Universal Journal of Agricultural Research 11(1): 136-145, 2023 http://www.hrpub.org
DOI: 10.13189/ujar.2023.110113

Peasant Women's Time Allocation in the Beef Cattle *Gaduhan* Partnership, Baluran National Park

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Received December 7, 2022; Revised January 20, 2023; Accepted February 15, 2023

Cite This Paper in the Following Citation Styles

(a): *[1] Siti Azizah, Salsa Insanu Latifah, Irfan H. Djunaidi, Anif Mukaromah Wati, Dede Apryliasari , "Peasant Women's Time Allocation in the Beef Cattle Gaduhan Partnership, Baluran National Park," Universal Journal of Agricultural Research, Vol. 11, No. 1, pp. 136 - 145, 2023. DOI: 10.13189/ujar.2023.110113.*

(b): *Siti Azizah, Salsa Insanu Latifah, Irfan H. Djunaidi, Anif Mukaromah Wati, Dede Apryliasari (2023). Peasant Women's Time Allocation in the Beef Cattle Gaduhan Partnership, Baluran National Park. Universal Journal of Agricultural Research, 11(1), 136 - 145. DOI: 10.13189/ujar.2023.110113.*

Abstract The purpose of this research was to determine the allocation of women's working time in a beef cattle business with a profit-sharing system and to analyze the influence of socio-economic factors on peasant women's working time in a profit-sharing beef cattle business in Sidomulyo Hamlet, Sumberwaru Village, Baluran National Park. The study was conducted in July 2022. The respondents in this study were married female cattle farmers in Dusun Sidomulyo village. The survey techniques and quota sampling were used to select 50 peasant women respondents for the study. Data analysis used a regression test with socio-economic factors as X variables (age, education level, farming experience, employment status, number of family dependents, income level, number of livestock, land area, livestock rearing pattern, cattle owner profile, and the women's role) and peasant women's working time as a Y variable. The results showed that all factors of production simultaneously had a significant effect on the women's working time. Meanwhile, the number of cattle and the role of women both had an impact on women's working hours. This research shows that the research variables influence 52.7% of women's working time.

Keywords Gender, Peasant, Cattle, Partnership, Household

1. Introduction

The Sustainable Development Goals (SDGs) recognize that gender equality and women's empowerment (SDG 5) are the cornerstones of sustainable development. Equitable participation between genders, decision-making and influence, and distribution of costs and benefits among laborers result in more comprehensive local support and capacity building [1]. In gender analysis, Moser introduces a "triple roles" framework that categorizes women's tasks into three categories: reproduction (household and childcare), production or economic activity, and socio-cultural functions [2].

The *Gaduhan*/traditional cattle system is one of the business partnership systems to increase household-scale farmers with a profit-sharing pattern, either between breeders or between breeders as parties carrying out activities of the on-farm business financed by other parties [3,4]. The *Gaduhan* system in the beef cattle farming business has become a tradition for the community in Sidomulyo Hamlet, Sumberwaru Village, Banyuputih District, Situbondo Regency. The local Madurese community usually calls the system "adegen," which is a pattern of partnership with an equal distribution of the profit ratio between farmers and investors (1:1). The system of equal distribution (50%) of the profits obtained during the rearing of livestock is also referred to as "*maro*" [5].

The total male population in Sumberwaru Village is 4,531 people, and women are 4,728 people, with a sex ratio of 95.83 [6]. The data shows that the proportion of women is higher than the number of men, which indicates that development planning must pay attention to the equitable balance of men and women to optimize income and

household welfare. The involvement of family labor in the beef cattle farming business sector is essential in increasing family economic productivity [7]. As one of the family members, a peasant woman is considered important in fulfilling household duties and functions. Santoso and Kususiyah [8] stated that women's contribution is relatively high in the beef cattle business sector. Still, their status is recognized as subordinate in making a living for local socio-cultural and religious reasons that believe men's role as family leaders is irreplaceable. In Sidomulyo Hamlet, the involvement of women in various aspects of livelihood (productive, reproductive, and social activities) is seen prominently in the family. It is believed that women's roles as housewives cannot be replaced. Besides, their decision to carry out economic activities according to ability, expertise, and opportunity is an effort to help the family improve welfare.

The socio-economic conditions of the community intersect with the rearing and management activities of the beef cattle business in Sidomulyo Hamlet. Family labor in beef cattle businesses using a *Gaduhan* or traditional system has received little attention from gender neutral researchers. This study was conducted as a follow-up to a previous study on women's inclusion in forest-dependent communities, and it focuses on the time allocation of peasant women in *Gaduhan* beef cattle business in Sidomulyo Hamlet and the socioeconomic factors that influence it. The study results are expected to be part of the review of gender aspects at the research site and become a reference for the development plan for the quality of the workforce in the community.

2. Materials and Methods

The research was carried out in July 2022 in Sidomulyo Hamlet, Sumberwaru Village, Banyuputih District, Situbondo Regency. The determination of the location of the study was made purposefully, considering the high participation of the people of Sidomulyo Hamlet in the *Gaduhan* system of beef cattle farming and the semi-extensive rearing management in the savanna area of Baluran National Park.

2.1. Data Collection

The data collection method used in this study is the survey method, which consists of primary and secondary data. Primary data is obtained through direct interviews with respondents, while secondary data is obtained from related agencies. Survey research is included in quantitative research to examine the behavior of an individual or group by taking samples, which generally use questionnaires as a tool for taking primary data [9].

The population in this study was married women, registered as residents of Sidomulyo, and involved in managing the *Gaduhan* beef cattle business. Because no recent secondary data on the actual number of the study population, namely women, was discovered, the number of samples was determined through quota sampling. Quota sampling is a technique to determine a sample from a population with specific characteristics according to the desired amount (quota) [10]. In this study, the number of samples studied was 50, as determined by the author based on the number of qualified respondents that could be found at the research location.

2.2. Data Analysis

Data analysis combines quantitative and qualitative methods. Descriptive analysis was used to learn the socio-economic analysis of peasant women by the Miles & Huberman method, which involved three simultaneous activities: data condensation, display, and verification [11]. A model to determine the factors affecting the peasant women's time allocation was used to analyze the Cobb-Douglas function model using the Ordinary Least Square (OLS) method. The tool used to process the data in this study is the SPSS version 24.0 program. A Cobb-Douglas production function is a function or equation involving two or more variables. One variable is called the dependent variable (Y), and the other is called the independent variable (X). The resolution of the relationship between X and Y is typically accomplished through regression, in which the variation of Y is influenced by variation in X [12]. Thus, the rules on the regression line also apply in the completion of the Cobb-Douglas function.

The Cobb-Douglas production function can be written as follows:

$$\text{Log } Y = \text{Log } \alpha + \beta 1\text{LogX1} + \beta 2\text{LogX2} + \beta 3\text{LogX3} + \beta 4\text{LogX4} + \beta 5\text{LogX5} + \beta 6\text{LogX6} + \beta 7\text{LogX7} + \beta 8\text{LogX8} + \beta 9\text{LogX9} + \beta 10\text{LogX10} + \beta 11\text{LogX11} + e$$

Information:

Y: Time allocation of women's labor in the beef cattle business
X1: Age
X2: Formal education
X3: Breeding experience
X4: Primary employment status
X5: Number of family dependents
X6: Income level
X7: Number of livestock
X8: Land area
X9: Livestock rearing patterns
X10: *Gaduhan*/traditional cow owner
X11: The role of women's labor (activity aspects, access aspects, control aspects, benefit aspects) [13].

A test that is carried out must be guided by a clear decision-making basis. The basis for decision-making in this linearity test is carried out by looking at the significant value in the SPSS output; if the significant value is greater than 0.05, then the conclusion is that there is a significant linear relationship between the independent variable (X)

and the dependent variable (Y). Conversely, if the significant value is less than 0.05, then the conclusion is that there is no linear relationship between the independent variable (X) and the dependent variable (Y) [14].

3. Results and Discussion

3.1. Respondent Characteristics

The characteristics of the respondents used in this study were classified by age, level of education, breeding experience, main employment status, number of family dependents, income level, number of livestock, land area, livestock rearing patterns, and *Gaduhan* cattle owners. The socio-economic characteristics of *Gaduhan* peasant women can be seen in Table 1.

Table 1. Socio-economic characteristics of *Gaduhan* peasant women

Item	Number (n = 50)	Percentage
Age		
<14 years old	0	0
14-64 years old	44	88
>64 years old	6	12
Education level		
Unschooled	7	14
Elementary school	32	64
Secondary education	11	22
Main occupation		
Family workers	19	38
Paid workers	18	36
Entrepreneurs	13	26
Farming experience		
<11 years	11	22
11-20 years	15	30
>20 years	24	48
Household dependents		
<2 person	27	54
2 persons	21	42
>2 persons	2	4
Income rate		
<IDR 2,212,501 per month	10	20
IDR 2,212,501 - IDR 3,800,000 per month	25	50
>IDR 3,800,000 per month	15	30
Number of livestock		
<9 AU	42	84
9 – 18.25 AU	5	10
>18.25 AU	3	6
Land area		
<2080 m^2	43	86
2080 – 6215 m^2	3	6
>6215 m^2	4	8
Livestock rearing pattern		
Extensive	2	4
Semi-extensive	43	86
Intensive	5	10
***Gaduhan*/traditional cow owner**		
Relatives	14	28
Large-scale farmer	2	4
The rich/investor	34	68
The role of women's worker		
Subordinate	11	22
Equal	9	18
Dominant	30	60

Most peasant women are classified as productive age workers (14–64 years), and only 12 percent of respondents have reached the age of 60. None of the respondents were under 14 because peasant women started engaging in cattle-rearing activities after marriage. At school age, they do not participate in managing the maintenance of cows. After completing junior high school, they immediately get married and help their husbands (>14 years old). *Gaduhan* cattle farmers in Sidomulyo Hamlet have an average education level of 64 percent elementary school equivalent. At the same time, the rest varies from not attending school to junior high, high school, and college. In general, the level of education is still relatively low, but most peasant women already have literacy skills in the form of reading and writing. In older generations, early marriages are common, and it is difficult to access formal educational institutions, resulting in higher education than elementary schools.

The main occupations are categorized based on the Central Agency on Statistics classification [15] by being limited to the type of work of the respondents. Employment status is defined as the type of position of a person in carrying out work in a business unit/activity, which is categorized as follows:

1) To have a small business is to work or try by taking economic risks and not using workers' help.
2) A small business assisted by unpaid laborers is working or trying at their own risk and using unpaid laborers/workers.
3) An employee is someone who works for another person, agency, office, or company on a regular basis in exchange for pay.
4) A free worker on a farm works for another farmer, employer, or institution that is not fixed (more than one employer in the last month) in the agricultural business based on repayment by receiving wages or rewards, either by daily or wholesale payment systems.
5) A family member/unpaid worker works to help others who are trying by not getting wages/salaries, both in the form of money and goods.

The respondents' livelihoods were dominated by family workers (38 percent), consisting of *Gaduhan* livestock, farming on family-owned paddy fields, and small businesses managed by the head of the family (mostly husbands). Meanwhile, 24 percent of free workers are dominated by farm workers. The rest of the respondents worked in small family businesses. Some of them were assisted by family members and became laborers/employees in fish or lobster ponds. Free workers generally have indefinite working hours in the trade and service sectors. The small business, helped by family members, is dominated by processing natural products.

Meanwhile, workers/employees work as teachers and laundry workers. Most respondents considered the *Gaduhan* beef cattle business a side business. Only 20 percent of the respondents acted as housewives, making the livestock business the main job.

Furthermore, the average experience of farmers in raising cows at the study site was 20.44 years, with a range of 0 to 49 years. The length of the respondent's breeding experience is in various categories, but generally, the business is hereditary. This indicates that the *Gaduhan* beef cattle business is still developing and is in demand by the people of Sidomulyo Hamlet.

The number of household dependents is defined as non-working or non-earning household members, ranging in this study from 0-4 people. These household dependents consist of children who are still babies, toddlers, or still studying, family members who are unemployed in one house, and husbands who have stopped working or have not carried out economic activities. The number of household dependents respondents in this study was relatively small; this shows that people are aware of the birth rate.

The income level of respondents' families in Sidomulyo Hamlet is dominated by 2,212,501 to 3,800,000 IDR per month, which is as much as 50 percent. This income comes from beef cattle, farming, and other businesses from all household members who work or carry out economic activities. Based on the income classification by World Bank [16], the income of both wife and husband is included in the lower-middle income group. It is because most farmers take a job that depends on the physical condition of the workforce and natural conditions, and some types of work are seasonal and have a fluctuating demand for labor. For example, farm laborers, wood collectors, construction workers, and natural product artisans are dependent on market demand which causes some workers in the farmer's household to temporarily not work.

The number of livestock is expressed in Animal Units (AU), where adult cows (age > two years) are counted as 1 AU, heifers (aged 1 - 2 years) are counted as 0.5 AU, and calves (age < 1 year) are equal to 0.25 AU [17]. Most respondents in Sidomulyo Hamlet raise livestock less than or equal to 6 AU, which is as much as 54 percent. Low scale of cattle ownership because the people of Sidomulyo Hamlet consider the livestock business as a side business and only depend on labor from the family member to minimize variable costs.

Farmer households manage the land area in the form of land for beef cattle farming, crops, other activities, and untapped land. The status of such land varies from property rights, leases, to use rights without rent. Most respondents manage an area of 71 - 127 m^2, which is 44 percent. Middle-up farming communities generally own paddy fields with a size varying from 1250 m^2 to 1 hectare, while farm workers who do not own land are paid to take care of the land.

The cattle rearing in Sidomulyo Hamlet is generally carried out with semi-extensive management of as much as 88 percent, using the grazing method in the Baluran

National Park area (cattle are released in the morning and then returned to the pen in the evening). In the case of a labor shortage to take care of the cattle during grazing (especially for Limousine and Ongole crossbreds), farmers choose intensive management.

Gaduhan cattle owners from external parties are classified into three groups: large-scale cattle breeding farms, investors, and middlemen. Large-scale cattle farmers ask small-scale farmers to raise their cattle because they need appropriate land or a workforce. The reason for investors' interest is the undeveloped village financial institutions and limited investment alternatives in rural areas [18]. At the same time, cattle owners in the form of traders were not found in the survey results. Sidomulyo Hamlet community considers semi-extensive cattle breeding exceptionally profitable. It occurs because of lower variable costs from utilizing plenty of wild forages and family labor. In this study, the owner of *Gaduhan* cattle, was dominated by investors as much as 68 percent. These investors can come from inside or outside the village, have a non-farmer profile, and are not relatives of livestock keepers. Based on these data, the profile of cattle owners/*Gaduhan* cattle investors in Sidomulyo Hamlet is quite varied.

The role of women in the *Gaduhan* beef cattle business was reviewed in this study using a Harvard model of gender analysis that reviewed the role of women from four categories of analysis: activity profiles, access profiles, control profiles, and benefit profiles [19]. Furthermore, the level of gender equality in each aspect is classified into three categories: the low category if the percentage is 0–33.33%, the medium category if the percentage is 33.34–66.67%, and the high category if the percentage is 66.68–100%. [20]. At the same time, the gender roles in the households of *Gaduhan* cattle farmers in Sidomulyo Hamlet are classified into three categories, namely gender neutral, gender bias, and gender responsiveness.

Gender neutral assumes that the needs of society based on gender have differences in the necessities of life and the participation of women and men in development as subjects, which might lead to gender inequality [21]. Gender bias is a term to describe prejudice against or preference towards a particular sex, resulting in equal treatment and inequality. Gender responsiveness refers to articulating policies, initiatives, and programs that address the different needs, contributions, and capacities of women and men [22]. These categories are indicators of policy strategy implementation that direct development from gender blindness to gender sensitivity.

The activity profile is focused on the division of activities carried out by men and women in doing family business [19]. The division of productive labor related to the beef cattle business, which is the family's livelihood, includes all activities related to the rearing of beef cattle, both inside and outside the pen. As much as 69.78 percent of the productive division of labor is gender biased; 17.11 percent of the productive division of labor is gender-perspective, with reproductive work activities performed collaboratively by dominant men and dominant women; and 10.44 percent of *Gaduhan* cattle farmers use a gender-responsive productive division of labor. The low level of gender responsiveness is due to the perception that women have a subordinate role in making a living. Society considers that men's income from their main job is used to meet basic needs, while the income from the *Gaduhan* cattle business is a savings/investment for other needs such as building houses, buying vehicles, children's education, and so on. In households that involve women rearing *Gaduhan* beef cattle, women are trusted in most productive activities such as cleaning the pen, providing feed and water, bathing livestock, treating livestock, and, together with their husbands, taking forage (curling).

The access profile refers to the opportunity to use productive resources and the benefits they obtain without having the authority to make decisions on the mode of use and results of those resources in business [23]. The level of equality in access to the beef cattle business includes the involvement and role of women in accessing resources that support the productivity of the beef cattle business, including facilities and equipment, training, business capital, information, business revenue, and business financing. In Sidomulyo Hamlet, the level of equality in access among *Gaduhan* cattle farmers is known to be 39.0 percent; households in *Gaduhan* cattle farming practice gender-neutral access. As many as 33.33 percent of gender roles in the aspect of access to the beef cattle business are gender biased. 27.33 percent of access to the beef cattle business is gender-responsive. The high percentage of gender neutral in *Gaduhan* cattle farming households is influenced by the stereotype that men are more courageous. Men are trusted in dealing with stakeholders, so access to facilities, training, business capital, information, and business financing is generally more open. Meanwhile, business revenue is accessed by women, so diversification of roles minimizes shared roles. Discussions involve men and women, but a particular gender is more dominant in accessing the resources while the other party is only a substitute.

Control profile refers to the authority to decide on the use, and results of resources and benefits obtained [20]. The level of equality in the aspect of control over the beef cattle business is measured based on the following indicators: 1) determining land/resource governance, 2) deciding on the use of equipment, materials, and facilities in the livestock business, 3) deciding on the labor involved, 4) making sales and purchasing decisions, 5) deciding on the utilization of income [24]. The level of gender equality in the control aspect is gender biased by as much as 30 percent, while the control aspect is gender neutral by as much as 30.40 percent, and as much as 39.60 percent of the control is gender-responsive. *Gaduhan* cattle farmers in Sidomulyo Hamlet tend to implement gender-responsive decisions; this is influenced by the belief that decisions in the household, including family businesses, should be

made and agreed upon together.

Gender equality in beef cattle business access includes gaining knowledge and skills in beef cattle rearing management as well as profiting from the business [19]. The level of equality in access to the Gaduhan beef cattle business in Sidomulyo Hamlet is dominated by the gender-responsive category with a percentage of 49.33 percent. 21.33 percent of equality in benefits is gender biased. Meanwhile, the level of equality of benefits from a gender-neutral was 29.33 percent. The high percentage of gender responsiveness is influenced by the belief of men in women in terms of access to benefits, which is influenced by cultural factors that develop in Sidomulyo Hamlet. There is a widespread belief that a household business conducted together must benefit all members. Tangible benefits are business income, while intangible benefits consist of knowledge and skill development. Knowledge development is potentially more accessible to men due to access to training and information. Activities labeled as community gatherings are generally attended by men, while women only come to activities intended for women. Both men and women acquired skills through experience and practice on the farm, including agility to handle livestock and identify livestock conditions. Furthermore, the income benefits affect both men and women in meeting their needs.

3.2. Peasant Women Roles

Gaduhan peasant women in Sidomulyo play multiple household, social, and economic functions. Women use their working time to become workers both inside and outside the household, while their leisure time is used to take care of the household and carry out social activities. Social activities include actively socializing with residents, forming crowds, and participating in social-religious events such as recitations and social gatherings. Women tend to work in environments they are familiar with, which keeps the distance between women and household activities to a minimum.

The reproductive division of labor of *Gaduhan* cattle farmers in Sidomulyo Hamlet is dominated by gender-biased, which consists of cooking activities, washing clothes, washing dishes, tidying houses, ironing, visiting Village Health Center, looking for firewood, and repairing utensils. Gender-neutral roles (carried out together, with male dominant and with female dominant) occurs in parenting activities and shopping for necessities. In general, the level of gender equality in households of *Gaduhan* cattle farmers in Sidomulyo Hamlet is low, this can be seen from the low level of gender responsiveness in the reproductive division of labor. This is supported by Saputri [25], who stated that there is inequality in reproductive activities in the domestic sector due to the assumption that domestic work is the full responsibility of women.

Similar to Osuji's findings [26], the role of men in this location as breadwinners are still believed to be strong. At the same time, women play a subordinate role in meeting the economic needs of the family.

Peasant women spend 4,413 working hours per day or 30,892 working hours per week, below the normal hours, so they can be categorized as non-full-time workers [27]. The income received by women in the household is less than that of their husbands, causing the economic contribution of women to the household to be low. The total income level of *Gaduhan* peasant women averages Rp. 1,415,950, still below the 2022 Situbondo Regency minimum wage, which is Rp. 1,942,751 [28]. It can be concluded that women have yet to play an optimal role as laborers.

In making household decisions, men tend to obtain more information for consideration, but women are given greater rights in managing household affairs so that the decision-making role is carried out jointly based on discussions between the two. This follows a finding by FAO [29] that women's participation in decision-making reduces the level of gender-based conflict because participation leads to new rules of access that consider women's needs. Therefore, their activities are less likely to be criminalized or viewed as infringements.

Women's access to forest resources is restricted to certain areas and they are not allowed to go alone; some resources are specifically assigned to men and women, e.g., timber for men and seeds for women; women cannot access the forest while breastfeeding; inclusion in leadership positions is dominated by men; and women's participation in conservation activities is passive and limited to occasional attendance at meetings when invited by men or the headman. Eventually, those show gender issues that emerge in traditional practices, resource equity, breastfeeding, leadership, and decision-making.

3.3. Peasant Women Time Allocation on *Gaduhan Cattle Business*

The peasant women's labor time allocation is the hard work that a person carries out to achieve a goal of an economic nature [30]. The peasant women's labor time allocation in the beef cattle business can be seen in Table 2.

Table 2. The peasant women's work time allocation in the beef cattle business

Activity Type	The work time allocation of time (hours/day)	Work time allocation (minutes/day)	Women/Men
Taking forage/feed	0.975	59	Both women and men
Grazing	0.800	48	Both women and men
Cleaning the cage	0.846	51	Woman
Feeding	0.424	25	Woman
Giving drink water to cattle	0.170	10	Woman
Bathing cattle	0.004	0.223	Both women and men, Women's Domination
General rearing management	0.024	1.5	Both women and men, Women's Domination
Mating cattle	0.001	0.079	Both women and men, Men Domination
Negotiation with intermediaries (*belantik*)	0.003	0.16	Both women and men, Men Domination
Total	2.271	136	

The results of the analysis in Table 1 show that the work time allocation for women in the *Gaduhan* beef cattle business in Sidomulyo Hamlet is 2,271 hours per day.

The feed given is in the form of forage feed. For women, foraging or pinching in the rice field takes 0.975 hours or 59 minutes per day. This activity is carried out in the morning or evening, generally carried out jointly by adult men and women, but will be carried out entirely by men if children need maternal care.

Grazing activities for women use 0.8 hours, or 48 minutes, per day. The duration of grazing activities varies from farmer to farmer, depending on the distance traveled from the house to the grazing field. Another family member replaces this activity if the woman suffers a physical injury.

Activities to take care of livestock in cages are generally carried out by women, and consist of cleaning the cages, feeding, and feeding livestock. Cleaning the cage, which includes removing manure, sweeping the floor, and burning organic remains, takes 0.846 hours or 51 minutes per day. Giving animal feed to women takes 0.424 hours or 25 minutes per day, while giving drinks takes 0.17 hours or 10 minutes per day. Farmers use electric water pumps to fill drinking water mangers, which saves time when providing drinking water to livestock on an ad libitum basis. The provision of feed and drinking water is intended for the consumption of livestock while in the pen, that is, from evening to morning, under semi-extensive livestock management.

Bathing livestock does not become a daily routine of the farmer, and this is done only under special conditions, such as after the cow gives birth or is about to be slaughtered for religious rituals. Cattle bathing activities for women use 1 hour per year, or an average of 0.223 minutes per day.

Treating sick cattle is carried out only when a disease can significantly affect the productivity of beef cattle. The duration of the activity of treating livestock depends on the type of drug used, with the average time used being 10 hours per year, or 1.5 minutes per day. Using herbal ingredients called *empon-empon* (herbs) is generally more time-consuming than medical drugs because they must be concocted before being given to livestock.

Mating activities using artificial insemination are usually only carried out yearly since farmers' cattle are grazed and estrus is not easily detected. The time used to mate livestock for peasant women is about 0.5 hours per year or 0.079 minutes per day to contact the inseminator. In semi-extensive and extensive rearing patterns, cattle do natural mating in the forest instead of artificial insemination due to undetected estrus. Rather than selling directly to the livestock market, livestock is typically sold through intermediaries (*belantik*). Negotiations can last up to several days, depending on the time it takes until an agreement is reached. The intensity of this activity decreases when the livestock market price is falling, such as during a disease outbreak. Dealing with intermediaries (*belantik*) for women needs an average of 1.1 hours per year, or 0.16 minutes per day.

3.4. The Influence of Socio-Economic Factors on the Peasant Women's Work Time Allocation

For the model to be feasible, multiple linear regression analysis requires some classical assumptions. The goal of classical assumption testing is to determine whether or not classical assumptions are violated. A good test result is one that upholds the classical assumptions underlying the multiple linear regression model. Tests of classical

assumptions conducted in this study with the help of SPSS version 24 are normality tests, heteroskedasticity tests, autocorrelation tests, multicollinearity tests, and linearity tests.

The Normality Test shows that if the significance value of 0.200 is greater than 0.05, then it is concluded that the residual value is normally distributed. The Multicollinearity Test output shows that all variables have a tolerance value of > 0.1 and a VIF value of < 10.00, so it can be concluded that there are no symptoms of multicollinearity.

The heteroskedasticity test aims to test if there is an inequality of variants in the regression model, from the residuality of one observation to the observation of another. Free heteroscedasticity is if the correlation coefficient of each independent variable is significant at the residual unstandardized value (with an error rate of > 0.05). Based on the output analysis result tested with Spearman Rho Test for the heteroscedasticity test, the significance values of X1 obtained were 0.691, X2 by 0.425, X3 by 0.949, X4 by 0.719, X5 by 0.970, X6 by 0.906, X7 by 0.922, X8 by 0.939, X9 by 0.937, X10 by 0.779, and X11 by 0.933. So that the significance value of all variables > 0.1. Then it was concluded that the whole variable was free of heteroskedasticity.

Based on the SPSS output results, a Durbin-Watson value of 1.512 was obtained, further compared with the signification table value of 5%. With the number of samples N = 50 and the number of independent variables 11 (K=11), a dL value of 1.065 and a dU value of 2.103 are obtained. The value of dL < d < dU causes the existence of autocorrelations to be inferred. Therefore, a Run Test is an alternative test that can provide conclusions regarding autocorrelation. Based on the results of the Run Test test, it is known that the value of Asymp. Sig. (2-tailed) is 0.391, which is greater than 0.05, so it can be concluded that there are no symptoms of autocorrelation, so that linear regression analysis can be continued.

According to Ghozali [31], if the significance value of < 0.05 then it means that the independent variable (X) partially affects the independent variable (Y). Based on a partial t-test, it is known that age (X1), level of education (X2), farming experience (X3), main occupation (X4), number of family dependents (X5), income level (X6), land area (X8), livestock rearing pattern (X9), and *Gaduhan* cattle owners (X10) have a significance value of > 0.05 so it can be concluded that these variables have no significant effect on the peasant women's work time allocation (Y) in the *Gaduhan* beef cattle business in Sidomulyo Hamlet.

The number of livestock (X7) has a significance value smaller than 0.05, so it can be concluded that the variable number of livestock has a strong and positive effect on the peasant women's work time allocation (Y) with a coefficient value of 0.551. This indicates that every increase in the number of livestock by 1 UT will increase peasant women's work time allocation by 0.551 hours in the *Gaduhan* beef cattle business in Sidomulyo Hamlet.

The role of women (X11) has a significance value smaller than 0.05, so it can be concluded that the variable number of livestock has a strong and positive effect on the peasant women's work time allocation (Y) with a coefficient value of 0.424. This indicates that the higher value of women's roles in activities, access, control, and benefits will increase the peasant women's work time allocation in the *Gaduhan* beef cattle business in Sidomulyo Hamlet.

Coefficient of determination analysis (R^2) is used to find out how much the percentage of contribution of the influence of independent variables simultaneously on the dependent variables. The magnitude of the influence of eleven free variables on related variables can be indicated by the value of the coefficient of determination of the Adjusted R Square value on the regression value [32]. The adjusted R-square value in this study was obtained at 52.7, with a standard error of the estimate of 0.76292. It shows that the contribution of influence from independent variables is 52.7%, while the remaining 47.3% is influenced by other factors that were not studied. This shows that the dependent variables, namely the peasant women's work time allocation in the *Gaduhan* beef cattle business (Y), have a close relationship with all independent variables (age, level of education, experience of raising livestock, main employment status, number of family dependents, level of income, number of livestock, land area, livestock rearing patterns, *Gaduhan* cattle owners, and the role of women).

The F test is a test used to determine the significant degree of influence of the free variable (X) on the bound variable (Y) and to determine the significant degree of influence of the free variable (X) on the bound variable (Y). Test F or test the regression coefficient simultaneously, that is, to find out the influence of independent variables simultaneously on the dependent variables. Decisions are made by assuming that if F counts critical F, then H0 is accepted, whereas if F counts > critical F, H0 is rejected [33].

Based on the table, it can be seen that the calculated F value is 5.965. In contrast, the F table can be obtained using table F with a degree of freedom (df) residual, which is 38 as the denominator df, and df regression, which is 11 as a numerator df with a significant degree (0.05), so that the table F value is obtained, which is 2.05. The calculated F value is 5.965, which is greater than the F value in Table 2.05. The value of F is calculated > the value of F table, and the probability of 0.000 is less than 0.05. Ha is accepted, and Ho is rejected, meaning that the free variable has a significant effect on the bound variable, or variable X significantly affects the peasant women's work time allocation (Y). The conclusion is that age, level of education, experience of raising livestock, main employment status, number of family dependents, income level, number of livestock, land area, livestock rearing patterns, *Gaduhan* cattle owners, and the role of women

simultaneously have a significant effect on the peasant women's work time allocation in the *Gaduhan* beef cattle business.

4. Conclusion

Based on the results of the analysis of the influence of independent variables on dependent variables, it can be concluded that the variables of the number of livestock and the role of women (aspects of activity, aspects of access, aspects of control, and aspects of benefits) partially had a significant influence on the variables of the peasant women's work time allocation in the *Gaduhan* beef cattle business. In contrast, age, level of education, the experience of raising livestock, occupation, number of family dependents, income level, land area, livestock rearing patterns, and cattle owners in *Gaduhan* partially have no real effect on the peasant women's work time allocation in the *Gaduhan* beef cattle business in Sidomulyo Hamlet. The T-test shows that if the number of livestock increases and the role of women increases, the peasant women's work time allocation in the *Gaduhan* beef cattle business increases. Meanwhile, simultaneously independent variables (age, level of education, breeding experience, main employment status, number of family dependents, income level, number of livestock, land area, livestock rearing patterns, *Gaduhan* cattle owners, and the role of women) have a significant effect on the women's work time allocation on the *Gaduhan* beef cattle business in Sidomulyo Hamlet.

The researcher proposed the following suggestions: Human resource development and development programs must pay attention to gender balance to improve family welfare. This study still contains some limitations, such as a review of gender equality that can be subjective due to the selected sample criteria. For further research, it is advisable to comprehensively examine the family workforce in a gender-neutral manner and develop research on labor productivity.

Acknowledgments

The women of Sidomulyo Hamlet, Baluran National Park, and the Institute for Research and Community Service of Brawijaya University have our deepest appreciation. Doctoral Grant 2022 projects were supported by the Directorate General of Higher Education of the Ministry of Education and Culture of the Republic of Indonesia.

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