

# Gender Empowerment Analysis in Coastal Community Households Around Mangrove Ecosystem in Western Papua

\*Handayani, Hendra Poltak, Ismail dan Muhfizar

Progam Studi Teknologi Penangkapan Ikan, Politeknik Kelautan dan Perikanan Sorong  
Jl. Kapitan Patimura Tg. Kasuari Kel. Suprau, Distrik Maladummes Kota Sorong Papua Barat, 98401

## ARTICLE INFO

Date submitted : 14 Maret 2023  
Articel revisions: 6 November 2023  
Accepted Articel: 6 December 2023

Author correspondence:  
Email: [hendra.poltak@polikpsorong.ac.id](mailto:hendra.poltak@polikpsorong.ac.id)

DOI: <http://dx.doi.org/10.15578/jsekp.v18i2.11577>



## ABSTRACT

Gender empowerment is a key aspect of Indonesia's national development, highlighted by Presidential Instruction No. 9 of 2000 which advocates gender mainstreaming in all life sectors. The instruction's goal is to ensure equal participation and benefit-sharing between women and men in various fields including politics, economy, culture, and security. This study evaluates gender empowerment in West Papua's mangrove ecosystem communities, focusing on productive and reproductive roles, as well as resource access and control. A study was conducted in Sorong City, Sorong Regency, and South Sorong Regency, involving 140 respondents who were active in production and household activities related to the mangrove ecosystem. The Harvard model was used for analyzing gender roles in production and reproduction, identifying activity profiles, and access and control factors. Findings reveal a gender division in activities: reproductive tasks are mainly performed by women (50.31%), while productive tasks are predominantly men's domain (62.94%). Men also largely control resources, with 70.54% access and 64.74% control. The study also correlates household characteristics with gender empowerment, noting reproductive activities' impact (36.32%) and productive activities' influence (22.54%). Focus group discussions corroborated questionnaire results, underscoring the need for government intervention. This intervention should include fisheries extension services providing information access, empowering women through economic and social skill enhancement, and ensuring their equal role in decision-making. The study also highlights the importance of educational access, advocating for awareness of its benefits and the establishment of schools near coastal communities. This approach aims to balance gender roles and participation in both economic and social activities.

**Keywords:** Gender Empowerment; Coastal Communities; West Papua; Reproduction; Production; Access and Control

## INTRODUCTION

Indonesia is the largest archipelagic country in the world located between the continents of Australia and Asia, and between the Indian and Pacific oceans. The total area of Indonesia is approximately 7.81 million km<sup>2</sup>, consisting of approximately 1.90 million km<sup>2</sup> of land, approximately 3.25 million km<sup>2</sup> of sea, and an exclusive economic zone of 2.55 million km<sup>2</sup>, with a coastline length of 99,903 km and a number of islands divided by 17,504. Indonesia, with its vast area, coastline, and number of islands, actually has an incredible natural wealth with huge potential. Abdoellah (2016) explains that the long coastline makes Indonesia one of the countries with the largest natural resources in the world. One of the potential resources along the

Indonesian coastline is the mangrove ecosystem. This mangrove ecosystem can provide economic benefits for households living in the area, in the form of fishing resources, timber and non-timber forest product (Ruitenbeek, 1992; Ruslan et al., 2022). Coastal communities around the mangrove forest have a primary occupation as traditional fishermen using fishing boats and nets to catch fish, shrimp, and clams. In addition, the mangrove ecosystem is also cut down for firewood and building materials (Handayani et al., 2020).

The mangrove ecosystem not only contributes to economic benefits, but also plays a role in ecological and biological functions such as providing a food chain for organisms in its area, supplying energy for living creatures, serving as a habitat for marine biota and animal species, and

protecting land from threats such as wind, waves, and sea storms. The significant role of mangroves has been linked to the achievement of Sustainable Development Goals (SDGs). The SDGs policy is a global agenda contained in the document Transforming Our World: the 2030 Agenda for Sustainable Development, which was agreed upon at the United Nations Summit on 25-27 November 2015.

The mangrove ecosystem not only provides economic and ecological benefits, but also has the potential to empower coastal communities, especially women. Empowerment in this context can be viewed as a process of gender development, empowerment, and empowerment efforts to strengthen their bargaining position against inhibiting forces. This empowerment aims to position gender as an independent subject, rather than a mere object. In other words, gender is given the space to participate in the development process within governance. Gender empowerment in the context of mangroves is important to ensure that women can also utilize the economic potential of this ecosystem. Through gender empowerment, women can improve their skills and knowledge in natural resource management, so they can actively participate in decision-making and influence family and community economic development (Boserup *et al.*, 1984).

That being said, despite women playing a crucial role in the fisheries sector and the sustainability of the mangrove ecosystem, they still face barriers in accessing and controlling coastal resources, making them appear powerless (Yuniati, 2011). conditions in Papua are not much different, women are still in a weak position and need to be empowered (Sari *et al.*, 2020). Moreover, women are often prioritized for reproductive roles rather than productive roles in the fisheries sector (Bradford & Katikiro, 2019). Therefore, it is important to understand how gender empowerment can be achieved in the context of the mangrove ecosystem and coastal communities.

Research on access and control over resources is important in understanding gender empowerment in economic development, especially in rural areas where gender roles in accessing and managing resources often differ. The study on access and control over resources in Mahbubnagar District, India, found that women have greater access and control over food resources, while men have greater access and control over income and household resources, and there is no gender difference in access and control over animal resources (Paul &

Rani, 2017). Similarly, (Kusumo *et al.*, 2013) found scattered patterns between women and men in terms of access and control over resources.

The role of women contributes 48% of household income, but the existence of women receives less attention. Meanwhile, the potential to support household livelihoods is significant. (Firdausi *et al.*, 2021). The results of research by Sopamena and Pattiselanno, activities looking for marine products involving women on Selaru Island (Sopamena & Pattiselanno, 2018). Women fishermen play a role in domestic life (Gustavsson, 2020) willingness, compliance and concern of coastal women or fishermen is very high in supporting the preservation of coastal resources (Handayani & Gunaisah 2012).

Researchers use access and control variables on resources because they can be adequate indicators of gender empowerment (Kabeer, 2011; Roy, 2015). In addition, increasing access to resources and control can ensure the achievement of sustainable development goals (Ashagidigbi *et al.*, 2022). The purpose of this study was to determine the level of gender empowerment through access to and control of resources in households in mangrove ecosystem communities in West Papua

## RESEARCH METHODS

### Location and Time of Research

This research was conducted in seven mangrove coastal community areas. The seven areas include Kladufu Village, Klawasi Village, and Rimbapala in Sorong City; Konda Village and Siribau Village in South Sorong Regency; and Maibo Village and Teluk Dore Village in Sorong Regency. The choice of location is based on the area is a mangrove coastal area which to the author's knowledge many people who live in the mangrove area and is a place of livelihood program under Conservation International. The selection of respondents was based on purposive sampling, 140 individuals who attended Conservation International empowerment training. The implementation of research data collection was carried out for three months starting from October to December 2021. Photo of the research location map in the following figure 1:

### Types and Methods of Data Collection

This research uses primary data. Primary data taken for this study were obtained from the results of a livelihood study questionnaire that had been

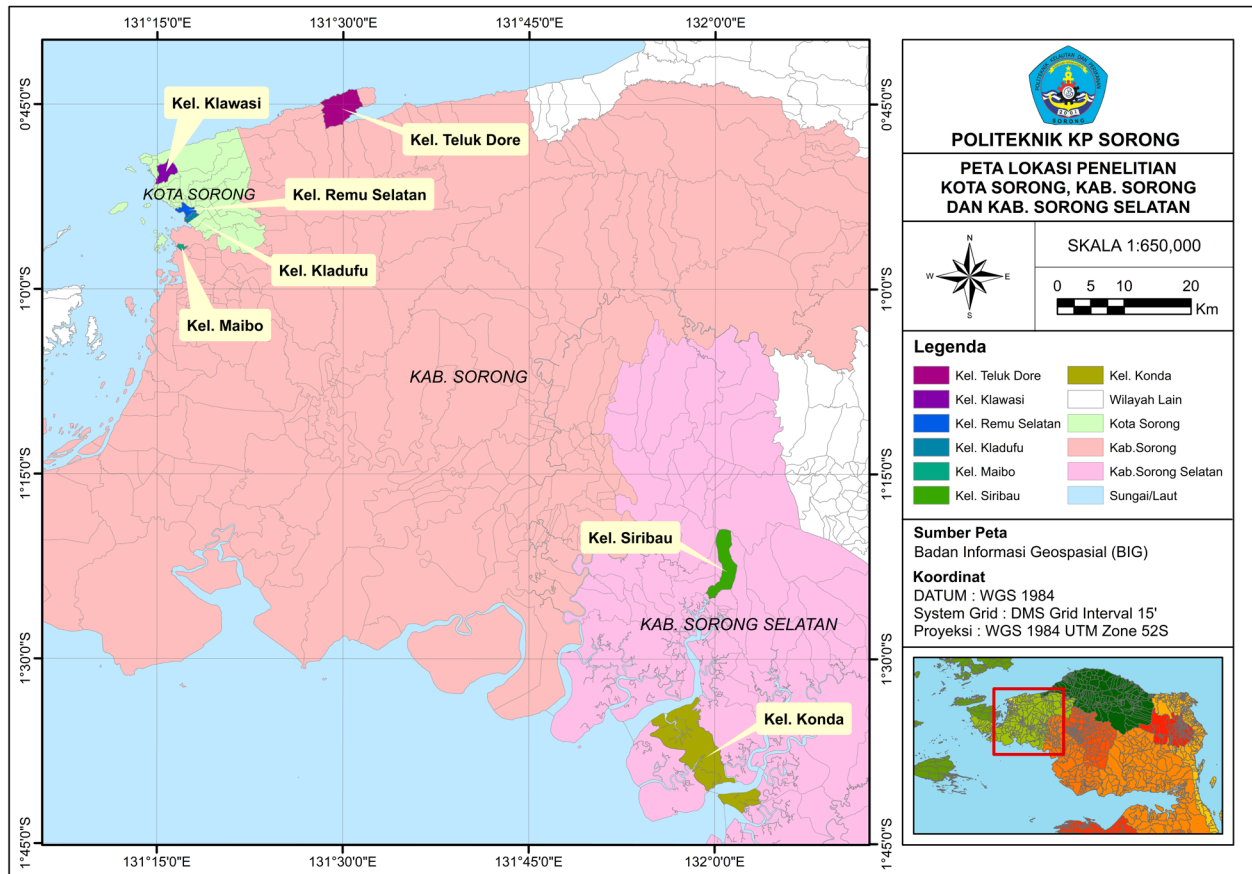


Figure 1. Research Location

answered by respondents of coastal communities around the mangrove ecosystem, each of which was selected twenty people representing one area. Confirmation of respondents' answers was carried out through a focus group discussion that took place on December 04, 2022. Focus Group Discussion is presented in the following figure 2.

### Analysis Method

Respondents filled out a closed questionnaire by giving one answer from several available answers. The results of the questionnaires that have been answered by respondents are analyzed using simple tabulation. The results of this tabulation were then analyzed descriptively.



Figure 2. Implementation of focus group discussion

Deepening information on respondents' answers was carried out through focus group discussions.

## RESULT AND DISCUSSION

Based on primary data obtained in the form of questionnaire results filled out by respondents in this study consisting of regional origin, length of stay, family members living under one roof, gender, age, last education, marital status, and occupation. The characteristics of the respondents are presented in table 1. The following:

Respondents of mangrove ecosystem community households based on the origin of the dominant area came from Papua by 80.71%. The dominance of mangrove ecosystem communities comes from Papua because the Papuan ethnic groups inhabit ecological zones, these tribes lead a nomadic life except for tribes who live in coastal areas whose communities have settled, farmed, and fished (Ali & Wekke, 2021).

Respondents to households in the mangrove ecosystem community based on the majority of stay duration above 31 years. Communities on this coast have inhabited the mangrove community area since birth or for generations.

Based on members living in the upper one, the majority of 50% are inhabited by 1-4 people, 45.71% are inhabited by 5-8 people. The size of the fishing family is because children are seen as economic values that can help the family's economy in making a living in (Simanjuntak & Nugroho, 2020). In addition, the Papuan culture of the decision to have the number of children is on the husband's side because the husband has paid the predetermined dowry. Other cultures cause living in one house is many because non-core families live in addition to father, mother, and child.

The gender of the majority of respondents was male with a composition of 90% male and 10% female. Based on the age of the respondents surveyed, they are people in productive mangrove ecosystems. The majority of the age range is 26 to 65 years. The last education was undergone by respondents who were fishermen, the majority of elementary school graduates. The last education level of respondents working as fishermen, mostly have not completed or only completed primary education, which accounts for 48.57%. This indicates a low level of awareness among the fishing community towards education. (Salmiah & Siti, 2016). Elementary school graduates dominate education by 40%. The education of respondents belongs to the low

**Table 1. Characteristics of Respondents**

Description	Frequency	%
<b>Regional Origin</b>		
Papua	113	80.71
Outside Papua	27	19.29
<b>Length of Stay</b>		
<1 Year	5	3.57
1-10 Years	39	27.86
11-20 Years	16	11.43
21-30 Years	22	15.71
> 31 Years	58	41.43
<b>Members Live Under One Roof</b>		
1-4 People	70	50
5-8 People	64	45.71
>9 People	6	4.29
<b>Gender</b>		
Male	126	90
Female	14	10
<b>Age</b>		
17-25 Years	3	2.14
26-35 Years	23	16.43
36-45 Years	42	30
46-55 Years	31	22.14
56-65 Years	36	25.71
>66 Years	5	3.57
<b>Last Education</b>		
No/Not Yet School	12	8.57
ES/MI	56	40
JHS/MTs Equivalent	26	18.57
SHSI/MA Equivalent	40	28.57
Diploma I/II/III	2	1.43
Diploma IV/S-1	4	2.86
<b>Marital Status</b>		
Unmarried	7	5
Marry	122	87.14
Dead/Life Divorce	11	7.86
<b>Jobs</b>		
Farmer	24	17.14
Farm Laborer	3	2.14
Fisherman	72	51.43
Civil Servant/Soldiers/Police	8	5.71
Merchant	5	3.57
Self employed	2	1.43
Non-Farm Workers	15	10.71
Taking Care of the Household	4	2.86
Other	7	5.00
Total Respondents	140	100



category (Fitria & Pinem, 2012). The respondents surveyed had a majority of marital status of 87.14%, divorce as much as 7.86%, and the remaining 5% were unmarried. Married respondents dominate the community around the mangrove ecosystem, comprising 87.14%, followed by divorced status at 7.86%, and unmarried at 5%.

The majority of respondents worked as fishermen as much as 51.43%, farmers 17.14%, non-farm workers 10.71%. These fishermen also when not going to sea do work as farmers of long-term crops such as durian and short-term crops in the form of vegetables.

## Gender Analysis

### Gender Reproduction

Gender analysis is an analytical process to determine gender disparities through disaggregated data and facts between men and women related to roles, access, control and benefits (Puspitawati, 2013). Gender analysis in this study includes gender reproduction activities, gender production activities, and access and control over resources. Gender roles in reproductive activities are presented in the following table 2.

In reproductive activities, the dominant activities are carried out by women with an average value of 50.31%, while men perform reproductive activities with an average value of 13.37, and are carried out by both with an average value of 36.32. Some activities that are dominantly carried out by women include taking care of children, cooking and preparing food, cleaning the house, and fetching water. Meanwhile, the activity of picking firewood is mostly carried out by men. The activities of caring for the elderly and caring for the sick are dominantly carried out jointly by both of them. These results are

not different from research (Bradford & Katikiro, 2019; Oceans, 2018) which found that there is still a gender gap in reproductive activities.

### Gender Production

Gender production activities are associated with the concept of gender division of labor within the household. Men are considered to have more roles and responsibilities towards family income, while women hold roles and are responsible for domestic work and childcare. Gender production activities are presented in the following table 3.

The results of data processing of production activities carried out in mangrove coastal areas are mostly carried out by men. Men dominate with an average of 62.94%, while women do production activities by 14.51%, and done together by 22.54%. Production activities dominated by men such as making nets, preparing bait, purchasing hooks and threads, preparing boats, purchasing fuel, fishing, post-harvest processing. The dominance of production activities is due to the assumption that that these fishing activities are primarily conducted by men identical fishermen are only played by men (Adela et al., 2019; Nurlaili & Koeshendrajana, 2010). The results of this study support research (Istiana, 2014; Ragsdale et al., 2022) that the productive role of fisherwomen is still not equal to men.

Fish farming activities and marketing of fishery products are carried out jointly by the two. The average coastal community living in seven mangrove areas catches commodities by installing *bubu* and returning home so that there is time together to carry out aquaculture activities and most crab fishermen also after catching and selling their catch and then returning to catch crabs.

Table 2. Gender Division of Labour Activities

No	Division of Labour Activities	Respondent Results			Total (%)
		Male (%)	Female (%)	Both (%)	
1	Childcare	4.29	60	35.71	100
2	Cooking and Preparing Food	7.14	77.14	15.71	100
3	House Cleaning	1.43	76.43	22.14	100
4	Fetching Water	30	37.86	32.14	100
5	Fetching Firewood	45.71	15.71	38.57	100
6	Caring for Seniors	2.86	45.71	51.43	100
7	Taking care of the Sick	2.14	39.29	58.57	100
	Average score	13.37	50.31	36.32	100

**Table 3. Gender Production Activities**

No	Production Activities Fishing	Respondent Results			Total (%)
		Male (%)	Woman (%)	Both (%)	
1	Making fish nets	85.05	2.80	12.15	100
2	Setting Up the Bait	76.64	8.41	14.95	100
3	Buying Hooks and Thread	66.97	18.35	14.68	100
4	Preparing the Ship	85.19	7.41	7.41	100
5	Buying Fuel	81.65	6.42	11.93	100
6	Catching Fish	67.59	5.56	26.85	100
7	Post-Harvest Processing	39.25	23.36	37.38	100
8	Fish Farming	33.01	27.18	39.81	100
9	Fishery Product Marketing	31.13	31.13	37.74	100
	Average score	62.94	14.51	22.54	100

### Access and Control over Resources

Access and Control over Resources Access and control over resources are opportunities to use resources and the power to make decisions on these resources (Puspitawati, 2013). Access and control over resources are presented in table 4 below:

The results of data processing on access and control over resources obtained a dominance of access of 70.54% in men, while women gained access to resources by 29.64%. Control over resources was also dominated by men at 64.74%, while women gained control over resources at 34.52%. These

results differ from research (Paul & Rani, 2017) which found a division of access and control between women and men.

The dominance of access and control of agricultural/plantation land resources is on the part of men with a percentage of 73.33% and control of 75%. In line with the research of (Ankrah *et al.*, 2020) that the male gender has easy access to agricultural land due to the inability of women to manage agricultural land.

Access to control in commodities cultivated was dominated by men by 69.17% in asks and

**Table 4. Access and Control over resources**

No	Access and Control over resources	Respondents				Total (%)
		Access (%)		Control (%)		
		Male	Female	Male	Female	
1	Agricultural/Plantation Land	73.33	26.67	75	25	100
2	Commodities cultivated	69.17	30.83	70	30	100
3	Marine Resources	70.83	28.57	80	20	100
4	Water Resources	54.17	48.83	73.33	26.67	100
5	Agricultural Extension	65	35	67.5	32.5	100
6	Fisheries Extension	71.67	28.33	62.5	37.5	100
7	Livestock Extension	71.67	28.33	59.17	40.83	100
8	Sales Results	65	35	65	35	100
9	Capital	63.33	36.67	65.83	34.17	100
10	Credit	60.83	39.17	48.33	51.67	100
11	Work Equipment	88.33	11.67	87.50	12.50	100
12	Formal Education	90	10	57.50	42.50	100
13	Informal Education/Training	57.50	42.50	35	65	100
14	Information	86.67	13.33	70	30	100
Average score		70.54	29.64	64.74	34.52	100

70% in control. The high access and control of the commodities cultivated is no different from the research of (Azizi *et al.*, 2017) that the decision-making of processing fisheries is dominated by men. Business commodities in mangrove ecosystem areas are also not only in the field of fisheries. Some of the geographically studied areas besides being near the coast are also forest and mountainous areas with business commodities cultivated in the form of long-term crops. Access and control of farming is on the part of men (Notoatmojo, 2001).

Marine resources for access were dominated by men at 70.83 and controls at 80%. Fisherwomen are still difficult to have a work on an equal footing with men even though they have a large contribution in realizing marine resources that have high economic potential (Anggraini & Agus, 2018).

The availability of clean water in households illustrates the sustainability of life and supporting the degree of health (Wardiha & Putri, 2013). Access to water resources is dominated by men by 54.17% and control is dominated by men by 73.33%. In general, male-dominated access and control of water resources gives women time to complete other domestic work.

The agricultural extension system plays a role in providing information in supporting and its community to solve agricultural problems (Witinok-Huber & Radil, 2021). Access to agricultural extension is dominated by men at 65% and control at 67.5%. Access to agricultural extension services is a small obstacle that prevents women from participating in managing agricultural products (Seymour *et al.*, 2016).

Fisheries counseling for access was dominated by men at 71.67% as well as controls dominated by men at 62.5%. Women in counseling activities are often not the main choice to get access to information and training (Yanfika *et al.*, 2021). Access and control livestock counseling was dominated by men at 71.67% and 59.17%. Along with the results of the study (Lestari *et al.*, 2016) that (Nadhira & Sumarti, 2017).

Access and control of sales proceeds are dominated by men by 65%. Women's access and control are severely limited to sales decisions in natuna districts (Zulham *et al.*, 2020). The low access and control of sales proceeds is because men after making arrests set aside time for the process of selling their catch to collectors so that women's access and control are limited.

Access to Capital and control were dominated by men at 63.33% and 65.83%, respectively.

Fisherwomen are limited to access to capital (Anggraini & Agus, 2018) fisherwomen still have difficulty obtaining banking loans (Adela *et al.*, 2019) Capital investment is made by men to buy fishing gear in the form of bubu to trap crabs trapped in it. The purchase of bubu is usually done both to add fishing gear and replace damaged fishing gear.

Credit accessibility can promote the household economy to improve welfare. Credit is given by creditors in consideration of the ability to pay capital and interest on loans. Access to credit was dominated by men at 60.83%. Women have limitations on credit (Akter *et al.*, 2017; Tsige *et al.*, 2020) This high male dominance is due to men's credit risk being lower than women's credit risk (Coleman, 2000). While the control of female dominance by 51.67% is slightly higher than that of men. In contrast to the findings of (Ankrah *et al.*, 2020) which socio-culturally men dominate control over financial resources.

Work equipment is a tool used to carry out productive activities. Access and control work equipment were dominated by men at 88.33% and 87.50%, respectively. The high dominance of access and control of work equipment is due to productive activities charged to men and domestic activities charged to women (Azizi *et al.*, 2017).

Formal education provides structured knowledge and skills through learning in a school environment. Access and control of formal education was dominated by men by 90% and 57.50%. The high level of male/paternal education affects access and control over children's formal education (Bizenjo, 2020).

Informal education is needed to educate marginalized children, especially girls (Gee, 2015). Informal education aims at building the character and development of family members as well as the ability to adapt. Access to informal education is dominated by men by 57.50% and control is dominated by women by 65%. The dominance of women's control over informal education is due to the growth and development of children while in the womb until entering early school in relation to their caregivers/mothers (Rahman, 2015).

The ability to access information is important for all genders, including women (Widyastuti *et al.*, 2016). The information obtained can be used as considerations in decision making. Information for access was dominated by men by 86.67% and controls were also dominated by men by 70%. Ownership of information facilities is generally owned by men as heads of households, making it difficult for women

to access information (Witinok-Huber & Radil, 2021) but in socializing the delivery of information, women have high concern (Handayani & Gunaisah 2012). In addition, women's low access to information is because they are considered second-class citizens (Jost *et al.*, 2016).

Confirmation of respondents' answers that have been tabulated and described through focus group discussions on the topic of gender analysis does not differ from the results of the questionnaire tabulation. The group discussion results strengthen the descriptive analysis of the questionnaire tabulation results.

## CONCLUSIONS AND POLICY RECOMMENDATION

### Conclusions

Based on the gender analysis conducted on coastal households around the mangrove ecosystem in West Papua, it is concluded that the majority of the community inhabiting the mangrove ecosystem in West Papua is dominated by the Papua ethnic group. This is related to the tradition of the Papua ethnic group inhabiting the ecological zone, either by living as nomads or settling in coastal areas for farming and fishing. The gender analysis revealed the following gender disparities: a) Reproductive activities in coastal households are predominantly carried out by women, accounting for 50.31%, while men account for 13.37%. Production activities are predominantly performed by men, accounting for 62.94%, while women account for 14.51%. b) Gender empowerment in the mangrove ecosystem community is indicated by indicators such as access and control over resources. Access and control are dominated by men, accounting for 70.54% and 64.74% respectively, while women have access and control over resources at 29.64% and 34.52% respectively. The limited access for women contributes to their low socioeconomic status and hampers their overall well-being. c) The correlation of household characteristics with gender equality is shown by joint reproductive activities with a value of 36.32% and joint production activities with a value of 22.54%. d) The confirmation results from focus group discussions (FGD) did not reveal any differences compared to the questionnaire responses.

### Policy Recommendation

The goal of economic development in Indonesia is to improve the quality of life regardless of gender. Development must touch all levels and

all regions, especially development in coastal areas, which we know are included in the category of people who are not prosperous. The government needs to intervene in the form of the placement of fisheries extension workers to be able to provide access to information in strengthening the position and welfare of women and empowerment to women through economic and social skills to improve the position of women's role in making decisions to take part in the same economic and social as men. In addition, access to education is important through providing awareness of the importance of obtaining education and the construction of schools not far from the location of coastal communities.

## ACKNOWLEDGEMENT

We would like to thank the non-profit organization Conservation International which has now turned into the Konservasi Indonesia Foundation for its cooperation in conducting livelihood studies on mangrove ecosystems. Thanks also go to the director of the Sorong Maritime Affairs and Fisheries Polytechnic, the district/city fisheries service in the livelihood study research area, village heads and fisheries extension officers for their coordination in the smooth running of this research activity.

## AUTHORS CONTRIBUTION STATEMENT

We hereby declare that the contributions of each author to the writing of this paper are: Handayani is main contributor, Hendra Poltak, Ismail, and Muhfizar are member of contributor. The authors declare that the Author Contribution Letter has been attached.

## REFERENCES

- Abdoellah, O. S. (2016). *Pembangunan berkelanjutan di Indonesia: Di persimpangan jalan*. Gramedia Pustaka Utama.
- Adela, F. P., Zakaria, Z., Nurlela, N., & Arifin, A. (2019). Politik Gender dan Otonomi Daerah: Upaya Pemenuhan Hak Perempuan Nelayan di Desa Sei Nagalawan. *JPPUMA: Jurnal Ilmu Pemerintahan Dan Sosial Politik UMA (Journal of Governance and Political Social UMA)*, 7(1), 19–29.
- Akter, S., Rutsaert, P., Luis, J., Htwe, N. M., San, S. S., Raharjo, B., & Pustika, A. (2017). Women's empowerment and gender equity in agriculture: A different perspective from Southeast Asia. *Food Policy*, 69, 270–279. <https://doi.org/10.1016/j.foodpol.2017.05.003>



- Ali, I., & Wekke, I. S. (2021). *Keberadaan Komunitas Pelaut dan Pesisir di Papua Barat, Indonesia*. Samudra Biru.
- Anggraini, O., & Agus, M. (2018). Penguatan modal sosial berbasis kelembagaan lokal Masyarakat pesisir perspektif gender Di kabupaten Bantul. *JSEP (Journal of Social and Agricultural Economics)*, 11(2), 11–24.
- Ankrah, D. A., Freeman, C. Y., & Afful, A. (2020). Gendered access to productive resources – evidence from small holder farmers in Awutu Senya West District of Ghana. *Scientific African*, 10, e00604. <https://doi.org/https://doi.org/10.1016/j.sciaf.2020.e00604>
- Ashagidigbi, W. M., Orilua, O. O., Olagunju, K. A., & Omotayo, A. O. (2022). Gender, empowerment and food security status of households in Nigeria. *Agriculture*, 12(7), 956.
- Azizi, A., Hikmah, H., & Pranowo, S. A. (2017). Peran gender dalam pengambilan keputusan rumah tangga nelayan di Kota Semarang Utara, Provinsi Jawa Tengah. *Jurnal Sosial Ekonomi Kelautan Dan Perikanan*, 7(1), 113–125.
- Bizenjo, S. (2020). Education in Pakistan: Are low-cost private schools closing the gender gap? *International Journal of Educational Development*, 77, 102209. <https://doi.org/https://doi.org/10.1016/j.ijedudev.2020.102209>
- Boserup, E., Jobbhaar, M., Sunarto, Harahap, A. A., & Sajogyo, P. (1984). *Peranan Wanita dalam Perkembangan Ekonomi*. Yayasan Obor Indonesia.
- Bradford, K., & Katikiro, R. E. (2019). Fighting the tides: A review of gender and fisheries in Tanzania. *Fisheries Research*, 216, 79–88. <https://doi.org/https://doi.org/10.1016/j.fishres.2019.04.003>
- Coleman, S. (2000). Access to capital and terms of credit: A comparison of men-and women-owned small businesses. *Journal of Small Business Management*, 38(3), 37.
- Firdausi, I. A., Sururi, A., & Malik, A. (2021). Kontruksi Sosial Perempuan Nelayan Dalam Pola dan Relasi Sosiokultural Di Kawasan Pesisir Pantai Karangantu Serang Banten. *Titian: Jurnal Ilmu Humaniora*, 5(2), 172–183.
- Fitria, F., & Pinem, M. (2012). Keadaan Sosial Ekonomi Masyarakat Nelayan Di Desa Beringin Kecamatan Beringin Kabupaten Deli Serdang. *JURNAL GEOGRAFI*, 4(2), 29–36.
- Gee, K. A. (2015). Achieving gender equality in learning outcomes: Evidence from a non-formal education program in Bangladesh. *International Journal of Educational Development*, 40, 207–216. <https://doi.org/https://doi.org/10.1016/j.ijedudev.2014.09.001>
- Gustavsson, M. (2020). Women's changing productive practices, gender relations and identities in fishing through a critical feminisation perspective. *Journal of Rural Studies*, 78, 36–46. <https://doi.org/https://doi.org/10.1016/j.jrurstud.2020.06.006>
- Handayani, E. G. (2012). Kajian Perempuan dalam Mendukung Konservasi Sumber daya Pesisir di Kabupaten Raja Ampat. *Jurnal Airaba*, 1, 1–12.
- Handayani, H., Mustasim, M., & Suruwaky, A. M. (2020). Persepsi dan Partisipasi Masyarakat terhadap Ekosistem Mangrove di Distrik Sorong Timur, Kota Sorong Provinsi Papua Barat. *Jurnal Airaba*, 9(01), 58–62. <https://doi.org/https://doi.org/10.15578/ja.v9i01.162>
- Istiana, I. (2014). Akses Perempuan Nelayan Dalam Kegiatan Produktif (Studi Kasus Di Desa Teluk, Kecamatan Labuan, Kabupaten Pandeglang, Banten). *Buletin Ilmiah Marina Sosial Ekonomi Kelautan Dan Perikanan*, 9(1), 1–7. <https://doi.org/http://dx.doi.org/10.15578/marina.v9i1.205>
- Jost, C., Kyazze, F., Naab, J., Neelormi, S., Kinyangi, J., Zougmore, R., Aggarwal, P., Bhatta, G., Chaudhury, M., & Tapio-Bistrom, M.-L. (2016). Understanding gender dimensions of agriculture and climate change in smallholder farming communities. *Climate and Development*, 8(2), 133–144. <https://doi.org/https://doi.org/10.1080/17565529.2015.1050978>
- Kabeer, N. (2011). Between affiliation and autonomy: navigating pathways of women's empowerment and gender justice in rural Bangladesh. *Development and Change*, 42(2), 499–528.
- Kusumo, R. A. B., Charina, A., & Mukti, G. W. (2013). Analisis gender dalam kehidupan keluarga nelayan di kecamatan Pangandaran kabupaten Ciamis. *Jurnal Social Economic of Agriculture*, 2(1). <https://doi.org/http://dx.doi.org/10.26418/j.sea.v2i1.5118>
- Lestari, V. S., Rahardja, D. P., & S. N. Sirajuddin. (2016). Proceedings of The IIER International Conference. Jakarta. 4-5 November: 1-12. *The Role of Gender on Poultry Farms.*, 1–12.
- Nadhira, V. F., & Sumarti, T. (2017). Analisis gender dalam usaha ternak dan hubungannya dengan pendapatan rumahtangga peternak sapi perah. *Jurnal Sains Komunikasi Dan Pengembangan Masyarakat [JSKPM]*, 1(2), 129–142. <https://doi.org/https://doi.org/10.29244/jskpm.1.2.129-142>
- Notoatmojo, B. (2001). Peranan gender dalam usaha tani di kawasan Indonesia bagian timur. *The Winners*, 2(2), 116–129. <https://doi.org/https://doi.org/10.21512/tw.v2i2.3819>
- Nurlaili, N., & Koeshendrajana, S. (2010). Peran Perempuan Bajo Dalam Rumah Tangga Perikanan Tangkap di Wuring, Kecamatan Alok Barat, Kabupaten Sikka, Propinsi Nusa Tenggara Timur. *Jurnal Sosial Ekonomi Kelautan*

- Dan Perikanan*, 5(2), 199–210.
- Oceans, U. (2018). *Gender Analysis of the Fisheries Sector*. The USAID Oceans and Fisheries Partnership. Produced by the National Network.
- Paul, M. M., & Rani, P. R. (2017). Gender differences in access to and control over farm resources. *International Journal of Research in Applied and Social Science*, 5(8), 71–74.
- Puspitawati, H. (2013). Konsep, teori dan analisis gender. *Bogor: Departemen Ilmu Keluarga Dan Kon-Sumen Fakultas Ekologi Manusia Institut Pertanian*.
- Ragsdale, K., Read-Wahidi, M., Marinda, P., Pincus, L., Torell, E., & Kolbila, R. (2022). Adapting the WEAI to explore gender equity among Fishers, Processors, and sellers at Zambia's Lake Bangweulu. *World Development*, 152, 105821. <https://doi.org/https://doi.org/10.1016/j.worlddev.2022.105821>
- Rahman, M. M. (2015). Pendidikan Keluarga Berbasis Gender. *Jurnal Musawa IAIN Palu*, 7(2), 234–255.
- Ruitenbeek, H. J. (1992). Mangrove management: an economic analysis of management options with a focus on Bintuni Bay. *Irian Jaya*.
- Ruslan, N. F. N., Goh, H. C., Hattam, C., Edwards-Jones, A., & Moh, H. H. (2022). Mangrove ecosystem services: Contribution to the well-being of the coastal communities in Klang Islands. *Marine Policy*, 144, 105222. <https://doi.org/https://doi.org/10.1016/j.marpol.2022.105222>
- Salmiah, N. S., & Siti, N. S. S. (2016). Kesadaran Masyarakat Nelayan terhadap Pendidikan Anak. *JPPUMA: Jurnal Ilmu Pemerintahan Dan Sosial Politik UMA (Journal of Governance and Political Social UMA)*, 4(1), 1–10.
- Sari, E. M., Rossarie, D., Hayudi, & Ikhtianah, I. R. (2020). Peningkatan Ekonomi Masyarakat Melalui Pemberdayaan Perempuan Dalam Pengembangan Aneka Produk Olahan Rumput Laut Di Kampung Arar. *Jurnal ABDIMASA Pengabdian Masyarakat*, 3(2), 8–14.
- Seymour, G., Doss, C., Marenja, P., Meinzen-Dick, R. S., & Passarelli, S. (2016). *Women's empowerment and the adoption of improved maize varieties: evidence from Ethiopia, Kenya, and Tanzania*.
- Simanjuntak, B. H., & Nugroho, F. (2020). Persepsi Nelayan Tentang Nilai Anak Dalam Keluarga Nelayan di Desa Kuala Merbau Kecamatan Pulau Merbau Kabupaten Kepulauan Meranti Provinsi Riau. *Jurnal Sosial Ekonomi Pesisir*, 1(3), 37–41.
- Sopamena, J. F., & Pattiselanno, A. E. (2018). Tnyafar: women, livelihoods strategy in selaru island, West Southeast Maluku District. *International Journal of Environment, Agriculture and Biotechnology*, 3(5), 264451.
- Tsige, M., Synnevåg, G., & Aune, J. B. (2020). Gendered constraints for adopting climate-smart agriculture amongst smallholder Ethiopian women farmers. *Scientific African*, 7, e00250. <https://doi.org/10.1016/j.sciaf.2019.e00250>
- Wardiha, M. W., & Putri, P. S. A. (2013). Pemetaan permasalahan penyediaan air minum di Provinsi Nusa Tenggara Timur dengan system interrelationship model. *J Ling Tropis*, 6(2), 105–119.
- Widyastuti, D. A. R., Nuswantoro, R., & Sidhi, T. A. P. (2016). Literasi digital pada perempuan pelaku usaha produktif di Daerah Istimewa Yogyakarta. *Jurnal AspiKom*, 3(1), 1–15.
- Witinok-Huber, R., & Radil, S. M. (2021). Introducing the Local Agricultural Potential Index: An approach to understand local agricultural extension impact for farmer adaptive capacity and gender equity. *World Development Perspectives*, 23, 100345. <https://doi.org/https://doi.org/10.1016/j.wdp.2021.100345>
- Yanfika, H., Viantimala, B., Nurmayasari, I., & Mutolib, A. (2021). Kesetaraan Gender dan Strategi Nafkah untuk Penyusunan Program Penyuluhan pada Masyarakat Pesisir di Kabupaten Tanggamus, Provinsi Lampung. *Jurnal Penyuluhan*, 17(2), 126–135. <https://doi.org/10.25015/17202133523>
- Yuniati, W. (2011). Pelibatan perempuan pesisir dalam proyek RCL. *Mangrove Journal-MAP Indonesia, Maret*.
- Zulham, A., Hafsaridewi, R., Hikmah, H., Soejarwo, P. A., & Yanti, B. V. I. (2020). Kesenjangan Gender Pada Pemanfaatan Perikanan Skala Kecil di Kabupaten Natuna. *Buletin Ilmiah Marina Sosial Ekonomi Kelautan Dan Perikanan*, 6(2), 159. <https://doi.org/10.15578/marina.v6i2.8960>