



International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531
(Print & Online)

<http://gssrr.org/index.php?journal=JournalOfBasicAndApplied>



Internalization of Gender Role in Production, Decision Making and Income (Case Study of Sericulture Household in Wajo District Indonesia)

Andi Maslia Tenrisau Adam^{a*}, Sitti Bulkis^b, Nursini^c, Andi Sadapotto^d

^aFaculty of Agriculture, Indonesia Timur University, Jl.Rappocini Raya No.171-206, Makassar, South Sulawesi, 90222 Indonesia

^bFaculty of Agriculture

^cFaculty of Economic

^dFaculty of Forestry, Hasanuddin University, Jl. Perintis Kemerdekaan KM.10, Makassar, South Sulawesi, 90245 Indonesia

^aEmail: alia_revana@yahoo.co.id

^bEmail: bulkisd@yahoo.com

^cEmail: nini_mahmud@yahoo.com

^dEmail: sadapotto@yahoo.com

Abstract

The wife holds a dominant role in sericulture activities. On average the wife's role in the activities of production of 81.50 hours per one production cycle, the husband of 52.05 hours, women family members amounted to 25.39 hours, and men family members amounted to 6.78 hours. Decision-making in the sericulture activities showed that the dominant decision making is the wife alone is equal to 42.86%, then husband is 28.57% and then decided by both is 28.57%.

* Corresponding author.

While income from sericulture dominant played by wife with an average of 504.945 IDR (US \$ 38.68) per month, whereas the income from outside sericulture business is dominated by the husband with an average of 2.097.222 IDR (US \$ 161.67) per month, and the average total household income is at 4.268.272 IDR (US \$ 327.00) per month. The implication is that the role of wife and women in the sericulture can be taken into account in the family economy in order to increase the income and welfare of the family. Sericulture business can increase income and can be done at home on the sidelines of domestic activities without leaving the family.

Keywords: Sericulture; silkworm; gender role; production; decision making; income.

1. Introduction

Development activities natural silk in Wajo District can be found in almost all districts, but especially in the cultivation of mulberry and maintenance silkworms that produce silk yarn is concentrated in Sabbangparu District and areas development is scattered in the Pammana District, Tempe District, Ball District, Gilireng District, and the Majauleng District. According Harbi, and his colleagues [1] some of the factors that affect natural silk business in Wajo is quality seeds / silkworm eggs, climatic conditions, availability of food sources (mulberry leaf), labor and product prices. Type species of mulberry plants developed in Wajo is *Morus nigra*, *Morus cathayana*, *Morus alba*, *Morus multicaulis*, *Kanva dan S54*. With pure cropping systems, crop intercropping, and garden plants. The land area of mulberry crop development in Wajo until 2014 is an area of 77.8 ha. In 2014 the silkworm seeds developed or used by silkworm farmer is the seed of Natural Silk Hall and Perhutani. The distribution of seeds to silkworm farmers has decreased dramatically in 2014, are 793 box of in 2013 to 434.75 box of in 2014. Cocoon production decrease by an average of 28 kg per box in 2013 to 20 kg per box in 2014. The range of cocoon production in Wajo since 2011-2014 is 20-24 kg per box. Facts on the field in the development of silkworm that cocoon production and cocoon quality which is still relatively low until now, so the effect on the selling price and the effect on the level of income and welfare of silkworm farmers. In addition, the silkworm maintenance of progressively reduced in number so that the impact on the sustainability of the living patterns of mulberry cultivation and maintenance of silkworm (sericulture). Reference [2] argues in his study that the human factor is very important is observed in addition to technical factors for success of the business natural silk. The problem is who wants to be appointed by the researchers as to how the internalization of gender roles in the production, decision-making and household income sericulture (mulberry cultivation and maintenance of silkworm). Therefore, the objectives of this research are: 1) to identify the role of gender in Mulberry cultivation and maintenance of silkworm (sericulture) produce cocoon and silk yarn, 2) to identify the decision making made by household businessman of mulberry cultivation and maintenance of silkworm (sericulture), 3) to identify household income businessman of mulberry cultivation and maintenance of silkworm (sericulture).

2. Methodology

The research was conducted in Wajo, South Sulawesi, Indonesia from April to September 2015. Sabbangparu District was purposively selected as the study area as it was the largest sericulture or the business center of sericulture in Wajo District. The research used a qualitative approach. The research informants were determined

purposively through the snowball method until indicate the level of information overload. The informant core taken amounts to 9 sericulture households. This research uses three phases of activity: data reduction, data display, and conclusion and verification.

3. Results and Discussion

3.1. Gender Roles in Production Activities

Gender partnership in the division of labor in the cultivation of mulberry and silkworm maintenance has been performed on the Sabbangparu District community. In general, the process of cultivation of mulberry and silkworm maintenance in the level household carried out jointly between the family members of men and women with different proportions.

- ***Gender Roles in Activities Mulberry Cultivation***

Mulberry cultivation activities performed included: 1) *Making the Mulberry Cuttings*. This activity is dominant played by the husband with an average of 0.72 hours in one production cycle and are often assisted by his wife or man family members or women family members, 2) *Land Processing*. This activity is performed by a husband or man family members because these activities require a physical or strong force so dominant performed by a husband or man family members with long activities of the average 1.67 hours in one production cycle, 3) *Mulberry Planting*. This activity is dominant carried out by husbands or men family members in the household with average hours worked 0.94 hours in one production cycle, 4) *Mulberry Cultivation*. This activity is dominant done by the husband to the old activity an average of 3 hours in the production cycle, 5) *Mulberry Leaf Harvesting*. At the regular harvesting activities dominant conducted by the husband or men because this work is quite heavy. The harvested leaves must be transported/carried from the garden to the house (the place maintenance caterpillars). On average this activity is conducted 38.89 hours per one production cycle.

- ***Gender Roles in the Maintenance of Silkworm***

The Maintenance of Silkworm activities performed included: 1) *Preparation of Silkworm Maintenance*. This activity is dominant performed by the wife with an average of 0.74 hours in one production cycle, 2) *The Hatchery and Silkworm Displacement*. All activities from hatchery to the transfer silkworm performed of the dominant by the wife with an average of 1.44 hours in one production cycle. This activity usually is done in the house so the wife is easier to control silkworm and doing the housework, 3) *Maintenance of Small Silkworm*. All maintenance activities are small silkworm dominant performed by husband and wife because the husband should take a leaf in the garden while wife feeding silkworm and control it. The average of maintenance activities about 12 days with activity long average 12.67 hours in one production cycle, 4) *Maintenance of Large Silkworm*. All of these activities performed by his wife and assisted family members to control feed supplies the silkworm. The average this activity is conducted around 20.56 hours in one production cycle, 5) *The Formation of Cocoon*. When silkworm will make the cocoon (the formation of cocoon), wife or women family members began moving silkworm to the place cocoon form and on average worked by wives or women family members around 7.33 and 4.44 hours in the production cycle, 6) *Harvesting of Cocoon*. Cocoon

harvesting activities is dominant carried out by the wife with an average of about 6.67 hours in one production cycle. 7) *Spinning*. Activity of spinning dominant performed by the wife with an average of about 6.83 hours and assisted by women family members with an average of 5.17 hours in one production cycle. Sometimes sericulture businessman are no longer do spinning of silk yarn but they hired to another person or neighbor them with wages 50.000 IDR (US \$ 3.83) per kg silk yarn because they had other activities or employment in the garden (see Table 1, Figure 1 and Figure 2).

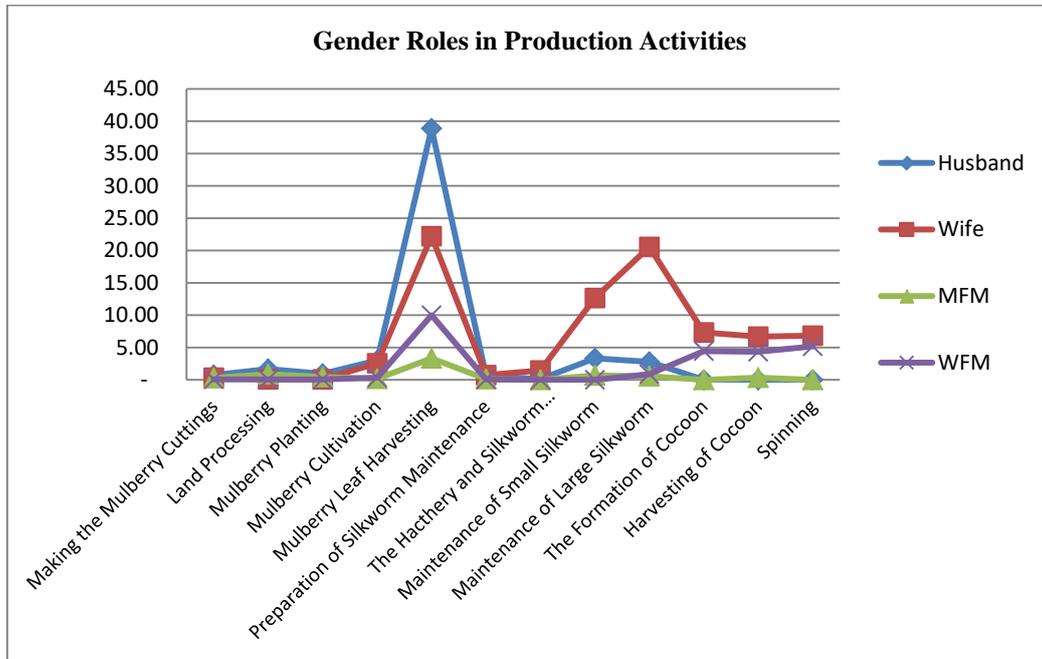


Figure 1: Gender Roles in Production Activities

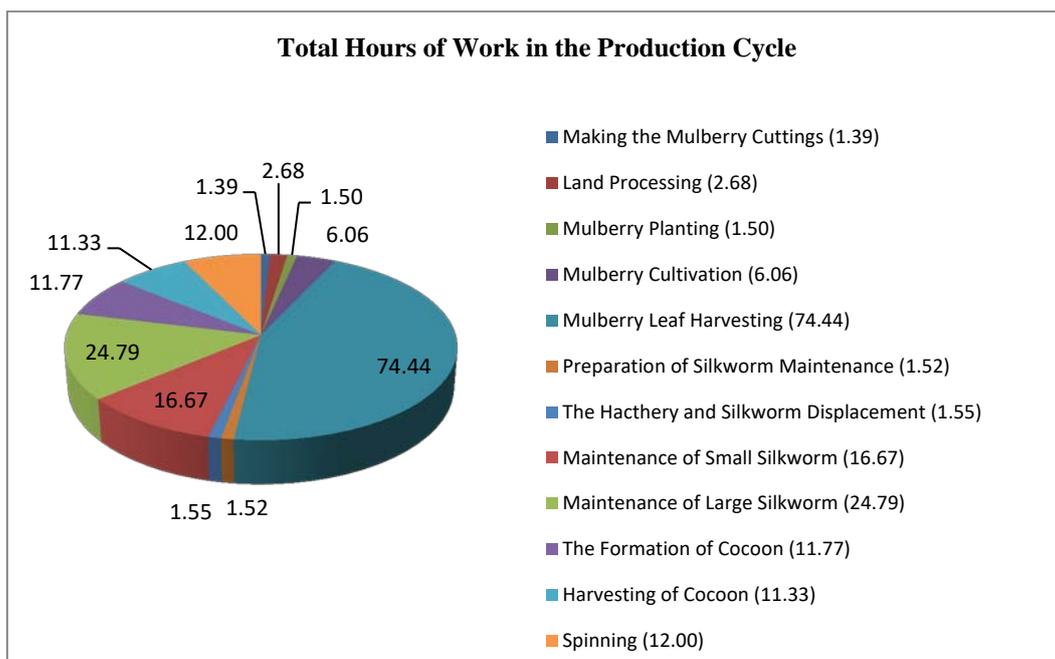


Figure 2: Total Hours of Work in the Production Cycle

Table 1: Gender Roles in Production Activities at the Businessmen Household of Mulberry Cultivation and Silkworm Maintenance

No.	Production Activities	Husband (hours/one cycle)	Wife (hours/one cycle)	MFM (hours/one cycle)	WFM (hours/one cycle)	Total (hours/one cycle)
1.	Mulberry Cultivation					
-	Making the Mulberry Cuttings	0.72	0.33	0.28	0.06	1.39
-	Land Processing	1.67	0.06	0.89	0.06	2.68
-	Mulberry Planting	0.94	0.06	0.44	0.06	1.50
-	Mulberry Cultivation	3.00	2.56	0.17	0.33	6.06
-	Mulberry Leaf Harvesting	38.89	22.22	3.33	10.00	74.44
	Total (1)	45.22	25.22	5.11	10.50	86.05
2	Silkworm Maintenance					
-	Preparation of Silkworm Maintenance	0.61	0.74	0.11	0.06	1.52
-	The Hatchery and Silkworm Displacement	0.11	1.44	-	-	1.55
-	Maintenance of Small Silkworm	3.33	12.67	0.67	-	16.67
-	Maintenance of Large Silkworm	2.78	20.56	0.56	0.89	24.79
-	The Formation of Cocoon	-	7.33	-	4.44	11.77
-	Harvesting of Cocoon	-	6.67	0.33	4.33	11.33
-	Spinning	-	6.83	-	5.17	12.00
	Total (2)	6.83	56.28	1.67	14.89	79.67
	Total (1)(2)	52.05	81.50	6.78	25.39	165.72

Note: MFM= Men Family Members, WFM= Women Family Members

Overall the total hours worked in the household of mulberry cultivation is 86.05 hours in one production cycle in which the dominant role is the husband. While the total hours worked in the household of the maintenance

silkworm is 79.67 hours in one production cycle in which the dominant role is wife. Furthermore, in general, the total hours worked in the household of mulberry cultivation and maintenance of silkworm (sericulture) is 165.72 hours in one production cycle in which the dominant role is wife.

The dominant role of the wife on the production activities of mulberry cultivation and silkworm maintenance for silkworm maintenance activities can be done at home on the sidelines of domestic activities without leaving home and family. The activities take silkworm feed is often done the husband while wife who silkworm maintenance and feed to produce cocoon then wife also the spinning yarn into silk yarn. Interestingly in the maintenance of silkworm that silkworms do not have to be kept for 12 hours, if it has been fed can be left to do other activities such as domestic activities or social events. So even though wife was at home can still work increase the family income by working silkworm maintenance. In addition, the dominant role of the wife in production due to wives or women usually carry out their duties with care and attentive. Maternal instinct and loving care is very helpful in the maintenance of silkworm.

In general, wife holds a dominant role in the cultivation of mulberry and silkworm maintenance. In other words, the role of wife and women in the household economy can increase the income and welfare of the family. This is according with the opinion of Rahardjo in Azizi and his colleagues [3] that women are economically able to increase family income, so that income wife can help alleviate poverty. Similarly with the results of Kasi [4] that the women can generally be trusted to carry out their duties with care and attention. Not surprisingly women have played of role a very important in the sericulture industry. Their quality is like motherhood and loving care proved very helpful in the maintenance of silkworm.

Therefore it can be said here that the role of gender in the activities of mulberry cultivation dominant performed by the husband in the household and maintenance silkworm is dominant performed by the wife in the household. However, it is generally based on research results showed that the role of gender in mulberry cultivation and silkworm of maintenance is dominant performed by the wife.

This is according with the findings Gate [5]; Thamizoli [6]; Vijayalakshmi [7]; Singh & Gilman [8]; Goyal [9]; Panda [10]; Srinath [11]; Kasi [12] that women contributed around 50% -60% of the workforce for the sericulture (cultivation of mulberry and silkworm maintenance).

3.2. Decision Making in Production Activities

Production activities are very important asset in the cultivation of mulberry and silkworm maintenance, where decision making on production activities, including investment / business capital and business management of silk. In making decisions on production activities are quite varied that there are shared (both), individually for their wives and decision making directly by the husband.

Decision-making in the production activities on the cultivation of mulberry and silkworm maintenance shows that the dominant decision making is husband alone in the amount of 28.57%, wife 42.86% and decided both in the amount 28.57% (see Table 2 and Figure 4).

Table 2: Decision Making in the Production Activities at the Businessmen Household of Mulberry Cultivation and Silkworm Maintenance

Decision Making		Husband	Wife	Both
No.	in the Production Activities	(%)	(%)	(%)
1.	Business Investment			
-	Determination of the amount of capital	11	22	67
-	Business development	56	33	11
-	Borrow of capital	22	33	44
2.	Business management			
-	Purchase of production inputs	11	44	44
-	Repair / replace tool	67	22	11
-	Controller labor and production	22	56	22
-	Product sale	11	89	-
Percentage		28.57	42.86	28.57

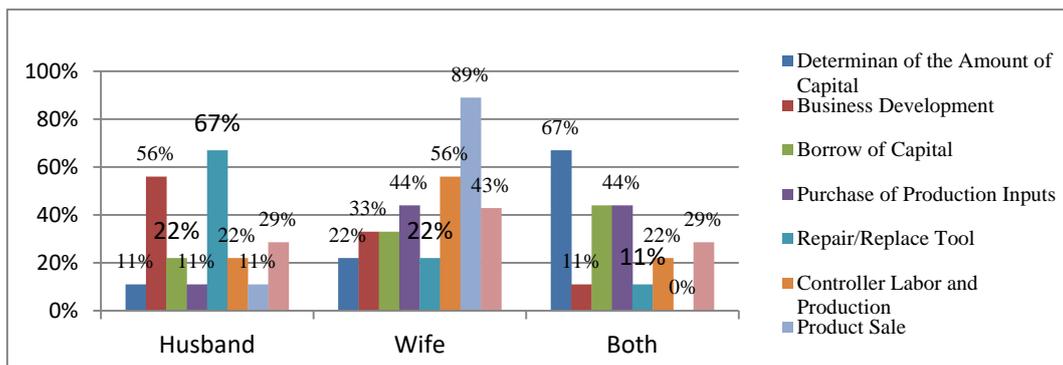


Figure 4: Percentage of Gender Role in the Decision Making

Table 2 shows that husbands tend to dominate decision-making in the business development activities (56%) and repair / replace production tools (67%). While wives dominant in decision making on the activities of purchasing a means of production (44%), controlling labor and production (56%), as well as the sale of production (89%), and decided both were dominant on determination of the amount of capital (67%) and borrow of capital (44%). This is because husbands tend to be decisive in matters relating to the ownership of the

family's wealth [13] such as business development and investment in the form of borrowed capital. This finding is contrary to study Rahayu and Suharyo [14] that women are only restricted to decision-making in the household only, to larger matters like the purchase and sale of assets are still more determined by men. While this research shows that wives played a role in decision making in the household and also in production activities such as the purchase of a means of production, control of labor and production as well sale of products. This is because wife more know and understand what is needed for business management because the dominant her role in production activities.

3.3. Income

The advantage of mulberry cultivation and silkworm maintenance is requires a lot of manpower started of mulberry cultivation up with the maintenance of silkworms. The work of silkworm maintenance can be done at home without leaving the family at home. Best [15]; Geetha & Indira [16] found that sericulture is a very labor-intensive industry and occupies an important position from a corner providing employment and additional income. Sericulture is basically a based industry village that provides employment to labor both skilled and unskilled [17]. Currently, it is estimated that each hectare of mulberry plants provide employment for about 16 people [4].

Some households or businesses mulberry and silkworm maintenance in Sabbangparu District admitted that this business can be used as assurance of economy for additional family income regularly though most households only have land mulberry cultivation the narrow which only able to produce the mulberry leaves to silkworm about of ½ -1 box per month. Maintenance of silkworms themselves the relatively short around 3-4 weeks already harvested so that every month an acceptable his income. In contrast to agricultural plants businesses and estates such as rice, corn, green beans, coconut and chocolate which they have planted have a lifespan of harvest more than one month so that the results can't be taken every month.

The average number of seeds silkworm were maintained within one production cycle (\pm one month) varies the 0.25 box can produce about 1 kg of silk yarn; 0.5 box can produce about 2 kg of silk yarn; 0.75 box can produce about 3 kg of silk yarn; and 1 box can produce about 4 kg of silk yarn. Then, the silkworm production in the form of cocoon spun into silk yarn can be sold at a price of 40.000 IDR (US \$ 3.06) per kg, while the selling price of silk yarn 550.000 IDR (US \$ 42.14) per kg. This is in line with the study [4] that sericulture is an important means to provide a job, increase incomes, and it is household activities the most appropriate.

The total average household income of sericulture is 1.072.639 IDR (US \$ 82.18) per month and outside sericulture is 3.195.833 IDR (US \$ 244.84) per month. While income from sericulture dominant played by wife with an average of 504.945 IDR (US \$ 38.68) per month, whereas the income from outside sericulture business is dominated by the husband with an average of 2.097.222 IDR (US \$ 161.67) per month. While the total family income by an average of 4,268,472 IDR (US \$ 327.01) per month (see Table 3 and Figure 5). Income from silk business dominant contributed by the wife while income outside silk business dominant contributed by the husband. However, incomes in the businessman household of mulberry cultivation and silkworm maintenance dominant contributed by the husband. In principle, the family economy is dominated by the husband (men) is a

translation that the power of men pushing women become the second less quantifiable than the men. The men have the notion that man is a person who is the main breadwinner for the economic needs of families or men as productive workers are very dominant.

Table 3: Gender Roles in the Household Income at the Businessmen Household of Mulberry Cultivation and Silkworm Maintenance

No.	Incomes Average	Husband (IDR /month)	Wife (IDR /month)	MFM (IDR /month)	WFM (IDR /month)	Total (IDR /month)
1.	Income in the sericulture	339.727	504.945	26.884	201.083	1.072.639
2.	Income from outside sericulture	2.097.222	859.444	33.611	205.556	3.195.833
3.	Total Average Income	2.463.949	1.364.389	60.495	406.639	4.268.272

Note: MFM= Men Family Members, WFM= Women Family Members, 1 US \$ = 13.053 IDR

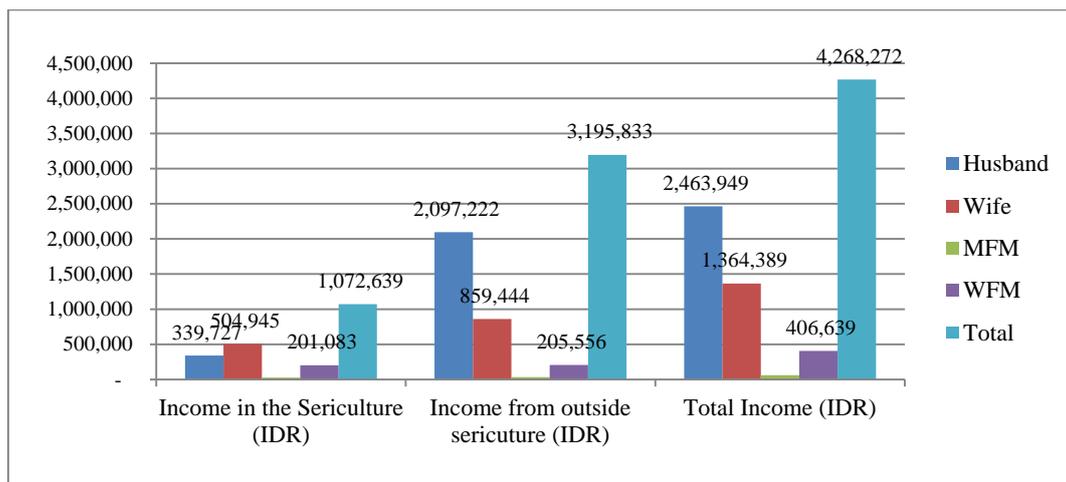


Figure 5: Gender Role in the Household Income

4. Conclusion

Generally wife holds a dominant role in sericulture activities. On average the wife's role in the activities of production of 81.50 hours per one production cycle, the husband of 52.05 hours, women family members amounted to 25.39 hours, and men family members amounted to 6.78 hours. Decision-making in the sericulture activities showed that the dominant decision making is the wife 42.86%, husband alone is equal to 28.57%, and then decided by both 28.57%. While income from sericulture dominant played by wife with an average of 504.945 IDR (US \$ 38.68) per month, whereas the income from outside sericulture business is dominated by the husband with an average of 2.097.222 IDR (US \$ 161.67) per month, and the average total household income is at 4.268.272 IDR (US \$ 327.01) per month. The implication is that the role of wife and women can be taken into

account in the family economy in order to increase the income and welfare of the family. Sericulture business can increase income and can be done at home on the sidelines of domestic activities without leaving the family.

Acknowledgements

The authors are grateful to the Ministry of Research of the Republic of Indonesia at the doctoral scholarship at the University of Hasanuddin. The author also wishes to thank Professor Piyadasa Ratnayake at the Faculty of Economics, University of Saga in Japan who sincerely provide help and guidance for of study in Japan and the completion of this paper. Finally, the authors are grateful to all of which support through a variety of ways during the study period to make it a success.

Reference

- [1] J. Harbi, D. R. Nurrochmat, and C. M. Kusharto, "Pengembangan Usaha Persuteraan Alam Kabupaten Wajo, Sulawesi Selatan," *Risal. Kebijak. Pertan. dan Lingkung.*, vol. 2, no. 2, pp. 129–136, 2015.
- [2] A. Sadapotto, "Proses Kebijakan Persuteraan Alam di Sulawesi Selatan," *Perennial*, vol. 8, no. 1, pp. 1–5, 2012.
- [3] A. Azizi, Hikmah, and S. . Pranowo, "Peran Gender Dalam Pengambilan Keputusan Rumah Tangga Nelayan Di Kota Semarang Utara ,," *Sosek KP*, vol. 7, no. 1, pp. 113–125, 2012.
- [4] E. Kasi, "Role of Women in Sericulture and Community Development: A study from a South Indian Village," *Sage Open*, vol. I, no. II, pp. 1–11, 2013.
- [5] S. Gate, "Empowerment of Women in Watershed Management: Guraiya Pachayat, Madhya Pradesh.," *Indian J. Gend. Stud.*, vol. 8, pp. 247–256, 2001.
- [6] P. Thamizoli, "Integrating Gender Concerns Into Natural Resource Management: The Case of the Pichavaram Mangroves, Tamil Nadu," *Indian J. Gend. Stud.*, vol. 8, pp. 195–206, 2001.
- [7] V. Vijayalakshmi, "A Report on The Politics of Inclusion: Adivasi Women in Local governance in Karnataka," *Gend. Technol. Dev.*, vol. 6, pp. 269–283, 2002.
- [8] N. Singh and J. Gilman, "Employment and Natural Resources Management : A Livelihoods Approach to Poverty Reduction," in *UNDP/SEPED Conference Paper Series*, 2000.
- [9] A. Goyal, "Women Making Choices: Masked But Aware?," *Indian J. Gend. Stud.*, vol. 14, pp. 409–437, 2007.
- [10] S. . Panda, "Mainstreaming Gender in Water Management: A Critical View," *Gend. Technol. Dev.*, vol. 11, pp. 321–338, 2007.

- [11] K. Srinath, "Gender and Coastal Zone Biodiversity," *Gend. Technol. Dev.*, vol. 12, pp. 209–227, 2008.
- [12] E. Kasi, "Developmental Initiatives and Sericulture in A South Indian Village," *SOUTH ASIA Res.*, vol. 31, no. 3, pp. 213–229, 2011.
- [13] Sunaryo dan Zuriah, "Laporan Penelitian: Pola Pengambilan Keputusan dalam Keluarga Wanita Karier di Kota Malang," Malang, 2004.
- [14] W. I. Rahayu, S.K and Suharyo, "Dimensi Gender dalam Kajian Kemiskinan Partisipatoris," 2004. .
- [15] Best, M.L., "Gender, Culture and ICT Use in Rural South India," *Gend. Technol. Dev.*, vol. 11, pp. 137–155, 2007.
- [16] G. S. Geetha and R. Indira, "Silkworm Rearing by Rural Women in Karnataka: A Path to Empowerment," *Indian J. Gend. Stud.*, vol. 18, no. 1, pp. 89–102, 2011.
- [17] H. Lakshmanan, S. and Jayram, "Manpower Utilization in Mulberry Sericulture: An Empirical Analysis," *Manpow. J.*, vol. 33, pp. 49–63, 1998.