

Socio-Economic Status of Fishermen's Household in West Sumatra Province

Melti Roza Adry¹, Dewi Zaini Putri²

¹ Universitas Negeri Padang, Padang, Indonesia, ✉ meltirozaadry@gmail.com

² Universitas Negeri Padang, Padang, Indonesia, ✉ putridewizaini@gmail.com

Abstract

The purpose of this study is to describe the socio economic status of fishermen in West Sumatra Province. To analyze the socioeconomic status of fishermen households is used the data of the agricultural census survey "Fishing Survey of Household Businesses" from Bureau center of statistics in West Sumatra. By using descriptive analysis techniques the results of the study show that (1) most of the fishermen in West Sumatera used outboard motor boats and with a dominant operating period of only 1 day. From the production techniques used by the fisherman, it is more traditional and small-scale with an average crew of less than 5 people who use motorboats, outboard motorboats and motorized boats. And also the fishermen are more dominant in using their own capital for fishing because of the difficulty to access capital in the banks. Furthermore, from the production side, West Sumatra's marine fishery production is sold directly to the market and only few fishermen sell processed fish of the fish they catch. Whereas, in terms of age, most of the fishermen are in the age of 30 - 49 years old who graduated from elementary school. 2). Sea capture fisheries business in West Sumatra is profitable with a value of R / C ratio above 1 whether using motorboats, outboard motorboats and motorized boats to catch fish.

Keywords: socio economic status, fishermen.

Introduction

West Sumatra is one of the provinces located on the West coast of Sumatra with the potential of Maritime and Fisheries which is promising as one of the sectors supporting economic growth in West Sumatra. Development of the Marine and Fisheries Sector is an integral part of the Regional Development of West Sumatra, where the geographical area becomes very significant because the marine region of West Sumatra belongs to the ZEE area of 51,060.23 km² and public waters (four large lakes, rivers, ponds and reservoirs) covering an area of 62,400 km² far exceeding the area of the West Sumatra Province. With these conditions, and also with the large potential contained such as fish resources and environmental services (marine tourism, resorts, maritime sports and others), so the Field of Marine and Fisheries is projected to be one of the main driving sectors of the economy of West Sumatra in the future.

The Marine and Fisheries Sector in the economy of West Sumatra has a considerable role as a source of employment, animal protein sources derived from fish and as foreign exchange source because it has 185 small islands with a 375 km beach stretching from Pasaman Barat Regency to Pesisir Selatan and also 2,420 km if it includes beaches in the Mentawai Islands so that it has considerable potential for the development of fisheries capture.

This is supported by marine fishery production which is only found in seven City Districts namely Mentawai Islands Regency, South Coastal District, Padang Pariaman Regency, Agam Regency, West Pasaman Regency, Padang City and Pariaman City. in 2012-2016, the production of fresh sea fish in West Sumatera shows a positive trend but decreased from 2014 until 2015 from 214,734 tons in 2014 to 206,399 tons or decreased by 3.88 percent from the previous period.

The decrease in production was caused by a decrease in sea capture fisheries production in Mentawai Islands District by 51.07 percent and Padang Pariaman District by 33.32 percent in 2015. In addition, the decline in marine fisheries production was also largely determined by the facilities used by fishermen in the fishing process. BPS data shows that the majority of fishermen in West Sumatra use boats with outboard motors to catch the fish.

The decline in marine fisheries production has caused the lack of ability of West Sumatra to meet the high market demand for fresh sea fish. Increasing demand for fresh and processed fish from other countries is a problem when supply cannot be fulfilled by West Sumatra. FAO data shows that the need for fish consumption is increasing every year. Even consumption of fish in the world per capita can reach 19.6 kg in 2021. This means that the coastal areas in West Sumatra Province have potential in the development of marine fishery commodities.

Another strategic issue of fisheries and maritime is high poverty rate of fisheries in West Sumatra. This can be seen from the high level of poverty in the region on the coast. Mentawai Islands Regency is the coastal region with the highest poverty rate compared to other regions. Of the seven municipal districts in the coastal areas, five of them have poverty levels above the West Sumatra. In addition, seen from the field of business, poor people are dominantly working in the agricultural sector including the fisheries sub-sector. Improving the standard of living of fishermen needs to be carried out in an integrated and sustainable manner at the provincial and regency level as well as related agencies.

On the other hand, if we see from the data of economic growth, it shows a negative trend but the growth rate of the fisheries sub-sector and the percentage distribution of the Fisheries Sub-Sector to the total GRDP of West Sumatra show a positive trend. This indicates that the fisheries sub-sector has the potential to be developed as one of the regional economic development strategies to increase the economic growth of West Sumatra. Although the distribution of the fisheries sub-sector still contributes quite small but it can be developed as one of the economic drivers of coastal areas in West Sumatra and poverty alleviation of the coastal communities of West Sumatra.

Based on these conditions, it is important to empower coastal communities in the Province of West Sumatra so as to reduce poverty by developing the marine fisheries sub-sector. For this reason, there needs to be a program that is systematically and comprehensively based on scientific studies in efforts to alleviate poverty and empower coastal communities. So, the welfare and economic growth in West Sumatra can be improved.

Methods

To analyze the socioeconomic status of fishermen households in West Sumatra is used descriptive analysis technique from the data of the agricultural census survey "Fish Catching Household Business Survey" was carried out by BPS West Sumatra. Characteristics of fishermen in this study include (a) Information demographics of household members who carry out fishing business, (b) Information on housing and housing facilities, (c) Facilities and fishing equipment controlled by fishing business households, (d) Information on results catch of fishing business, (e) General information on fishing business, (f) Information on the catch and costs of fishing business.

Results

Socio Economic Status of Fishermen's Household in Marine Fisheries, West Sumatra Province

Capture fisheries business is one of the main livelihoods for coastal communities in West Sumatra. Capture fisheries business based on the fishing operation area consists of fishing at sea and in public waters (PU). Classification of ships / fishing boats in the sea consists of motorized boats (KM), outboard motor boats (PMT), and motorless boats (PTM). Classification of vessels / fishing boats in public waters consists of motorized boats (KM), outboard motor boats (PMT), motorless boats (PTM), and without boats (TP).

Based on data from the 2014 in Fishing Household Business Census (SPI), West Sumatra Province shows that fishing efforts in the sea are dominated by the use of outboard motor boats as much as 59 percent, while the least using motorboats is 18 percent. Thus it can be seen that the fishing business of marine fisheries in West Sumatra Province is carried out traditionally and on a small scale so that it will greatly affect the number of fish catches of fishermen and the welfare of fishermen in West Sumatra.

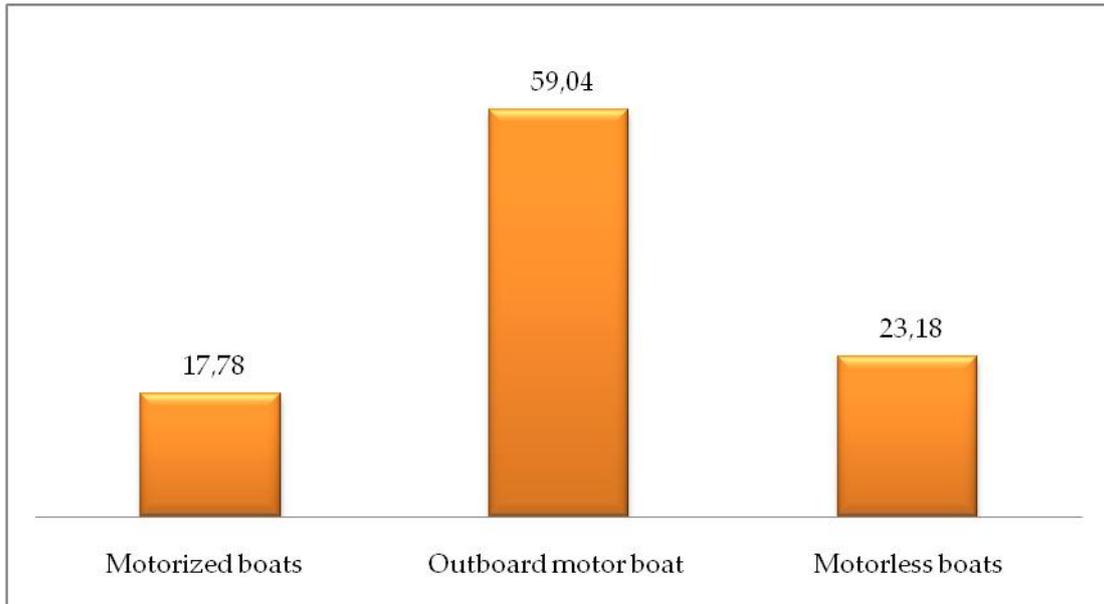


Figure 1 Percentage of fishing business in the sea based on the equipment used

Catching Production Techniques

Fishing business, especially fishing in the sea, is strongly influenced by the season. In the Western season when the sea has high waves, usually occurs in November - January, so many fishermen cannot operate. This result in capture operations cannot be carried out throughout the year. From the results of the SPI data in West Sumatra it is seen that most fishermen households can operate throughout the year. There are even fishing fishermen households that carry out fishing operations for only 1-5 months in one year, although the percentage is relatively small. And also from the data, it is seen that using motorized boats is not affected by weather conditions. This can be seen from 94.23 percent of fishing business households that use motorized boats can operate throughout the year. However, fishing operations using outboard motor boats and motorless boats will be greatly influenced by high wave conditions.

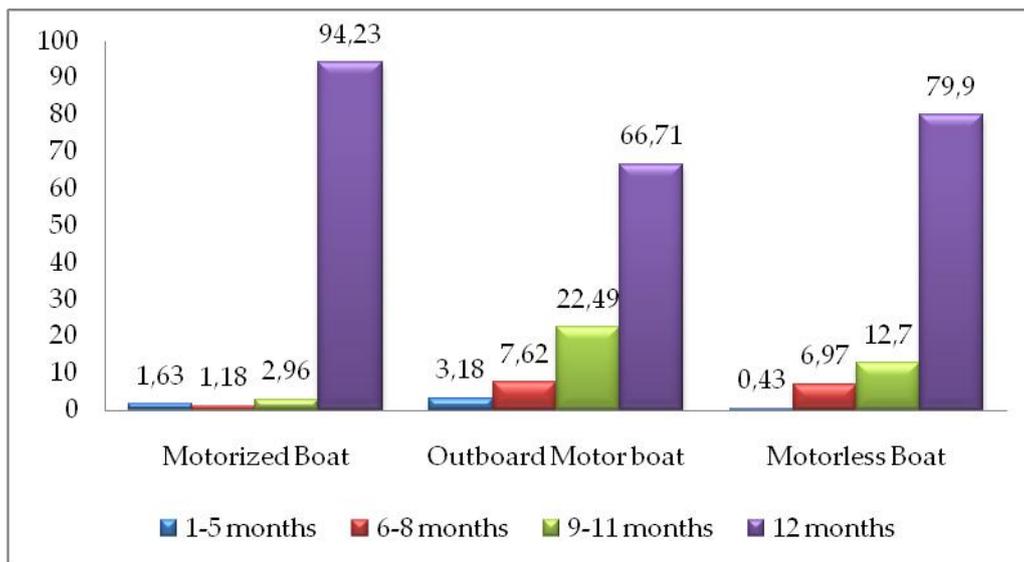


Figure 2 Percentage of Households based on Operating Time and Type of Fishing Equipment used

The ability to carry out fishing operations, especially in the Western season, must be supported by a stable boat or boat condition in order to face large waves. This situation shows that the boats owned by fishing fishermen households are still not designed to be able to fight the big waves. The ability of

the ship and the distance between the fishing operation and the ship affect the length of the day of the capture operation in one trip. Data from the SPI show that most fisherman households catching on each type of boat perform only 1 day fishing operation (one day fishing). The number is between 59.47 - 93.03% for catching at sea. This indicates that the fishing operation area is generally relatively close and there are limited boat capabilities.

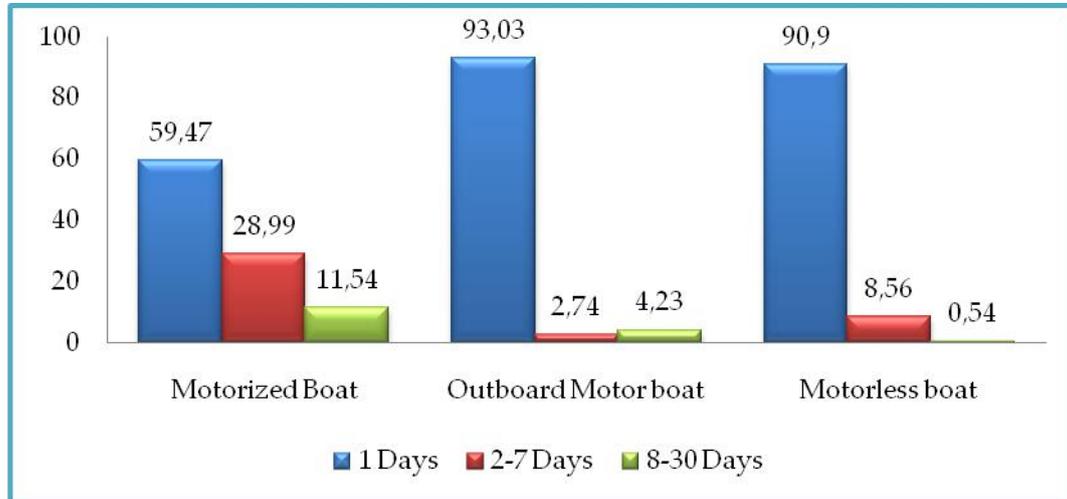


Figure 3 Percentage of fishing business households by type of boat / boat and the average number of days per trip for the past year

The proximity of the catch operation area will affect the catch. This is because generally these places are already saturated or experience more capture due to the large number of ships / boats operating in the same area. On the other hand the fish resources in the area are generally depleted.

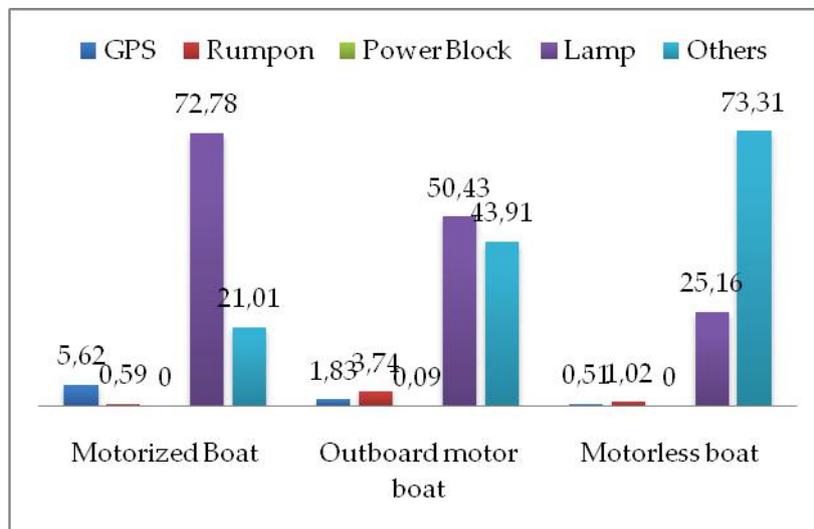


Figure 4 Percentage of Fishing Business Households by Type of Boat / Boat and Use of Main Supporting Equipment / Facilities

The fishing activity carried out by fishermen households in the sea is still traditional. This can be seen from the lack of use of assistive devices aimed at facilitating catching fisheries operations. The SPI data show that only a small proportion of capture fisheries households in the sea use echo sounder / fish finder / GPS as well as FADs in fishing operations. Fisherman households that carry out catching in public waters use the lights to help them. This shows that fishing by fishermen is still simple and traditional.

In terms of human resources, most of the fishing households in the sea have fewer than 5 crew members. On the other hand, the number of fishermen households that have crew members above 15 people is only 0.31%. This shows that the size of the ship / boat is generally relatively small because the number of crew is not much. The number of crew also correlates with the ability to crawl in search of fishing areas and the number of days per fishing trip, where the fewer the crew, the fishing area is also relatively close and the day of operation is also limited.

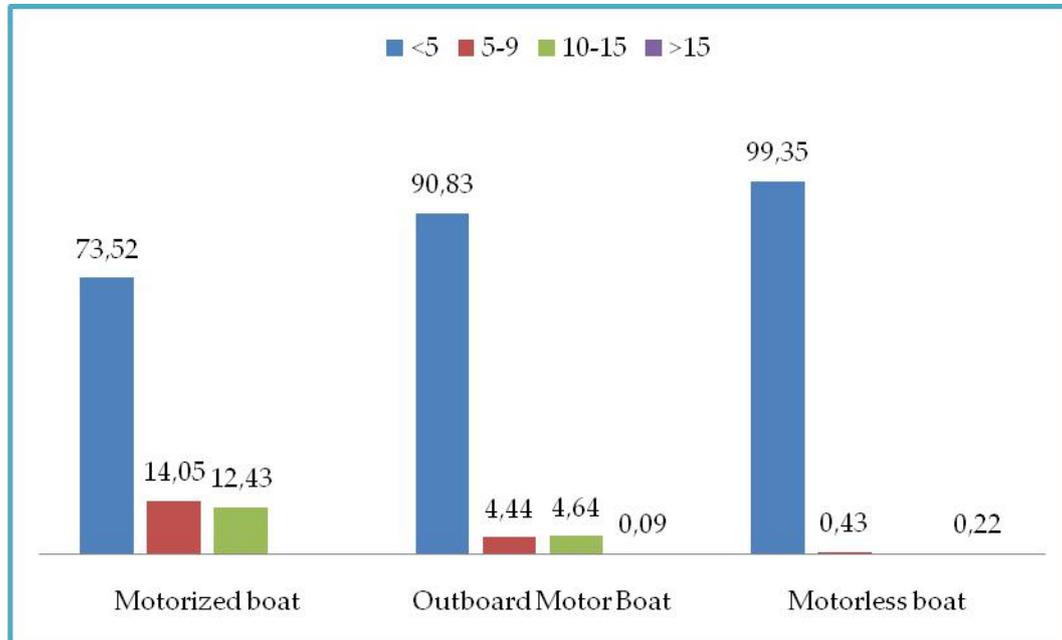


Figure 5 Percentage of Fishing Business Households by Type of Boat / Boat and Number of Ship / Boat Crew

Based on the previous description, it can be concluded that the fishing technology applied by fishing households is mostly traditional and small-scale. Fisherman households that use auxiliary devices such as fish finder or FADs, have a crew of more than 5 people, and can carry out fishing operations over 7 days

Capital and Marketing

Fishermen's households in fishing in the sea, few can access from banking institutions (0.29-14.2%) and non-banks 3.18% as a source of business capital. Most fishing households use their own capital (in the investment of ships / boats, machinery and fishing gear). This resulted in difficulties for fisherman households to enlarge the business scale so that the household was trapped in a low-income group circle. From the picture it is also seen that only motorized boat households have sufficient capital access on credit from banks, non-banks or others.

The capture fisheries production of most households fishing in the sea, only sold in districts / cities ranging from more than 88. Only a few of the sales areas cover outside the province and abroad. This is presumably because the type of fish caught is not an economically important fish such as tuna, tuna, skipjack, red snapper or grouper. Another thing that is suspected to be the cause is the poor quality of the fish caught so that it can only be marketed for the local market. Companies that sell fish between provinces or for export markets always ask for good quality fish for both markets.

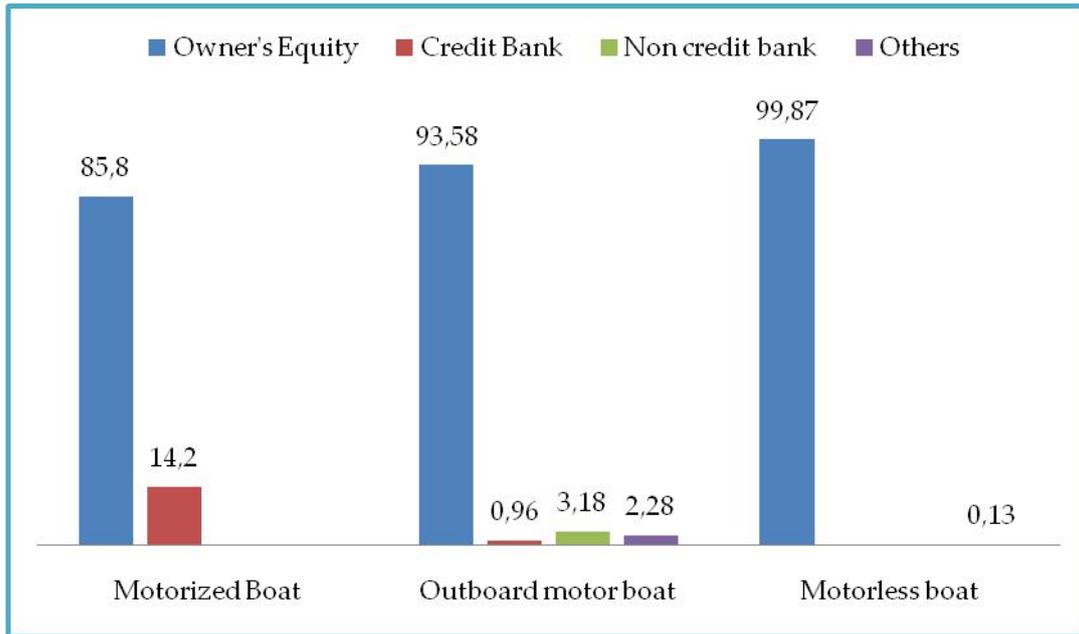


Figure 6 Percentage of Fishing Business Households by Type of Boat / Boat and Main Source of Business Capital

Furthermore, based on the results of deep interviews in the field, it was found that fish with high economic value had a great opportunity to be exported. The export process of catches of marine fisheries is accommodated by a number of exporters and immediately sent to be exported to other countries. So that fisherman households do not have a bargaining position in determining the selling value of their capture fisheries productions. In addition, based on observations in several Fish Auction Sites (TPI) in West Sumatra, it was seen that most fisheries production was purchased directly by retailers both sold in cities and out of town.

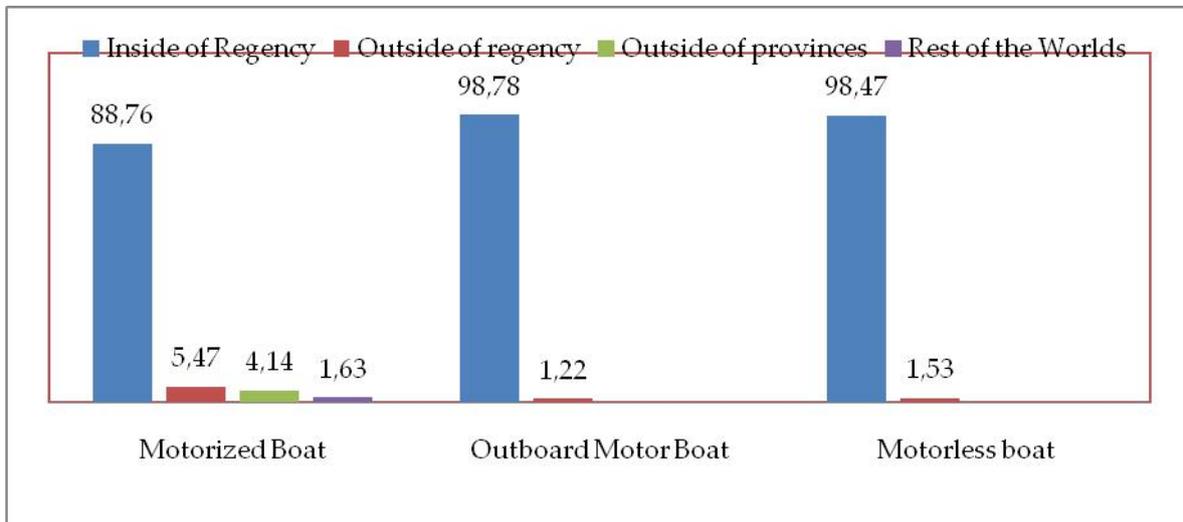


Figure 7 Percentage of Fishing Business Households by Type of Boat / Boat and Main Purpose of Sales of Production Results

Most fishing households are at sea, selling catches to traders. Other sales or the most directly sold to consumers, and sales at TPI. The sale of fish to cooperatives is very little. This shows that cooperatives have almost no role in marketing the catch of fishermen.

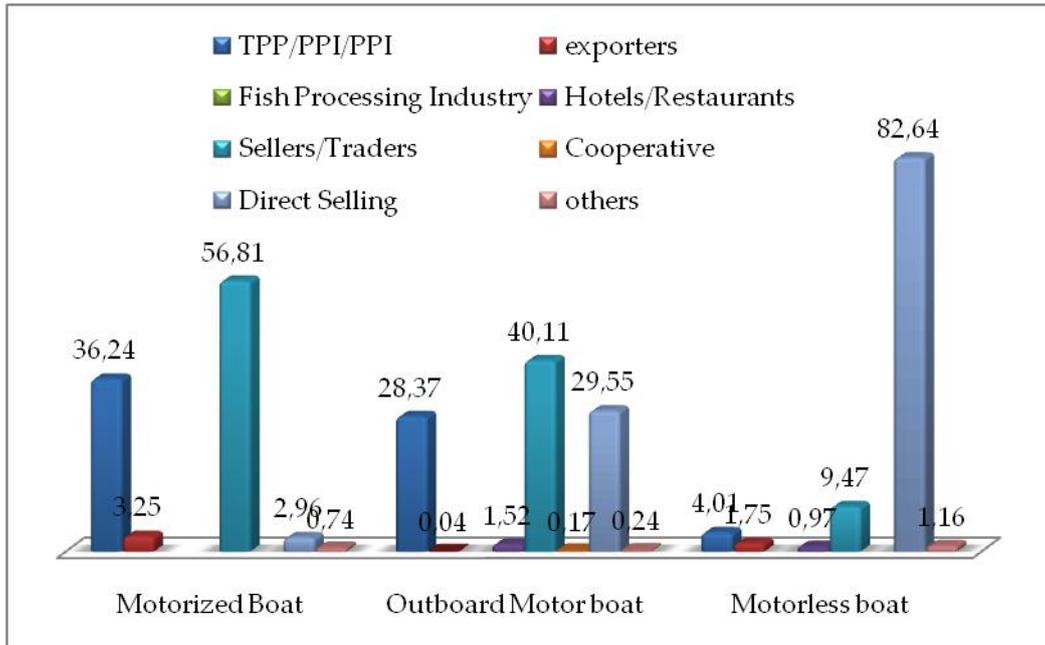


Figure 8 Percentage of Fishing Business Households by Type of Boat / Boat and Sales of the Most Results

The marketing of capture fisheries production for most households in the sea is found to be there are no difficulties, as many as 67.55 - 81.93%, while the rest have difficulty in marketing. Marketing difficulties, both those faced by households were mainly due to low prices, the numbers were 17.31 percent, 10.26 percent and 3.50 percent respectively. Other causes of difficulty are low quality, abundant products, limited transportation facilities and others. Low quality and abundant products are a classic problem because they should overcome it by implementing a marketing chain system and the need for an agency / institution that can accommodate fish when the catch season is abundant. This indicates the importance of the role of the government in establishing a marketing strategy for marine fisheries products in West Sumatra Province

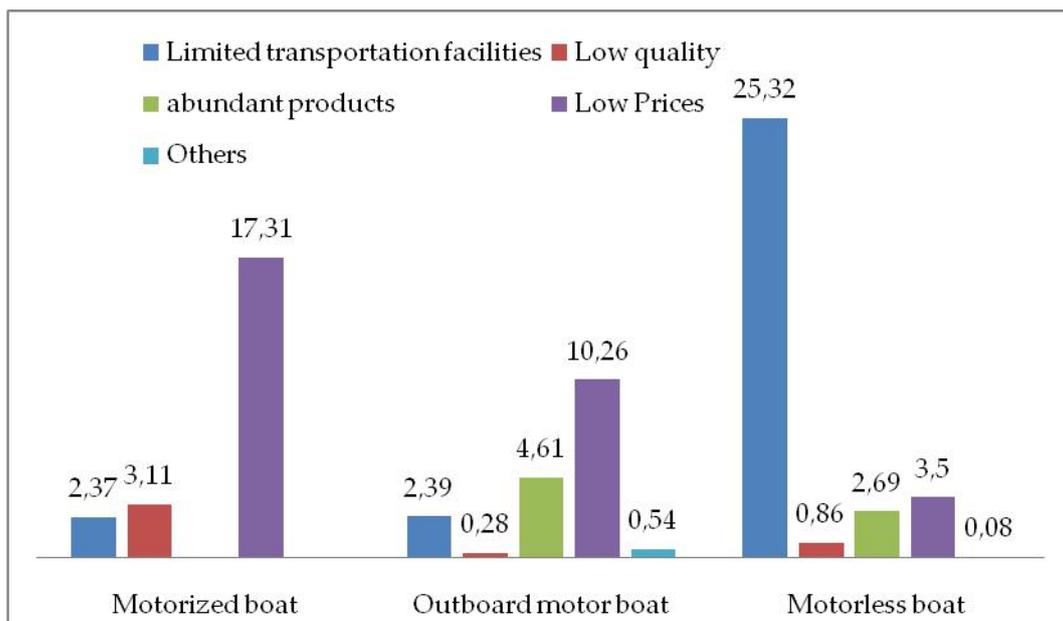


Figure 9 Percentage of Fishing Business Households by Type of Boat / Boat and Conditions of Difficulty in Marketing

Transactions between fisherman households and fish buyers are made by cash payment of 80.65 to 97.63 percent. Other methods of payment are paid later, repaid in installments and others. This is also in accordance with the results of the interview conducted that most of the fishery product payments are made in cash.

Fish catches have several characters in the form of products related to prices. Some economically important fish species have a high price if sold directly in the form of fresh fish such as grouper, napoleon, and lobster, but there are also fish that have high prices after being processed like smoked milkfis, and anchovies. From the results of the SPI in 2014, most fishermen households were caught at sea and in public waters, selling fresh fish directly to the market. In the sense that there are very few fisherman households that process the results of capture fisheries production in West Sumatra. Marine fishery production sold in processed fish such as dried, smoked and made fish jelly. This data also shows that there are some fisherman households that also have fish processing businesses even though they are small in number.

Fisherman Institution

Ideally fisherman households also become members of fishermen cooperatives. The existence of fishing cooperatives if they function well and are managed by trustees who have a mandate and have a vision for the welfare of fishermen, the fishermen will greatly benefit. However, because most fisheries cooperatives in the regions fail to carry out their functions to prosper their members, only a small proportion of households get benefit from the cooperative. The number of fishermen households that are members of cooperatives, amounting to 32.1 percent each, who use motorized boats, 10, 87 percent use outboard motorboats and 2.07 use motorized boats for sea fishing.

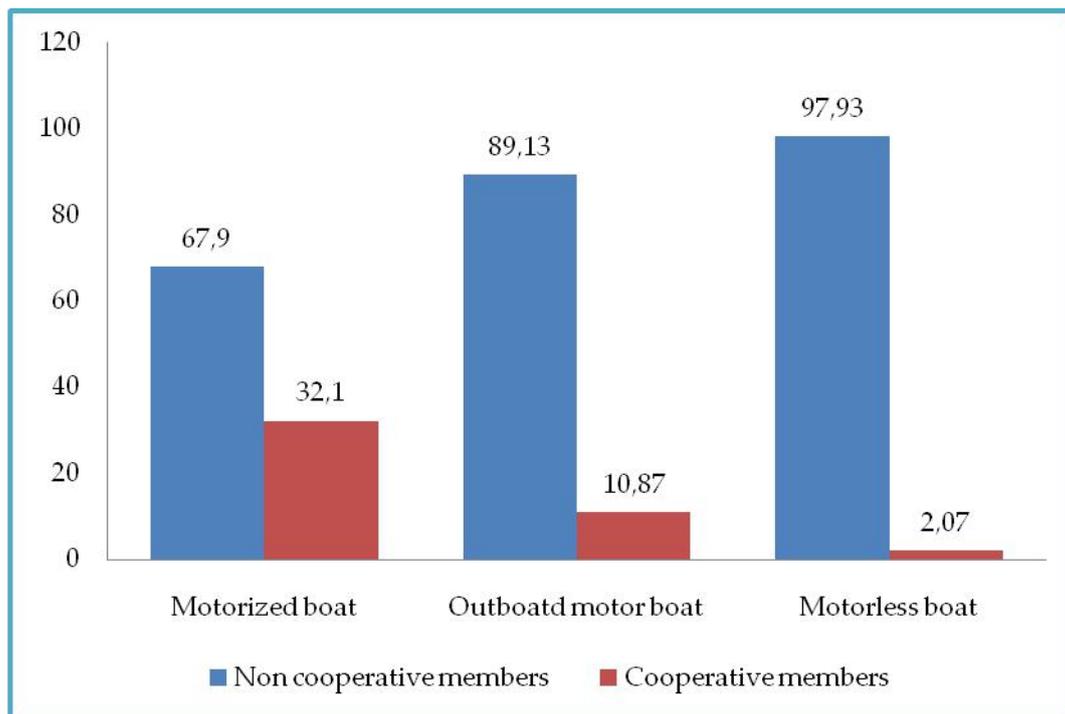


Figure 10 Percentage of households that are not members of cooperatives by ship type

The low participation of fishermen households in cooperatives is caused by several things including no cooperatives in the village, a complicated process, not in accordance with business needs, difficult to reach cooperative locations, and others. This can be seen from the subsequent data due to the absence of cooperatives in the fishermen's living area. Meanwhile, the most reason is not to become a member of a joint business group (KUB) either in fishermen households in the sea or public waters, namely that there is no KUB yet in their area.

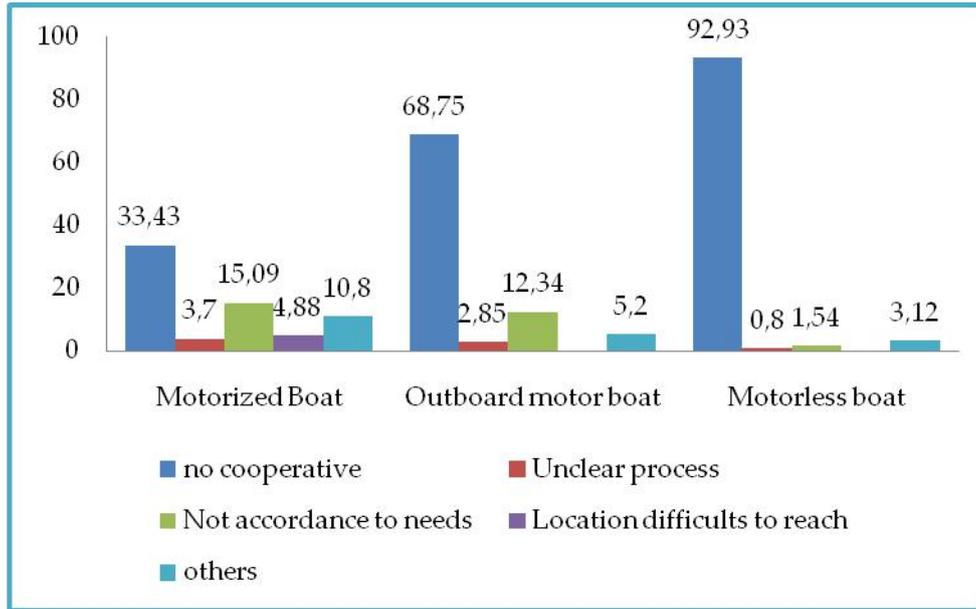


Figure 11 Percentage of fishing business households

According to the reasons for the absence of membership of the cooperative

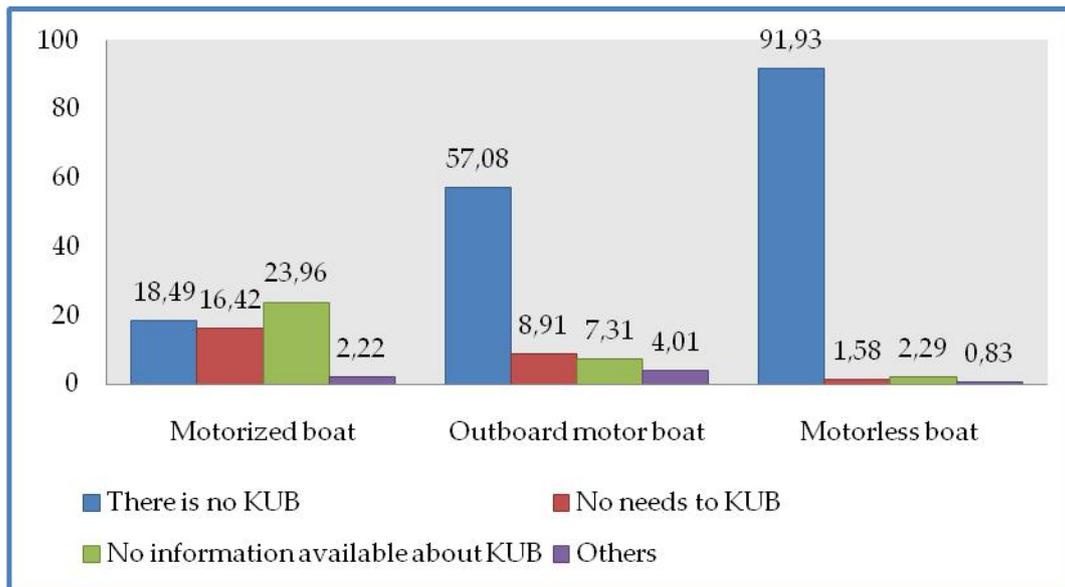


Figure 12 Percentage of Fishing Business Households by Type of Boat and Joint Business Group Membership (KUB)

Household Socio-Economic Characteristics of Age Fisheries Business

Based on the ownership of the type of boat, both in the form of motorized boats, outboard motorboats and motorless boats operating in the sea are dominated by fishermen aged 30-39 years and 40-49 years. This shows that fishermen are at the peak of productive age, as classified by BPS that the productive population is in the group of 15-64 years old.

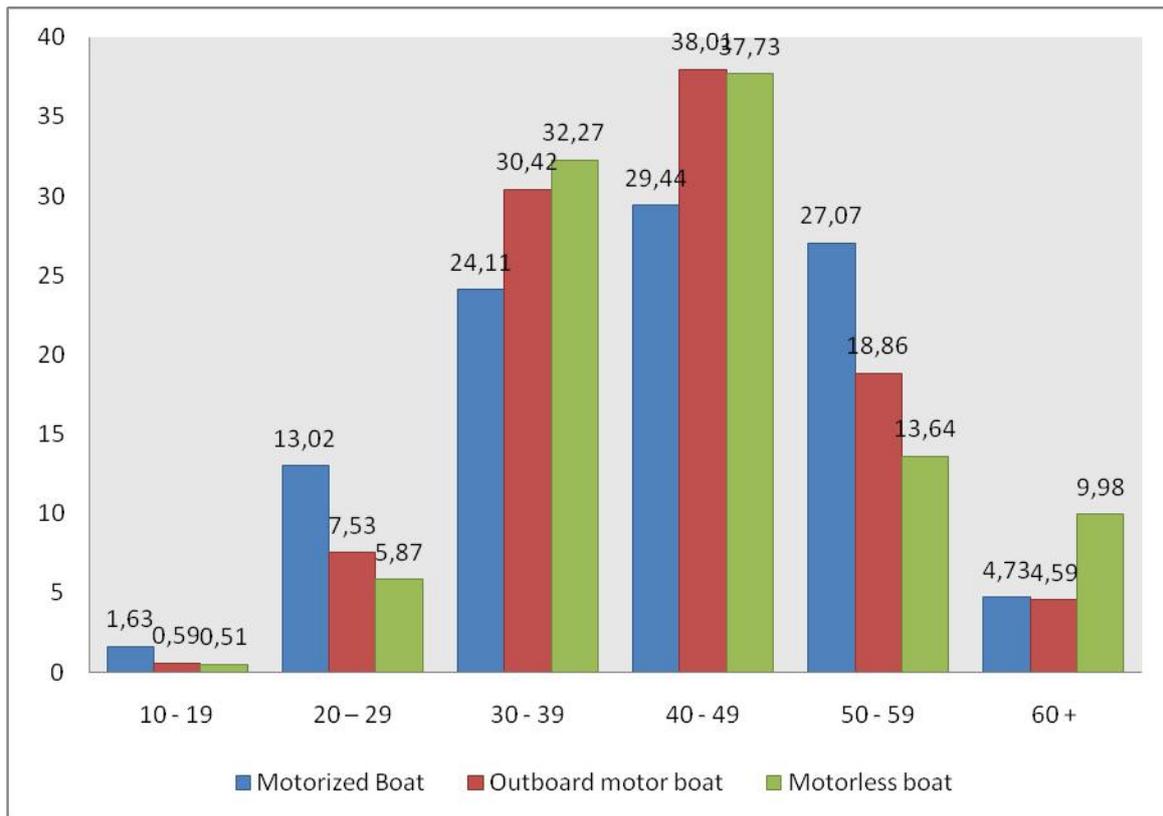


Figure 13 Percentage of Fishing Business by Type of Boat and Age Group

In the age group of 30-49 years, fishermen are in excellent physical condition and the ability to think more mature. Fishermen's work requires strong physical energy to carry out heavy fishing operations, such as lowering and lifting fishing gear, and pushing and pulling or mooring boats. And also in this age, fishermen also have the ability to make fishing decisions more precisely because of more life experiences than younger age groups. As stated by Salkind (1985) that one's maturity both physically and psychologically is determined by the age and experience of one's life.

On the other hand, younger age groups do not have enough directed life experiences and orientations, even though their physical condition is quite strong. Likewise for groups that are older have more experience of life eventhough physically much weaker to work as fishermen. From the data that show less younger age groups working as fishermen, it can indicate that the work of fishermen is less attractive to the younger population. Many factors are thought to be the cause of this are lack of interest, for example assessed that the work of fishermen is not a prestigious, tiring, risky job, and the income is small. This condition is also found in the agricultural sector, where young people in agricultural households are not interested in living as farmers.

Level of education

The level of education of fishermen who carry out fishing activities in the sea is still very low, both those using motorboats, outboard motorboats and non-motorized boats. Most fishermen only graduated from elementary school (SD) and did not even complete elementary school. Many factors are thought to cause low levels of education of fishermen communities. Some of them are the low income of fishermen so that they cannot access higher education, the location of junior high school and senior high school which is far from fishing settlements which are generally in rural-coastal areas, and the low motivation of children to go to school or the low awareness of parents to send their child to school

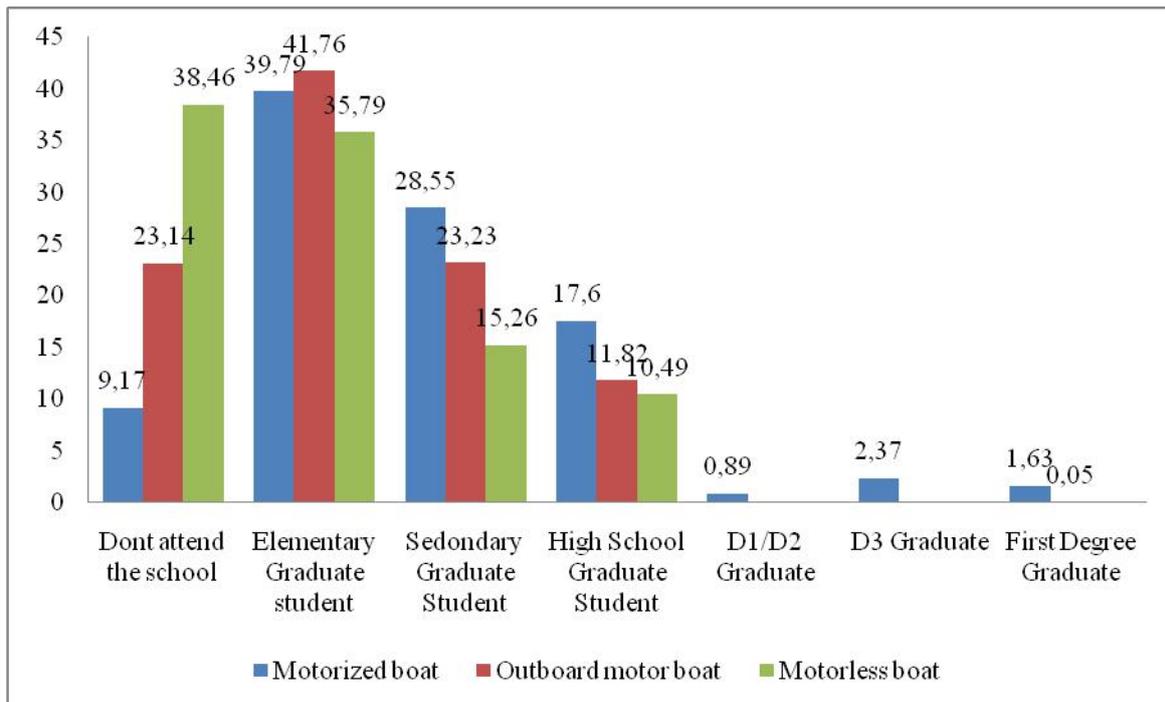


Figure 14 Percentage of Fisherman Households Based on Education Levels

Fishermen who use motorized boats is categorized as higher class and have higher levels of education. Most of them graduated from the junior and senior high school level compared to fishermen who used outboard motorboats and motorless boats only graduated from elementary school or dont go to school. However, at the tertiary level, especially at the bachelor (S1)/ diploma (D4) level, motorboat fishermen were slightly more numerous (1.63%) than motorized boat fishermen (0.05%) and motorless boats (0.0%). This can indicate that quite a number of elementary school graduates in motorized boat fishermen do not continue their education.

Thus it is clear that traditional fishermen who have the highest education are only high school, while fishermen who have motorized boat have diploma and undergraduate education. This will certainly have an effect on the mindset and access of fishermen to greater capital in developing marine fisheries fishing business in West Sumatra.

Conclusions

The results of the study show that (1) most of the fishermen in West Sumatera used outboard motor boats and with a dominant operating period of only 1 day. From the production techniques used by the fisherman, it is more traditional and small-scale with an average crew of less than 5 people who use motorboats, outboard motorboats and motorized boats. And also the fishermen are more dominant in using their own capital for fishing because of the difficulty to access capital in the banks. Furthermore, from the production side, West Sumatera's marine fishery production is sold directly to the market and only few fishermen sell processed fish of the fish they catch. Whereas, in terms of age, most of the fishermen are in the age of 30 - 49 years old who graduated from elementary school. 2). Sea capture fisheries business in West Sumatra is profitable with a value of R / C ratio above 1 whether using motorboats, outboard motorboats and motorized boats to catch fish.

References

Arti, Bayu Dini. (2011). *Analisis Strategi Kebijakan Pemerintah Terkait dengan Perkembangan Industri Kelapa Sawit Nasional (Studi Kasus di PTPN IV Medan Sumatera Utara)*. Tesis IPB (Tidak dipublikasikan).

- Bank Indonesia. (2007). *Potensi Ekonomi Daerah dalam rangka Pengembangan Komoditi Unggulan Usaha Mikro, Kecil dan Menengah (UMKM) di Propinsi Maluku Utara*. Laporan Hasil Penelitian.
- Bank Indonesia bekerja sama dengan Fakultas Ekonomi UNP. (2011). *Komoditi/ Produk/ Jenis Usaha Unggulan UMKM di Sumatera Barat*. Bank Indonesia: Padang
- BPS Sumbar (2012). *Sumbar Dalam Angka 2012*. Padang: BPS.
- Barro, Robert J. (1991). Economic Growth in a Cross Section of Countries. *The Quarterly Journal of Economics*, Vol. 106, No. 2 (May, 1991), pp. 407-443.
- _____. (2001). Human Capital and Growth. *The American Economic Review*, Vol. 91, No. 2, Papers and Proceedings of the Hundred Thirteenth Annual Meeting of the American Economic Association (May, 2001), pp. 12-17.
- Dumgair, Denny. (2011). *Strategi Pengembangan Ekonomi Lokal Berbasis Perikanan Di Kabupaten Kepulauan Aru (Tesis)*. IPB: Bogor.
- Eng, Pierre van der. (2008). The sources of long-term economic growth in Indonesia, 1880-2007. *Working Papers In Economics & Econometrics*. Australian National University. ISBN: 0 86831 499 4. December 2008.
- Mankiw, N. Gregory. David Romer David N. Weil. (1992). A Contribution To The Empirics Of Economic Growth. *The Quarterly Journal of Economics*, Vol. 107, No. 2 (May,1992), pp. 407-437.
- Romer, Paul M. *The Origins of Endogenous Growth*. *The Journal of Economic Perspectives*, Vol. 8, No. 1 (Winter, 1994), pp. 3-22.
- Saaty. (2008). *Decision Making with the Analitic Hirarki Process*. *Intj. Service Scincist Vol.1 No 1 Tahun 2008*.
- Sudirman. (2007). *Peranan IPTEK dalam pembangunan sumberdaya kelautan Secara berkelanjutan*. Makalah disampaikan pada Kongres Ilmu Pengetahuan Wilayah untuk Kawasan Timur Indonesia, di Gedung PKP Unhas Makassar pada tanggal 23 - 24 April 2007.