers also raise livestock such as cows and goats.

The average farmer owns up to 6 goats or 3 cows. Cattle are a highly profitable livestock option. People in rural Java commonly refer to cattle as '*rojo koyo*' animals, because they are considered one of the animals that can sustain life (Purwanto, 2013; Purnomo & Sabardila, 2022). Cattle are generally kept for breeding, but some farmers mentioned selling bulls every eight months to fund their children's education. The cattle would also be sold when the farmers need a large amount of money to organize a wedding party or *mantu* (*mantu*, a traditional Javanese wedding ceremony). Cows are generally sold at Rp15,000,000/head and goats at Rp4,000,000/head.

In addition to farming and raising livestock, KTH Wonosewu also diversifies their income sources. Some farmer households open food stalls operating from morning to evening, some open grocery stalls, become *blantik* (cattle traders who transport cattle between cities), build chicken coops, and so on. The education of the children of the Wonosewu farmers is also highly valued by their parents, and some have even gone on to attend university. Forest farmers of KTH Wonosewu have a high work ethic reflected in the various efforts they make, this can be seen in the creation of a livelihood strategy or livelihood strategy carried out by farmers. Livelihood strategy is an effort to increase income through the utilization of other sources of income (Irwan, 2015), for example by diversifying livelihoods (Susilawati, 2003). Based on the description above, it can be concluded that forest farmers of KTH Wonosewu have a future-oriented attitude with high work motivation.

Time Management

Mental attitude, determination, discipline, and work spirit are all part of work ethic, which is shaped by cultural values. Appreciating time is one of core aspects of Javanese work culture, reflected in a strong sense of time discipline. This is crucial for achieving efficiency and effectiveness in work (Tasmara, 1991). The work ethic of KTH Wonosewu is also evident in their time-conscious work attitude. This is manifested in their disciplined approach to time management within their farms. KTH Wonosewu meticulously carry out all aspects of cultivation, from seeding and planting to fertilizing, maintenance, weeding, harvesting, and marketing their products — all completed on time. Farmers typically work the land from morning to evening. The farmers' time management discipline has demonstrably led to improved well-being for the farmers.

Accountable for Work

The third aspect of the work ethic relates to the responsibility of KTH Wonosewu. They are entrusted with maintaining the forest land designated for agricultural cultivation. KTH Wonosewu are given the right to manage forest land, as a substitute they must be responsible by keeping the land sustainable and not degraded.

Occupational Welfare of KTH Wonosewu

Based on field observations, the social and economic dimensions of life for KTH Wonosewu can be characterized as follows:

Table 3. Social and Economic Dimensions of KTH Wonosewu

No.	Aspect	Description
1.	Division of labor in the household	There is a tendency for a gendered division of labor in these households. Men typically dedicate their time to work, often favoring a simple lifestyle and valuing strong independence. Women, on the other hand, are generally responsible for domestic tasks like cooking, cleaning, and social activities such as arisan (rotating savings and loan associations). The younger generation, after completing junior high school or high school, often transitions directly into the workforce, taking on jobs like shop-keeping or farm labor.
2.	Revenue	Relatively good enough.
3.	Residential	The average house is made of brick walls and clay tile roofing and has complete rooms (living room, bedroom, dining room).
4.	Clothing	Simple yet modern.
5.	Ownership of tertiary goods	The average farmer owns a motorcycle or even a car.
6.	Land acquisition	Forest farmers in Wonosewu have an average land area of 2000 square meters.
7.	Family health and nutrition	Farmer families typically consume nutritious food, such as rice, tofu/tempeh, fruits, vegetables, fish, chicken, <i>menthok</i> (duck), and occasionally cow's milk. For health insurance, they use BPJS (Badan Penyelenggara Jaminan Sosial - Social Security Agency of Indonesia).
8.	Social networking	<ul style="list-style-type: none"> a. KTH Wonosewu members enjoy strong relationships, characterized by the proactive management team that readily addresses members' aspirations and proposals. b. There is a high level of solidarity with neighbors, indicated by the presence of donations when there is a death, marriage, or sick person. c. There is a good social relationship between forest farmers and forestry extension workers and UNS representatives.

Source: Data Analysis (2023) 3

Several aspects mentioned above align with the indicators of farmers' welfare established by BPS (2014). These indicators encompass population, health and nutrition, education, employment, consumption levels and patterns, income, environment, and social conditions. Welfare refers to a state in which the material and non-material needs of an individual or society are met (Paradowska, 2017). It is not solely measured by the fulfillment of material aspects like the economy; non-material aspects are also crucial (Sen, 1992; Baranowski, 2019).

Farmers' material needs, such as clothing, food, and shelter, have been relatively fulfilled. Similarly, their non-material needs have also been relatively met. One example of the fulfillment of non-material needs is the harmonious relationships between farmers and fellow members of KTH Wonosewu, between farmers and their neighbors, and between farmers and extension workers. Another example of non-material needs being met is the sense of security farmers' experience, evident in their lack of fear about leaving their crops unattended in the forest.

In terms of human needs based on their importance, the material well-being of KTH Wonosewu tends to be quite good. They have secured their primary needs for food, housing, and education. Additionally, a secondary need such as access to healthcare has also been achieved. In fact, some farmers have been able to purchase tertiary needs such as motorcycles and cars.

CONCLUSION

Work ethic reflects a tendency to work wholeheartedly, tenaciously, and diligently. The work ethic of KTH Wonosewu is manifested in their future-oriented actions, respect for time, and a strong sense of responsibility. They demonstrate a future-oriented approach, applying their strong work ethic to manage agriculture and livestock for the well-being of their families. This disciplined attitude extends throughout their farm operations, from seeding, harvesting, and marketing. This disciplined approach extends to their livestock farming, including cattle, goats, and chickens. A high work ethic in managing agriculture and animal husbandry carried out by all members of the farmer family can realize welfare. All of these forms of work ethic ultimately create farmer independence and improve the welfare of Wonosewu forest farmers. A strong work ethic in managing agriculture and livestock, practiced by all family members, can lead to prosperity. Ultimately, these forms of work ethic create farmers' independence and improve the well-being of forest farmers in Wonosewu.

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COMPETING INTERESTS

The authors declare that they have no competing interests.

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