

FACTORS OF FEMALE FISHERS' PARTICIPATION IN THE SEAWEED BUSINESS DEVELOPMENT IN GORONTALO UTARA

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ABSTRACT

This research aims to (1) identify the factors of female fishers' participation in the seaweed farming business development in Gorontalo Utara and (2) analyze how skills, work ethics and culture, and institutional supports impact the seaweed business development in Gorontalo Utara. This research was conducted in Anggrek and Ponelo Kepulauan Gorontalo Utara in August-September 2019. The data sources were both primary and secondary data and the sample comprised 39 seaweed farmers. The research findings indicate that female fishers' participation in the seaweed business development in Gorontalo Utara was dynamic. Their participation was much determined by the development in these domains, namely working skills, work ethics and culture, and institutions that sustained seaweed business productivity. Furthermore, building upon the double linear regression statistic test, we concluded that skills could explain the degree of female fishers' participation in seaweed business in Gorontalo Utara, work ethics and culture, and institutions by 59.4%. Meanwhile, the rest, 40.6%, was explained by other factors outside the model. However, in partial, the institution factor did not significantly affect the degree of female fishers' participation in seaweed business.

Keywords: *Female Fisher, Gorontalo Utara, Seaweed Farming Business*

INTRODUCTION

The coastal economic sector phenomenon gives evidence of the public perception of woman marginality and inferiority in the elevation of local commodity-based welfare. It contradicts the assumption that as the leading family supporter, women should pose a more productive position. They should have domestic power as a mother and wife and rights to give aspirations and participation in the working sector.

The coastal community has been long labeled underdeveloped and impoverished. The negative perception is brought by various factors, e.g. cultural perception, human resources quality, economic infrastructure, product quality, and access to the market. It is a

pity as the community develops a high motivation and desire to alleviate the restricting condition. This situation has been taking place in the eastern part of Indonesia, including Gorontalo, for a long time. To respond to that, an exclusive intervention which is more impartial, participative, and integrated should be given to the coastal sector (Budiman and Ginting, 2016).

The economic development of the coastal community, in concept, is much determined by agricultural, fishery, and marine commodities. Besides, dominant worker availability, production ability, technological supports, governance, and access to the market are the main factors (Fauzi, 2006).

Seaweed is a commodity with a long history for the coastal community. Seaweed has been stipulated as a preeminent commodity in Indonesia by the Ministry of Maritime Affairs and Fisheries (KKP). The stipulation is prompted by the fact that seaweed has a relatively short and easy production process (Nugroho and Kusnandar, 2015). Furthermore, in the marketing context, seaweed is considered “a future commodity”. The seaweed production can be enhanced due to its relatively short cultivation period less than 45 days. The demand for seaweed as the source of carrageenan and chitin as the main ingredients of medicine and cosmetics increases year by year, both in the national and global market scales (Nugroho and Kusnandar, 2015).

In written, seafood commodities correspond to the coastal area with a bay/beach with strong currents and winds. Gorontalo Utara has a coastal line of 320 km² and 123 villages (80% of them are coastal villages). As suggested by these data, it is evident that seaweed must be a preeminent commodity in Gorontalo Utara (Amin, 2012; Kamuli, 2014).

It should be noted that seaweed has been cultivated since 1990s (data from KKP, 2012). In the period, seaweed productivity is fluctuating despite the more the government’s more established policy interventions. As observed in the official publication issued by the Ministry of Marine Affairs and Fisheries in Gorontalo Utara, seaweed potentials are identified in several conservations in Anggrek (1.070 hectares), Kwandang

(1,575 hectares), and Ponelo Kepulauan (700 hectares).

The capacity of seaweed production in Gorontalo Utara was reportedly 18,821 tons in 2010. The capacity increased by 28,288 tons in 2012 and 29,540 tons in 2015. Nevertheless, the capacity declined by 26,633 tons due to climate and environmental changes in 2016. However, seaweed’s economic issues are engendered by the production volume and cultivation area availability and the economic productivity of seaweed in terms of employment, market demand, and its impact on the coastal community welfare (KKP, 2012).

We found that female fishers largely contribute to the seaweed cultivation business. Their engagement in the business is evident. However, their engagement does not have a proper appreciation and hence is excluded in the real and long-run term plan to manifest the coastal community welfare in Gorontalo Utara. The participation rate of female fishers in coastal sectors, including seaweed commodities, is considered significant yet susceptible and secondary. This consideration is because they show more engagements in fishery product processing (preliminary observation data, September 2018).

Some literature renders evidence that the public perceives female fishers’ participation as the secondary even marginalized one. Furthermore, their roles are considered complementary. This certainly impacts on their weakened aspirations and the participation rate in establishing the economic independence in a coastal area (Firdaus and Rahadia,

2015; Widodo, 2012). Attempting to give solution to that situation, the government has issued several policies. Built upon the policies, some coastal community empowerment programs have been made to corroborate female fishers' participation, especially in the fishing product processing activities. Besides, various derivative products are then developed by prioritizing their quality and marketing management.

Inevitably, several factors, e.g., gender or skills, work ethics and cultures, and institutions which develop amongst the coastal community restrict female fishers from developing seaweed business in Gorontalo Utara.

Resting upon the empirical background described above, this article reveals (1) what the female fisher-based seaweed business development in Gorontalo Utara is and (2) What the impacts of the factors of skills, work ethics and culture, and institutional supports are on the female fishers' participation in seaweed business in Gorontalo Utara.

RESEARCH METHODOLOGY

This research was conducted in Anggrek and Ponelo Kepulauan Gorontalo Utara in **August-September** 2019. The two research locations were selected as they had coasts and small islands as the majority of their areas. Besides, in terms of the community living there, most of them were fishers and seaweed farmers. Furthermore, the two subdistricts had active seaweed farmer associations supported by the government. To be specific, this research focuses on the farmer associations in

which we could find female members in a significant number.

This was combined research which used both quantitative and qualitative methods. Using the qualitative approach, this was naturalistic research. As such, all researchers' presence and the relationship established during the research process were natural and without presumptions, manipulations, and/or interventions from the researchers and/or other parties in the field (Nasution, 1988). However, we regarded the quantitative method through several statistical tests and procedures as the primary method, corroborated by the other research method, the qualitative, using a descriptive approach.

RESEARCH FINDINGS

Research Location

Gorontalo Utara was divided into two, namely the land area, the majority of which was hilly and highland regions reaching 0-1800 masl and dominated by a slope of 15-40° (60-70%). The administrative center of Gorontalo Utara was in Kwandang.

Gorontalo Utara was located extending from the East to the West in the northern part of Gorontalo, along the northern part of the trans-Sulawesi road which connected Manado, the capital city of North Sulawesi, and Makassar which was in the southern part of Sulawesi island. Geographically, Gorontalo Utara was located at 386,732 mT-530,446 mT and 74,367 mU-115,085 mU (zone UTM 51 North). Gorontalo Utara had 11 subdistricts, namely Tolinggula, Biau, Sumalata, Sumalata Timur, Monano, Anggrek,

Kwandang, Ponelo Kepulauan, Tomilito, Gentuma Raya, and Atinggola.

Furthermore, Gorontalo Utara was blessed with islands with beautiful natural landscapes potential to be developed as tourism sectors. The beautiful islands were Saronde, Lampu, Mohingito, Bogisa, and Diyonumo. Besides, Gorontalo Utara was a district with a long coastal line. In terms of capture fishery, there were 3,700 fishers, 729 boats without motors, 1,722 outboard motorboats, and 42 motor ships in Gorontalo Utara. The capture fishery production in 2016 was 24,100 tons, and the production of skipjacks reached 4,686.70 tons.

As cited from *Kabupaten dalam Angka* (2018), 112,975 people were

inhabiting Gorontalo Utara in 2017. The number comprised of 57,220 males and 55,755 females. Based on the area and the number of population in 2017, we could conclude that the population density in 2017 was 64 people/km².

The population in Gorontalo Utara, by the age group, was dominated by those aged 0-4 years old, 11,692 in number. This number indicates that the population in Gorontalo Utara was dominated by non-productive age (under-five-years-old infant). The whole population consisted of 5,988 males and 5,704 females. The composition of the population of Gorontalo Utara by age is presented in detail in the following table.

Table 1. The Population of Gorontalo Utara by Age and Sex

No.	Group of Age	Sex		Number
		Male	Female	
1	0-4	5,988	5,704	11,692
2	5-9	5,691	5,580	11,271
3	10-14	5,403	5,227	10,630
4	15-19	5,133	4,881	10,014
5	20-24	4,841	4,812	9,653
6	25-29	4,722	4,702	9,424
7	30-34	4,317	4,209	8,526
8	35-39	4,076	4,112	8,188
9	40-44	4,023	3,942	7,965
10	45-49	3,712	3,575	7,287
11	50-54	3,014	2,825	5,839
12	55-59	2,321	2,182	4,503
13	60-64	1,733	1,659	3,392
14	65-69	1,271	1,234	2,505
15	70-74	805	834	1,639
16	75+	671	837	1,508
Total		57,721	56,315	114,036

Source: *Kabupaten Gorontalo Utara dalam Angka*, 2018

Considering its area and population in 2016, the population density in Gorontalo Utara in 2016 was 63 people/km². Looking at the population distribution by age, the

majority of the population, approximately 24.23% of the total population in Gorontalo Utara, lived in Kwandang. It is understandable because Kwandang is the capital city of the

district, hence equipped with facilities and infrastructures more adequate than other subdistricts in Gorontalo Utara.

Table 2. The Number of Fishers and Fishing Tools in Gorontalo Utara by Subdistricts

No.	Subdistricts	Fishers	Without Boat	Boat Without Motor	Outboard Motorboat	Motorboat
1	Atinggola	175	2	34	138	1
2	Gentuma Raya	218	17	32	149	20
3	Tomilito	230	68	37	125	-
4	Kwandang	334	104	69	142	19
5	Ponelo Kepulauan	700	352	40	308	-
6	Anggrek	350	18	56	260	-
7	Monano	285	5	104	176	-
8	Sumatera Timur	285	200	103	145	-
9	Sumalata	448	166	144	205	2
10	Tolinggula	517	115	46	95	-
11	Biau	256	94	64	29	-
Total		3,700	1,141	729	1,772	42

Source: Kabupaten Gorontalo Utara dalam Angka, 2018

Fishery sectors were preeminent in Gorontalo Utara, and Kwandang and Atinggola were two subdistricts which supplied most fish. Both subdistricts with their high fishery productivity largely contributed to capture fisheries in Gorontalo Utara.

The data presenting the number of fishers and their fishing tools indicate their adequacy in primary infrastructures as one of the business requirements.

Their need for boats was absolute regardless of what kind of business they preferred. Besides, they also needed transportation to the fishing location, and in regard to seaweed, the facility used to transport seaweed to the land was obviously required. As such, they needed boats, allowing them to do seaweed planting, maintaining, and harvesting more efficient.

Table 3. Aquaculture Potentials in Gorontalo Utara in 2017 (in Tons)

No.	Subdistrict (Minapolitan Area)	Potentials				Usability			
		Seaweed (Ha)	Brackish Water (Ha)	Freshwater (Ha)	Marine KJA (Ha)	Seaweed (Ha)	Brackish Water (Ha)	Freshwater (Ha)	Marine KJA (Ha)
1	Anggrek	1.070	173.00	10.00	30.00	232.00	90.5	5.00	10.00
2	Monano	-	-	10.00	25.00	-	-	2.00	5.00
3	Kwandang	1.58	383.00	15.00	95.00	105.00	239.00	5.00	15.00
4	Ponelo Kepulauan	700.00	-	5.00	25.00	52.00	-	1.00	10.00
5	Tomilito	-	-	25.00	20.00	-	-	5.00	1.00
6	Sumalata	-	-	15.00	20.00	-	-	5.00	10.00
7	Sumalata Timur	50.00	20.00	15.00	25.00	-	-	5.00	10.00
8	Tolinggula	-	-	10.00	-	-	-	-	-

9	Biawu	-	-	-	-	-	-	-	-
10	Atinggola	-	-	20.00	20.00	-	-	10.00	1.00
11	Gentuma Raya	-	25.00	-	10.00	-	-	-	-
Total		3.40	601.00	105.00	260.00	389.00	330.00	38.00	62.00

Source: Ministry of Maritime Affairs and Fisheries in Gorontalo Utara, 2017

Nevertheless, the potentials remained untreated due to several inevitable factors. In terms of seaweed commodity, for example, farmers were confronted with weather changes, water conditions, and diseases. Besides, as of 2016, seaweed declined in price. However, farmers could not precisely calculate how the market price of

seaweed fluctuated for they merely rested on “distributors” which had the market access to Manado or Makassar and Surabaya. Officially reported by the Ministry of Marine Affairs and Fisheries in Gorontalo Utara, the following data suggest seaweed production and other commodities starting from 2011.

Table 4. The Aquaculture Production by Commodity in 2011-2017 (in Tons)

No.	Commodity	2011	2012	2013	2014	2015	2016	2017
1	Tiger shrimp	19.01	109	103	6,33	10.88	2.47	95.54
2	Vaname shrimp	-	-	105	106.60	84.68	175.57	400.59
3	Seaweed	20,262.80	28,288	36,578	28,443.00	29,540.00	26,633.40	27,658.05
4	Grouper	0.51	-	-	-	6.36	8.27	8.52
5	Milkfish	47.74	395	2,375	18.74	8.49	23.08	150.77
6	Snapper	-	-	-	-	-	-	1.25
7	Nile tilapia	4.28	10	46	8.45	26.30	19.09	495.15
8	Pangasius	3.30	-	-	-	-	-	-
9	Common carp	-	5	23	3.45	-	3.05	380.14

Female Fishers’ Participation in Seaweed Cultivation

Female fishers’ participation was seemingly more intensive in seaweed cultivation. In order to process seaweed products, they were required to have some unique skills, which were (as found in the field observation on 3rd-20th September 2019):

1. Skills in seedling
2. Skills in organizing rest ropes and bundling seaweed using plastic ties
3. Skills in managing corps which need careful cutting, collecting, and carrying of seaweed to the shore, and

4. Skills in sorting, cleaning, and drying seaweed by its classification and types.

The four skills had to be mastered by all community members determined to be professionals in seaweed cultivation sectors. As enacted in all businesses, mastery of determinate skills was an early legitimacy or formal requirement to decide whether or not one could enter the job field desired. Meanwhile, coastal female fishers’ participation in cultivation and processing sectors was not as easy as turning the palm of the hand. We all had

known that they had roles which “complimented” since their husbands’ job was primary. It was not a surprise considering that fishing was the predominant job.

Seaweed commodities had apparently influenced the understanding and patterns of daily living of fisher families in Gorontalo Utara. We found a unique relation that seaweed cultivation was “a female commodity”. The term left us an impression that seaweed was specially for female fishers. This phenomenon was increasingly vivid in Gorontalo Utara. In terms of a successful participation of female fishers, a successful institutional process, including the institutionalization of positive perception regarding the job they selected, was one of the determinants (Handayani and Wayan, 2009).

Processing and Marketing Activities

Currently, in Gorontalo, the engagement of female fishers in seaweed cultivation processes became more preeminent, not to mention their engagement in seaweed “processing” and “marketing”. Since 2017, female fishers were more vocal in showing off how stable their roles in the market network during an extreme decline of seaweed production. One of the female fishers was Mrs. Reti, a seaweed cultivator, and collector in Popalo.

Similar to Mrs. Reti, Mrs. Teti, a seaweed cultivator in Tihengo Ponelo Kepulauan, also managed to process seaweed. Despite the low production season, she, assisted by her business group, was determined in seaweed “processing”. Due to its good work

ethics, the group could develop businesses. The group consistently and intensively participated in relevant training. Also, they became the representative of Gorontalo Utara at the provincial and national levels. Due to its excellent work ethics, their business had been registered/licensed and acquired a business license from the UMKM Department in Gorontalo. Furthermore, in September 2019, the group got the “halal label” from MUI in Gorontalo.

Female fishers who cultivated seaweed in Gorontalo Utara had contributed to the excellent imagery of Gorontalo Utara with their processed products. As recorded by CCDP-IFAD in 2016, “seaweed crackers” became more acceptable in both local and regional markets in Gorontalo. The crackers were unique in flavor, given by the natural “ingredients” cultivated by female fishers in Gorontalo. Along with the good imagery, new solidarity to develop other quality, healthy, and nutritional local products emerged as a symbolic spillover from the processed products made by female fishers in Gorontalo Utara.

Furthermore, in terms of the degree of female fishers’ engagement in the cultivation or other productive businesses in fishery and seaweed sectors, 377 of 1,583 fisher association members were reportedly engaged in the CCDP-IFAD program in 2013-2016. The number vividly indicates that women’s participation was insignificant in quantity, but we must not regard it as a simple matter. The most pivotal fact behind the insignificance was how female fishers selected and were

acceptable in a certain sector, namely seaweed cultivation processing and management.

Female fishers were potential to do more specific participations in marketing and processing the crops, as what they did to (1) fish and salt, (2) seaweed crackers, (3) anchovy-based products, and (4) panada tore (the document of CCDP-IFAD, 2016). In the four processing activities, female fishers' contribution was pivotal. The four processing activities required their contribution in such way that corroborate their accumulated family income, ushering direct impacts on their family welfare.

Work Ethics and Business Independence

The seaweed cultivation business association in Gorontalo Utara was established in 2010. Karya Bersama, an association in Tihengo, was the first association receiving seaweed (gelatine) as a new community. Several determinant factors, including the government, had an important role when the seaweed initiation started to operate in Gorontalo Utara. However, when the district received continuous assistance by means of the associations, they showed "dependency" on the assistance. The community would surely not survive, while the community which showed work ethic and independence would, as they could adapt to changes and manage their personal governance.

CONCLUSION

The degree of female fishers' participation in seaweed businesses in Gorontalo Utara was dynamic and

greatly determined by the development of the factors of working skills, work ethics and culture, and institution which sustained their productivity in seaweed cultivation businesses.

Based on the quantification using the double linear regression analysis, the factors of skills, work ethics and culture, and institution simultaneously significantly affected the degree of fishers' participation in seaweed businesses in Gorontalo Utara. Meanwhile, the factors of skills and work ethics and culture had a partial significant impact, whereas the factor of institution did not significantly affect the degree of participation in seaweed businesses.

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