Increasing Institutional Capacity in Fishermen Adaptation of Climate Change

Denny Hernawan[1], Y. G. G. Seran[1], Berry Sastrawan[1], Afmi Apriliani[1], Rita Rahmawati[2] and M. Lutfi[2]
[1]*Faculty of Social and Political Science, Djuanda University,* Jalan Tol Ciawi No. 1, Ciawi, Bogor 16720, Indonesia;
[2]*School of Postgraduate Studies, Djuanda University,* Jalan Tol Ciawi No. 1, Ciawi, Bogor 16720, Indonesia

Keywords: Capacity Building, Fishermen's Institution, Adaptation Pattern, Climate Change, Preliminary Model

Abstract: The aim of the research is to identify and to map climate change effect of fisherman in Indonesia, and to describe local community adaptation from climate change. This research is a qualitative descriptive study and used the constructivism paradigm. After the data is obtained, it is used as a discussion material to formulate a preliminary model of institutional capacity building for fishermen. The result of the research showed that the understanding and knowledge of fishermen about climate are empirical based on experience and pragmatics related to the characteristics of weather anomalies, with a relatively low educational background and work ethic, fishermen in both research locations have a certain capacity to deal with climate change problems. In general, fishermen make similar adaptation patterns, In particular, fishermen's adaptation pattern in Kepulauan Seribu is more comprehensive than Pelabuhan ratu which sometimes still carries out illegal activities. In the both locations there has been an institutional arrangement consisting of government institutions. Local institutions in both research locations have sought to increase the capacity of fishermen in dealing with climate change through training programs, direct program assistance, or fisheries area management programs so that fisheries resource management can be carried out sustainable.

1 INTRODUCTION

Climate change is an important issue that concerns many countries. This is related to human activities that cause climate change and have an impact on human survival, Climate change has an impact on various fields of human life, as well as in the marine and fisheries sector (Nasution, 2009); (Purnomo, 2010); (Purnomo, 2011). The marine, coastal and fisheries sector is a sub sector that is very much affected by climate change.

One of the symptoms of climate change is the occurrence of changes in rainfall, wind speed, and waves, changes in the environment and affect the lives of coastal communities or for those who make a living as fishermen. whereas climate change is very influential on fisherman productivity.

Referring to the FAO (*Fisheries and Aquaculture*, 2014) it was stated that there was a global decline in fisheries productivity in 2011 and 2012 in marine waters, namely 82.6 million tons in 2011 and 79.7 million tons in 2012. In two years, 18 the country captures more than an average of one million tons per year, accounting for more than 76 percent of global marine catches. Eleven of these countries in Asia are also Russian Federation, which catch more fish in the Pacific than in the Atlantic.

As a region with a livelihood as a fisherman, the people of South Sea Coast and Thousand Islands their lives depend on marine resources and fisheries, which are open access, meaning that the dependence of fishermen on marine and fisheries resources is very high and often have to move according to conditions wind, and waves, to keep going to sea and get maximum catch.

Thus climate change has an impact on changes in fisherman production which will affect the quality of life of fishermen. Fishermen need more time and cost to go to sea due to migration or damage to fisheries habitat and fishing ground. These conditions require fishermen to be able to adapt (adapt) continuously to new environmental conditions.

On the other hand, the productivity of fishermen is also influenced by the culture, institutions, and local wisdom that exist in the community, both in the context of empowering fishing communities, and the development of sustainable marine resources as well as to increase the independence and self-reliance of the community. Institutional functions such as

Hernawan, D., Seran, Y., Sastrawan, B., Apriliani, A., Rahmawati, R. and Lutfi, M.
Increasing Institutional Capacity in Fishermen Adaptation of Climate Change.
DOI: 10.5220/0009405217521782
In *Proceedings of the 1st International Conference on Recent Innovations (ICRI 2018)*, pages 2175-2182
ISBN: 978-989-758-458-9

normative functions are to guide and behave in social relations and their interactions with the social cultural and ecological environment, and also the regulative function which is the rules of the game which are related to fulfilling the needs of household life, to be both social interaction and control.

Through these two functions, the institutions in the fishing community are expected to be able to assist in showing and increasing the capacity and independence of fishermen in meeting the needs of life and increasing the sustainability of fishermen's capacity.

Based on this background, this study aims to include: (1) Identifying and mapping climate change symptoms in two water locations (South Sea Coast or South Sea and Thousand Islands); (2) Identifying and mapping the existing fishermen institutions; (3) Identify and map the capacity of fishermen in dealing with climate change problems; (4) Identify and map fishermen's adaptation patterns to climate change; (5) Design a model of institutional capacity building for fishermen.

2 LITERATURE REVIEW

In this study, there are two main concepts developed, namely institutional strengthening (institutional development), and adaptation and adaptation strategies. Both concepts are used to overcome the problem of climate change. The concept of institutional development refers to the theory of (Uphoff N, 1974), that institutional development is to create or enliven an institution usually in the form of a formal organization that serves to encourage and facilitate the process of implementing innovation. Institutional development is a social engineering. Institutional strengthening or development is a deliberate process that systematically guides and accelerates the pace of social change. Institutional development is one model that focuses on the role of organizations that contribute to development goals. According to Saul M. Katz in Joseph W. Eaton (1986), that the construction of institutions involves four propositions, three initial propositions and one new argument, namely:

The first postulate is that guided social change (development) is generally driven by the deliberate introduction of physical and social renewal. According to Joseph Schumpeter, renewal is the application of new techniques to production and distribution as a source for economic development. In the social field, the accumulation of renewal can be seen as the core of social change.

The second argument is that the renewal influences and is influenced by values, norms and attitudes, and real behavior that occurs not by chance but is planned and taken into account. The third argument is that deliberate dissemination generally occurs through formal organizations. Modern economic life places special emphasis on formal organizations that allow task specialization and exchange of goods and services. This makes it feasible for people to carry out complicated work, relating and establishing / achieving common goals.

The fourth argument is that the view in terms of the system towards the organization is a framework that is useful for making portrayals and arrangements. The system is a collection of elements that have regular and repetitive relationship patterns that are focused on recognizable goals or objectives. This system is a building that is interrelated which provides a method to categorize, abstract and organize data about human behavior and study relationships between them. The system view suggests three dimensions of analysis: recognizable goal, Sub system to carry out functions, the relationship between the organization and the environment (Eaton, 1986).

The second concept is the concept of adaptation and adaptation strategies. adaptation is needed by fishermen in order to deal with climate change that makes their livelihood activities disrupted. According to (Widiyanto, 2010), the ability to adapt is as an effort to create sustainable livelihoods that must be able to: (1) adapt to shock and pressure, (2) maintain the capabilities and assets owned, (3) guarantee life for the next generation (Chambers R and Conway G, 1992). The meaning of sustainable livelihood is not only economically but also ecologically and socially.

Adaptation strategy approach is an approach introduced by (Cahyadi, 1997). Through this approach, we will see how local communities implement adaptation strategies and how they adapt. Adaptation developed is the result of changes to occur. The adaptation behavior they develop will be seen as choices of appropriate actions that are appropriate to the social, cultural, political, economic and ecological environment.

3 RESEARCH METHOD

This research is a descriptive qualitative research and uses constructivism paradigm. According to (Denzin NK and & Lincoln, 2000) constructivism is a relative, transactionalist / subjective paradigm. Judging from the aspect of ontologism, constructivism sees reality

as a social construction. The truth of reality is relative, applies according to the specific context that is considered relevant by social actors. Viewed from the aspect of epistemology, constructivism is Transactionalist / subjectivist, making discoveries where the understanding of a reality or the findings of a research is the product of the interaction of the researcher with the researched.

The use of constructivism paradigm and qualitative research methods suitable for use in this study considering the data needed is data need assessment and design of the initial stage model. Need assessment is needed to identify and map climate change symptoms in waters in two locations (South Sea Coast or South Sea and Thousand Islands), and identify and map existing fishermen institutions. After the data is obtained, it is used as a discussion material to formulate a model of institutional capacity building for fishermen.

The source of the data is through literature studies and field studies. Literature study through (reference studies, journals, and supporting documents) relating to fishing adaptation strategies and institutional capacity building for fishermen, while field studies through observation techniques, through interviews, and the implementation of FGD (Focus Group Discussion) consisting of representatives of Fishermen, local government officials such as representatives from the kelurahan, sub-district, NGO, and The marine Office.

This research conducted in two sites namely: Palabuhanratu and Kepulauan Seribu. in these locations, there are fisherman community. Based on data of this research, it is known that in these locations there are climate change symptoms. The adaptation of fisherman in two location are highlight of the research.

4 RESULT AND DISCUSSION

Review of institutional research in is focused on five aspects, namely: the fisherman's knowledge about the symptoms of climate change, fishing capacity in dealing with the problem of climate change, the patterns of fishing to climate change adaptation, institutional capacity There are local, and local institutional Capabilities that exist in the fishing capacity in the face of climate change. Based on the results of the analysis of the institutional aspects of the fifth then retrieved several important conclusions from this first year of research, namely:

1. Understanding and knowledge of fishermen about climate change are relatively the same on both sites. The knowledge and understanding they are empirical and pragmatic experience based upon the characteristics of weather anomalies;
2. Against the background of a relatively low education, work ethic and a certain degree of rationality to survive as well as the efficient and rational degree then the fishermen at both locations a certain capacity to research problems climate change in a way of building social, cultural relations, community and their Habitat;
3. In General, fishermen do relatively the same adaptation patterns i.e. temporarily switched professions such as construction laborers, farmers, miners, fishermen, anglers etc but still work as a fisherman is the main occupation;
4. Specific patterns of adapasi thousand islands fishermen more comprehensive (cultivation and utilization technology) than the harbor Queen who sometimes still doing illegal activities;
5. At both locations there have been institutional arrangement consisting of government agencies (Agencies and Office of vertical areas), a semi-official institutions, and group or gathering. Among these institutions there are hooks (linkage) are clearly related to budget allocation (grant) as well as the program or activity;
6. Local location on both institutional research has sought fishing capacity in the face of climate change through training programs, help direct program, or area of fisheries management programs in order to make resource management fishing can be done in a sustainable way.

In addition, the study also focused on how to conduct Institutional capacity development that includes several sub points, namely: human resources development, environmental management, optimization of utilization of natural resources, and increased access to capital . Based on the results of the FGD who conducted research at both locations retrieved a number of important information that is relevant, namely:

4.1 The Development of Human Resources

The development of human resources in two location can be distinguished as follows:

1. Kepulauan Seribu:
   - Fishermen's weaknesses is a pattern of thought that is still narrow, because what the mindset in this day should be spent or only for the fulfillment of the needs of the moment. This is indeed based on the factors education, culture in the community.

- The Kepulauan Seribu community mindset is less developed, just thinking today, thus there is no sustainability. Thus their earnings no value added.

2. Palabuhanratu:
   - Level of education of fishermen in Palabuhanratu ranked low, still dominated by graduates of the elementary school, junior high school graduates then and less of them are high school graduates. So the effect on the mindset, work ethic and moral behavior, which is far from adequate for the welfare of their lives so far.
   - The children Palabuhanratu the fishermen, not directed by their parents to continue the job of being a fisherman, for reasons of prosperity.
   - Every village in Palabuhanratu already make the program study groups of the community, but the interest of fishermen are still lacking. Most followed by the farmers.
   - The fishermen could not avail of the assistance that has been given to the maximum. Palabuhanratu fishermen have a high work ethic, such as go catch fish for months.
   - While the responsibility to the tools provided by the Government are still lacking in it anyway when it get a lot of money from selling fish, fisherman Palabuhanratu unable to manage their finances wisely. When fish famine, they borrow to collector which was later paid by the catch is obtained, with a record fish prices determined by collector.

4.2 Environmental Management

Environment management in two location can be described as follows:

Kepulauan Seribu:

- Nowadays the Government of intensify planting mangrove forests to maintain environmental sustainability and maintaining the availability of fish. Common obstacles that occur for example is the conservation of reef fish, but identical to the reef. Many corals are taken. The Government made the program rumpon, and transpalasi reefs, that fish plenty more.
- In the management of Kepulauan Seribu there are many parties involved in addition to the fishing communities themselves, namely Hall National Park and also the local government. One side, the Ocean was the authority of the national parks and the other side there is the local government authority so there is some overlapping policies.

Palabuhanratu:

- Fisherman Palabuhanratu awareness against environmental hygiene is still low. Many of them are still disposing of the oil carelessly in the dock, not clean up junk boat docking results, litter and do not use proper hygiene facilities already provided by PPNP.
- The pollution of waste from the mining of gold, PLTU and household waste is becoming a major factor of the pollution in the sea of Palabuhanratu. There is also garbage generated by the perpetrators of the Ciletuh, such as the Geopark tourism hotels and homestay.
- Waste generated by tourists who visit to Ciletuh and Palabuhanratu, who deliberately brings its own stock when the tour giving rise to an increase in the volume of waste.
- In the quality of the coastal waters of the coastal region of Sukabumi district very appropriate for the seaweed growth, because it has a high brightness levels penetration of sunlight to the needs of the fotosintesa sea grass into the water enough available. For fresh water fishing, there is more dominant in the northern region, because of the suitability of the land for cultivation and the quantity of water the more the better. In addition to having a high development potential, the coastal area is also very vulnerable to various negative effects brought about by good development activities taking place in the coastal areas or who are in the sea.
- In particular a scale utilization of natural resources in coastal areas can cause the occurrence of coastal ecosystem itself changes that lower the quality of the environment and the next can be damage the ecosystem of the coastal area.

4.3 Optimization of Resource Utilization

Optimization of resources utilization in two location can be explained as follows:

1. Kepulauan Seribu
   - One of the concept development of the sustainability of their life and the sustainability of marine resource sustainability is through the change of order fishers catch into fishermen cultivation.

- Ideally the management area includes the management of the region, the rule of capture, the size of fish that can be caught, and time catching fish so that kelauatan resources remain sustainable.

2. Palabuhanratu
- Yet the ineffectiveness of implementation of spatial planning (RTRW) and umbrella law on the control of utilization of the coastal area due to lack of coordination with the relevant parties.
- Yet the availability of legal regulations relating to the marine and fisheries resources management.
- The presence of excessive exploitation of the coastal area the existence of threat of aggravated trespass to land by communities local communities feel entitled in utilizing the coast and the sea because they constitute a community that lives off the earnings of fisheries, and not have access and the ability to search for a livelihood in addition to fisherman.
- The community is very wanting freedom in an expensive fish such as lobster, crab and more but there is a ban by the Government when the fish is quite easily found and arrested.
- Still the lack of community participation in managing the environment. Conducted socialization goldfish and limited his encounter and yet sustainable.
- The average fisherman Palabuhanratu is still believe in the mystical things. like go to a shaman when will go to sea, whose purpose is to make them able to catch many fish, although there is already a GPS.
- Fisherman Palabuhanratu still do not obey Ministerial Decree of Marine and Fishery number 1 and 2 year 2015 concerning the prohibition of using the specified capture tool and banning catch marine life is protected, like lobster.

4.4 Increased Access to Capital

According to adaptation of the climate change, the communities in two location have increased access to capital. It is can be distinguished as follows:

1. Kepulauan Seribu
- The fishing philosophy of fisherman community is indeed what was obtained today, must be exhausted. Except the cultivar society has changed, and already start thinking.
- The majority of fishermen in order to increase the capacity of the capital was borrowed to the middleman because it felt easier. When the fishermen could not return the loan during the time allowed, then the asset will be revoked. Although there is a small percentage that do the borrowing to banks using the Bail Fit liner, and they know it. This is the reason why fishermen prefer middleman.

2. Palabuhanratu
- Most of the fishermen are still borrowing money for capital to pengepul that uses a system of monopolies so that fishermen could not determine the price of the fish sold to collector, as a form of payment of a debt.
- The Bank provides loan capital for the Group of fishermen maximum Rp 25 million to a group of fishermen from a Bank. With the guarantee certificate, the bank does not provide loans for individuals.
- Fishermen usually borrow a sum of money between Rp. 200-300 thousand in ijon/middleman to for the purposes of traveling like gasoline and others. However an unwritten business relationships it makes fishing more and bitching because it inevitably results capture the fish to be sold to the people who lend money to him at a price determined by the middleman so that the welfare of fishermen is hard increased.
- There were KUB (Joint Ventures) for each group of fishermen, but still constrained by how do organize (Institutional Capacity) due to the level of education and experience in managing the Organization, so that the establishment of this group (KUB) is only for the benefit of the fall in aid as a requirement from the Government.
- In the year 2018, the Government disbursed the funds as much as IDR 1 billion for cooperatives that can be borrowed by fishermen with low interest rates.

Based on the results of field surveys, FGD and searches libraries related institutional development in General and the development of institutional capacity in particular as well as adapted to the purpose of the research, then the initial model (preliminary model) institutional capacity building fishing communities can be described as follows.

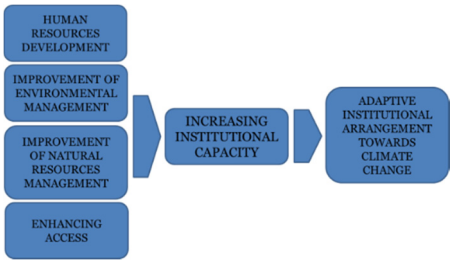

Figure 1. Preliminary Models Of Institutional Capacity Building of Fishing Communities

Description:

1. Basically this preliminary model is based on the basic assumption that climate change is a global issue which is already "given" in the sense of the factual reality of climate change is already happening and could not be avoided. Based on these assumptions become important to look at the context of how fishermen in General and institutional fishermen in particular made efforts of adaptation so that they can survive.
2. Institutional development in perspective, it needs to be mapped to organizational forms (formal and informal) that exist on site research to see how organizations respond in the form of the action, attitude, policy or program so that they can survive.
3. Referring to the library search results, then can be identified 4 principal institutional components in the context of fishing communities i.e. human resources, natural resources, the environment, and access business (capital).
4. Based on the four components of the institutional model is more focused on a description of how the component improved fourth capacity or developed so that will hopefully make the institutional community fishermen can be more adaptive to reduce the negative impacts that may arise a result of climate change is happening. conditions

4.5 Fisheries Adaptation Patterns against Climate Change

Words like “is”, “or”, “then”, etc. should not be capitalized unless they are the first word of the title. Climate change as delivered is carried out to have an influence on life, the environment, especially for coastal or coastal communities who fulfill their daily needs based on marine resources or fisheries. Climatic conditions that experience changes such as the condition of unpredictable sea winds which result in sea wave conditions, then anomalous weather changes occur. For example the dry season conditions (east wind) usually occur between June and August and the peak in July, which has a prolonged impact on the condition of fishermen who have difficulty catching fish because the fish catches become small. These conditions encourage fishermen to try to adapt to climate change so that the productivity of fishermen is maintained.

The following is a description of fishermen's adaptation patterns to climate change in the area of Palabuhanratu and North Seribu Islands:

4.5.1 Fisherman Adaptation Pattern in Palabuhanratu

Palabuhanratu District, Sukabumi Regency has a coastline of 7.9 Km along with sandy beaches. The topography of the Palabuhanratu region varies from land to hilly, sloping land is located along the coastline and along the river flow to urban areas (Bappeda of Sukabumi District 2008).

Symptoms of climate change that are common in Palabuhanratu are weather anomalies that are unpredictable weather changes, such as the schedule for the arrival of the west wind which does not arrive one month earlier than usual, ie every month septembe. Frequent occurrences of tidal waves and storms such as storm dahlia over the past two weeks occurred in the past year, and rain fell in the dry season. As for the pattern of economic adaptation carried out by fishermen of Palabuhanratu is to change professions when there is a tidal wave and not to go to sea is to become farmers, work as construction laborers, trade rice, and mine river sand..

4.5.2 Fisherman Adaptation Patterns in Coconut Island North Thousand Islands District

Climate change that occurs in the Thousand North Islands is currently marked by very erratic weather conditions, resulting in unpredictable sea wave conditions. What should have been the east wind but several times the fishermen felt the west wind. In these uncertain changes, income also becomes uncertain, both fish and fishermen's money income.

The form of fishermen's adaptation in ensuring the survival of fishermen when climate change occurs is done in two ways, namely protective and accommodating. One form of protective effort carried out by fishermen is to save as much as possible when the fish catches a lot (ie during the west wind season). Furthermore, adaptation of fishermen accommodatively is done when the east wind conditions have an impact on small fish catches.

Under these conditions, fishermen are forced to sell their catch to pelele (middlemen) if the catch is less than 4 quintals.

Subsequent adaptation is also done with the use of technology, although it is simple, namely by using a Handheld GPS to go to sea. Now on the island of coconut, taking fish with bombs is prohibited and no longer exists because it can damage the condition of the sea itself. For fishermen, nowadays most of them use handheld GPS to help fishermen go to sea.

4.6 Institutional Capacity of Fishermen

Institutional Capacity of Fishermen both in Kelapa Island and Palabuhanratu, the majority are still weak and oriented to government assistance programs, so when there is a government program, the fishermen form groups or reactivate groups, so the fishermen group is activated to meet the requirements of the government if they want to get help. Based on the results of interview studies in the field, this problem is caused by the majority of fishermen's education is still low, thus affecting the knowledge of fishermen about how to run the organization both individual characteristics of fishermen in the business, then the third does not understand the importance of grouping because they have not seen evidence of success if fishermen are in groups and organizations , then the fishermen feel there is no time to take care of the fishing organization because their time is up to go to sea.

Both of these research sites have similarities in alternative solutions, namely fishermen need strong and intensive assistance and education to fishermen. One of the success stories of this assistance is from NGOs (Non-Governmental Organization) called PAAP (Management of Fisheries Area Access) Sustainable organization formed by RARE Indonesia in collaboration with BLKP (Balai Laut Kepulauan Seribu). The PAAP organization is the majority of the management is not fishermen, so they have enough time to take care of the organization. This organization has succeeded in increasing the institutional capacity of fishermen with intensive mentoring and education from PAAP with informal discussions. Fishermen can develop their businesses, fishermen voluntarily fill logbooks every day and even agree not to catch small fish of a certain size.

5 CONCLUSIONS

The conclusion of this research are:

(1) The conclusion of this research are:

(2) The understanding and knowledge of fishermen about climate change are relatively the same in both locations. Their knowledge and understanding are empirical based on experience and pragmatics based on the characteristics of weather anomalies;

(3) With a relatively low educational background, work ethic and a certain degree of rationality to survive and an efficient and rational degree, fishermen in both research locations have a certain capacity to deal with climate change problems by building social, cultural, community relations and its habitat;

(4) In general, fishermen make adaptation patterns that are relatively the same, namely temporarily switching professions such as construction laborers, farmers, sand miners, angler fishermen, etc., but still as a fisherman is the main job;

(5) Specifically the archipelago fishermen's adaptation pattern is one thousand more comprehensive (cultivation and use of technology) than the queen port which sometimes still carries out illegal activities;

(6) In the two locations there was an institutional arrangement consisting of government institutions (vertical agencies and regional offices), semi-official institutions, and groups or associations of fishermen. Among these institutions there is a clear linkage related to budget allocations (grants) and programs or activities;

(7) Local institutions in both research locations have sought to increase the capacity of fishermen in dealing with climate change through training programs, direct program assistance, or fisheries area management programs so that fisheries resource management can be carried out in a sustainable manner;

(8) The preparation of a model for improving the institutional capacity of fishing communities at the stage of the first year of research is still preliminary model. The general components that must exist in the Initial Model of Institutional Improvement of Fishermen's Institutional Capacity consist of the development of human resources, business opportunities, improvement of resource management and environmental improvement that are carried out in an integrated and synergistic manner.

ACKNOWLEDGEMENTS

We thank the Ministry of Higher Education Indonesia for financial support of Superior Applied Research of College Grant Scheme with Grant Number: 0826/K4/KM/2018 The authors declare that they have no competing interests.

REFERENCES

Cahyadi, R. (1997). *Strategi Adaptasi Masyarakat Terhadap Kehadiran Perusahaan Pemegang HPH dan Program Pembinaan Masyarakat Desa Hutan (PMDH)- Studi Kasus Desa Tumbang Manggo, Kecamatan Sanaman Mantikei, Kabupaten Kotawaringin Timur Kalimantan Tengah*. Universitas Indonesia.

Chambers R and Conway G. (1992). Sustainable Rural Livelihoods: Practical concepts for the 21st Century. Brighton, UK: IDS.

Denzin NK and, & Lincoln, Y. S. (2000). *Handbook Of Qualitative Research*. USA: Sage Publications.

Eaton, J. W. (1986). *Pembangunan Lembaga dan Pembangunan Nasional dari konsep ke aplikasi*. Jakarta: UI Press.

Fisheries and Aquaculture. (2014).

Nasution, Z. (2009). *Analisis Kebijakan: Strategi Adaptasi Masyarakat Perikanan Terhadap Perubahan Iklim pada Berbagai Tipologi Perikanan. Laporan Penelitian, Balai Besar Riset Sosial Ekonomi Kelautan Perikanan.* Jakarta: Departemen Kelautan dan Perikanan.

Purnomo, A. H. (2010). *Riset Dampak Perubahan Iklim Terhadap Usaha Perikanan (Tangkap dan Budidaya) dan Ketahanan Pangan*. Jakarta.

Purnomo, A. H. (2011). *No Title*. Jakarta.

Uphoff N, E. M. (1974). *Local Organization for rural development: Analysis of Asian experience*. Ithaca NY: Rural Development Committee. Cornell University.

Widiyanto, D. dan P. (2010). Strategi Nafkah Rumah Tangga Petani Tembakau di Lereng Gunung Sumbing (Studi Kasus di Desa Wonotirto dan Campursari Kecamatan Bulu Kabupaten Temanggung). *Sodality: Journal Transdisiplin Sosiologi, Komunikasi Dan Ekologi Manusia*, *4*(1), 91–114.