

The Role of Religion to Face Climate Change: A Survival Strategy of Christian Fishermen Families to Embody Gender Perspective and Spirituality of GPM's Congregation in Coastal Area of Nusaniwe Subdistrict Ambon City

Eklefina Pattinama

Faculty of Theology

Maluku Indonesian Christian University

Ambon, Indonesia

eklefinapattinama@yahoo.co.id

Vilma Vieldha Ayhuan

Faculty of Theology

Maluku Indonesian Christian University

Ambon, Indonesia

viviayhuan1905@gmail.com

Abstract— Climate change is a world phenomenon, it will cause changes in global temperature or warming, and then systematically will also affect the melting of the north and south poles which then will affect the rise of sea level and will also affect the coastal areas as well as the communities there. On the other hand, religion has an important role in responding to climate change phenomenon.

In the study of three Christian Congregation in Nusaniwe Sub-district, as fishermen living on the coastal areas, has now experienced the impacts of climate change that affect their spirituality. The objectives of this research are (1) to identify the impacts of climate change on fisherman's catching fishery activities, and (2) to analyze Christian fisherman's survival strategy to embody their gender perspective spirituality in facing the climate change.

The findings of the study indicate that (1) the impacts of climate change can occur directly affecting the fishing communities (2) The strategy of facing climate change, realizing the spirituality of Christian family. Whatever strategies men and women do survive in climate change also influence gender construction in fishermen families, the perception of gender in the fishermen families generally illustrates that the wife's primary duty is to take care of the household but may help the husband in earning a living; while the responsibility of earning, a living remains the husband's duty. Decision-making concerning domestic and public activities in fishermen families does not follow a particular pattern specifically centered on a husband or wife but has a dispersed pattern.

Keywords— *ecological crisis, survival strategy, spirituality, Maluku*

I. INTRODUCTION

The global ecological crisis and the threat of global climate change, are now on the brink of *climate collapse*, our world is entering a natural catastrophe, even in various natural area are dead (*eco cida*). If climate change occurs, it will cause global temperature changes or warming, and then systemically will

also affect the melting of the north and south poles and also will affect the rise of sea level and affect the coastal areas and the communities there. How religions especially Christian views climate change.

Religion is a matter of belief that helps a person to find the identity, behave nobly and uphold the values of life, holiness, worship, honesty, and devotion to his spirituality [1].

Durkheim religion is "a unified system of belief and practices relative to sacred things", and furthermore "that is to say, things set apart and forbidden belief and practices which unite into one single community called church". According to Durkheim religion comes from the society itself, and the society itself is interpreting the God who is believed to be in accordance with their idealism. Society always distinguish about things that are considered sacred and profane or worldly. Religion really helps a person behave nobly and uphold the values of life and spirituality he embraces".

Spirituality itself is a "religious essence" that lies behind the teachings or formal rules of religion. In the appreciation of spirituality, teaching or dogma or doctrine is not the last thing, but the next person experiences the encounter with The Divine. Thus, one lives his religious life not for other purposes except for the knowledge of God himself. In the life of faith, spirituality has an understanding of what that can encourage, motivate, enliven, and grow a person. Spirituality actually very close and live in life now and it is not separate the spiritual life of the world, as being said by Richard O'Brian: "spirituality is closely related to the shared experience of God and transformation of consciousness and the life of a faithful one as an experience". In spirituality there is "internalization of faith" - a creative and dynamic correlation process between man and life: between the Holy Bible and personal existence. Spirituality encourages people to experience God must appear in action, acts of daily life, in relationships with fellow human beings and nature.

All religious people live their spiritual lives differently. For the fishermen, especially fishermen in the coast of Ambon Island. Fishermen are people who are close to nature and their lives depend on the climate conditions.

Climate change is very influential on the activities of the fishermen and the economic needs of fishermen families. The impacts of climate change are felt by the families of fishermen (women and men) in the coast of Nusaniwe, they are:

1. Extreme weather changes, sunny in a short time and suddenly rain, with storms that make fishermen unable to work in the sea and of course this affects the family economy.
2. Changes in season and rainfall, making the women cannot sale the fish in the market fish.
3. Meanwhile, climate change makes the family of fishermen living on the coastal coast should receive the wind gust, and storms that also affect the health of children.
4. Fishermen have difficulty reading natural signs (winds, temperatures, astronomy, biota, ocean currents), because there are changes from their daily habits, so that fishermen are difficult to predict when to go to sea and where the potential fishing ground is.

Climate change affects the activity of fishermen families and encourages both male and female make survival strategy to realize the gender perspective spirituality by means of: 1) groups of fishermen families to be prayer for sustainable life with nature. 2) fishermen's spirituality movement to make peace with nature by preserving the coasts and protects them. 3) Spirituality creates a dynamic working transition when the climate changes to meet the needs of the family. 4) creative of female fishermen Spirituality, performing reproductive and productive roles, with men doing survival strategies in climate change.

The problem is how the role of religion for Christian fishermen is impacted by climate change and how fishermen carry out their surviving strategy as form of their spirituality against climate change.

II. METHODOLOGY

The study was conducted in the village of Seri, Latuhalat and Silale, the coastal areas of Nusaniwe District, Ambon City, Maluku Province islands community whose life depend on marine resources. The main livelihood of these three villages was fisherman. A qualitative approach emphasizes more on the process with a descriptive analysis study, starting with the study of literature, discusses the problems of climate change that affecting the lives of fishermen families, as well as looking at survival strategies done by fishermen families to face gender-based climate change. References are obtained from journals, letters news, internet, seminar papers, textbooks and a number of research reports that researchers have done before. In the second stage, field research was conducted in the form of comprehensive assessment, either by doing observation or

interview with informants on the subject of the study, as well as conducting analysis of the field findings.

III. RESULT AND DISCUSSIONS

Conceptually, climate change is a change in climate over a period of time, whether due to natural changes or as a result of human activities. While based of *Assessment Report (AR4) Working Group I* of the IPCC, the term climate change refers to a change of climatic conditions (for example, by using statistical tests) by changes in the value of the average and or variability and lasts longer in the next period, either on period or longer [2]. Climate has a tendency to change that can be caused by two factors. The first factor is the result of human activities such as urbanization, deforestation, and industrialization. While the second factor is due to the natural activity such as continental shift, volcanic eruptions, changes in Earth's orbit to the sun, the sun stains, and the El-nino events [3]. Uncontrolled human activity leads to irregularities in the climate system, if it cannot be controlled, its impact can threaten human life.

Globally climate change is expected to accompany global warming such as: 1) The melting of ice at the poles, causes the rise of sea level. 2) The rise of sea level will drown islands and prevent the river water flowing into the sea causing flooding in the lowlands. 3) Extreme climate change can have adverse effects on agriculture pattern in Indonesia, while the increased temperature of earth causes the drying of surface water, making it scare. Surely this is hitting a water-based farming pattern. 4) Increased risk of forest fires. 5) El Nino and La Nina are symptoms that show climate change.

For the coastal fishermen climate change becomes a threat to them as workers at sea. coastal communities as a group of people who live together inhabiting coastal areas to form and have a distinctive culture associated with their dependence on the use of coastal resource [4]. The impacts of these changes not only affect the economic condition of fishermen, but also other aspects in their social lives. Indeed, the characteristics of fishing communities as representatives of coastal villages and isolated villages can be seen from various aspects, namely knowledge systems, belief systems, the role of female fishermen, social structure and social position of fishermen. These five aspects are the inherent character of the fishing community and are formed in line with their attachment to coastal resources.

In facing this climate change fishermen (men and women) seek to implement various survival strategies. Strategy is a careful plan of activities to achieve specific goals. Strategy is an action that is used to solve the problem by setting a selection of several alternative actions available. Fishermen society in an effort to maintain their survival do various forms of strategy. The notion of strategy is a set of choices among various alternatives [5]. Survival strategies as a set of measures chosen by the socially and economically middle to low class of individuals and households. Through the strategy undertaken by a person, can increase income through the utilization of other sources or reduce expenditure through the reduction of the quantity and quality of goods or services. In

addition, the survival strategy implements a double income pattern that is part of the economic strategy, namely:

- a) *Strategy of living (livelihood)* is simply defined as the way in which people meet their needs or increase lives. Everyone has a livelihood strategy that is useful for improving the quality of his life such as using assets that are utilized such as land (resources). Another way to improve the quality of life is by combine the abilities, skills and knowledge with the different resources they have to create activities that enable the person to achieve the best life for themselves.
- b) *Double living patterns (diversification)*: is done by applying diverse living pattern by looking for another job to supplement income by or mobilizing labor or family (father, mother and daughter) to go to work and earn income [6].

Climate change encourages fishing families (Women and men) to work together to implement various survival strategies. This way of cooperation between men and women, criticize the stereotypes in society in viewing women's work field as different men's. But because of the economic needs, makes women work in men's work field, for example, women also go fishing in the sea. This way of working is called gender or gender equality. In Women's Studies Encyclopedia explains that gender is a cultural concept that seeks to make distinctions distinction in the roles, behaviors, mentality, and emotional characteristics of male and female that grows in society. Gender as cultural expectations for men and women [7]. Gender is an analysis used in placing equal footing between men and women to create a more egalitarian society.

Climate change becomes a challenge for Christian fishermen as religious people, not least of all religions. Religion is considered very influential on climate change as it gives spirituality support as creative faith movement that encourages its followers to experience God in the humans' life dynamics (men and women) to view nature as God's grace and to manage, nurture, preserve nature as humanity's survival from generation to generation. What is "human" is not above the "non-human", but within it. The "I and Thou" relationship is not just between humans and each other, but it should be embodied in the relation of man and nature (*non-human nature*). Biosphere (*bio-sphere equality*) puts man in a position that equal to others. In this case there is no hierarchy between man and all the things that are in nature. This new relation is driven through the spirituality of consciousness, value and new humanity's reconciliation with nature, through the movement of feminism.

Feminism offers a new approach as a spirit from within that pushes human (men and women) to express peace with nature through spiritual life. The word 'spirituality' comes from the Latin spiritus, meaning spirit, soul or spirit that has unified meaning in Hebrew *ruach* or the Greek *pneuma* which means wind or breath, in the Indonesian language can be interpreted as a "moving spirit". Spirituality is a manifestation

of the life of the Spirit of God or a life dedicated to God. Spirituality is very close and lives its present life and spirituality is not a spiritual life separate from the world, spirituality is closely related to God's shared experience and the transformation of our consciousness and our lives as experiences".

Spirituality is also a universal word because it can be used by all religions, because spirituality itself is a "religious essence" behind the teachings or formal rules of religion. In the appreciation of spirituality, doctrine or dogma or doctrine is not the last thing, but the next person experiences the encounter with the Divine. Thus, one lives his religious life not for other purposes except directed to God himself.

Christian spirituality cannot be separated from the formation of a continuous relationship with Jesus Christ, which is often called discipleship. In spirituality there is "internalization of faith" - a creative and dynamic process of correlation between faith and life: between Holy Bible and personal existence. The spirituality focuses on *interior life*, a search for God and the growth of relationships with Jesus Christ is hidden in heart and mind (Romans 15:13, Phil 4: 7, Colossians 3:15). Knowing God is different from experiencing God. A person can know God through various knowledge or literature, but not necessarily the person experiences God in life. In other words, experiencing God must appear in action, deeds of everyday life, in relation to fellow human beings and nature. Such spirituality in development requires cooperation between the work of the Holy Spirit and human effort in the process of bringing about one's transformation. Spiritual discipline therefore helps one to experience the development of a sensitivity in daily life. The introduction of God through the spiritual discipline of a person develops his life spirituality by looking at the individual and society, man and nature of the natural community. All are viewed holistically, interconnected and interdependent with one another, leading to a peaceful, safe life or else known as a life of peace.

A. Fishermen's Understanding On Their Professions

The fishermen community groups in Seri, Waimahu and Silale congregations, community group with fishing profession, because the location of their settlement is close to the sea and sea as natural resources also provide life for fishermen. Mr. A.L said this job which has been practiced since youth, has started from childhood, following his parents and dare to go to sea fishing and making him works as a fisherman.

Fishermen is a group of people whose lives depend directly on the sea, either by way of catching or cultivation [8]. They generally live on the beach, a neighborhood close to the location of their activities. According to Mr. F.T in Waimahu, a tuna fisherman, the target of his work is getting the tuna because it's market value is greater compared with other fish. Then there is a group of fishermen who join the motor boat, this is a group fisherman, working with motor boat according to Mr. OM, motor boat owners usually followed by 8 - 10 fishermen starting from youths to adults.

Fishermen are not a single entity, they are made up of several groups. In terms of ownership of fishing gear, fishermen can be divided into three groups, namely fisher workers, fishermen skipper and individual fishermen [8]. Fishermen worker are fishermen who work with tools owned by others. Instead fishermen skipper is a fisherman who has fishing gear operated by others. The individual fishermen are fishermen who have their own fishing gear, and in the operation do not involve other people.

Fishermen are classified into four levels seen from technological capacity (fishing gear and fleet) [1], market orientation, and characteristics of production relationships. Here are the levels:

1. Peasant-fisher or Traditional fishermen who are usually more self-subsistence oriented, these fishermen allocate their catches to meet their daily needs rather than invested in scale-up.
2. Post-fisher is fishermen who have used more advanced fishing technology such as outboard motors or motor boats. The control of the motorboat means increasing the opportunity for fishermen to catch fish in the more distant waters and get a surplus from the catch because it has greater capability. In this species, fishermen are already market oriented.
3. Commercial-fisher is a fisherman who has been oriented to increase profits. The scale of the business is already large and is characterized by a large number of workers and is characterized by a diverse workforce status, from laborers to managers. The technology used is more modern so it takes its own expertise in operation.
4. Industrial-fisher, the characteristics of industrial fisherman are [4]: (a) Organized in ways similar to the agroindustry companies in the developed countries; (b) Relatively more capital-intensive; (c) Provide higher revenues than simple fishing, for both the owner and the crew; and (d) Produce for export-oriented canned fish and frozen fish.

There are 2 groups of fishermen, among others: 1) peasant-fisher or traditional fishermen who are usually more self-subsistence oriented, these fishermen allocate their catch to meet daily needs rather than invested in business scale development. 2) Post-fisher who have been using more advanced fishing technology such as outboard motors or motor boats. The control of the motorboat means increasing the opportunity for fishermen to catch fish in the more distant waters and get a surplus from the catch because it has greater capability. In this group, fishermen are already market oriented. Successful pre-fisherman market orientation. Mr. E.R who said that "fish-seeking system needs to be regulated, fishing location should be further to Buru Islands or further on Seram Island, with working time of 1-2 weeks at sea and we get better work".

For traditional fishing groups, commonly known as private tuna fishermen, are fishing only around the Ambon bay, and the catch in climate change has been rather difficult. Fishermen must be equipped also with a more representative fishing gear. The following categories of fishermen based on fleets, fishing gear and fishing grounds can be described as follows:

Table 1

**FISHING CLASSIFICATION TABLE BASED ON
FISHING AREA**

US	Beach	Offshore	Deep seas
Depth	0-2,5 m	2,5-25 m	>25 m
Goal Type	Nener, Bener, Demersal Fish	Shrimp, Demersal fish, Coral Fish	Pelagic fish
Types of Fleet	Semang Boats, Small boat	Medium sized boat, chart	Big sized boat
Fishing tool	Nets, Traps, hook	Gillnet, chart, trawl ring, mini, Net bags	Gillnet, Trawl ring, payang

Ownership of fishing gear also affects the income level of a fisherman. Different income will result in a different mindset in looking at a need. Professional fishermen who work seriously to prepare all the needs of the fishing boat, such as preparing the oil specifically and fishing equipment will contribute to access basic needs such as education, health and fulfillment of production facilities so that sometimes the social conditions of economic relative enough for business continuity. But if the work of some fishermen according to Mr. EM should also see the condition of nature or know the climate, because it becomes a major obstacle in the development of community business fishermen community.

B. Fishermen's Understanding On Climate Change And Its' Impatcs

The definition of radical in an Indonesian dictionary means a radical understanding or flow in politics; ideologies or streams that desire political or social change, or renewal violently or drastically; and extreme attitude in the political stream. In the dictionary Mariam-Webster radical, radicalism has an extreme meaning or very different from the usual or tradition. In Indonesia, radicalism is often interpreted as militant, even anti-western and tends to violence if demonstrated because of its tendency toward thuggery, so people tend to judge radical organizations as destructive organizations.

Working as fisherman according to the fishermen in Seri, Waimahu and in Silale, is very dependent on climate, if climate change then fisherman job in these three villages will be hampered. According to BL (Fisherman in Seri) that, there are 2 type of season that is east and west season. Climate is an important factor in work as a fisherman.

Fishermen have witnessed the occurrence of different seasonal patterns, there are three patterns of seasonal winds known to fishermen, namely the western seasons, the east season, and the southwest season. Sometimes the fishermen find it difficult to predict exactly when the season switch from one season to another. Seasonal Wind patterns are not the same with the season will confuse fishermen to decide to go to the sea. Many fishermen have wrongly take into account the pattern of the season wind when going to the sea.

Certainly, this will affect on safety. Seasonal wind is also related to what kind of fish which are many and its location, whether the fish is in the middle of the sea or in shallow waters. Climate change occurs slowly over a long period of time, between 50-100 years. Climate change is a very difficult thing to avoid and impacted on many aspects of life. Especially for fishermen in these three villages namely, Seri, Waimahu and Silale. The majority work as fishermen making them have to adapt with changing climate. Most of them then get used to reading the signs of climate change traditionally. When climate change occurs, the seasons change, then the informants assume that the catch is decreasing and certainly affects the decrease of fishermen's income.

In general, the understanding of fishermen to climate change is very simple. Traditionally fishermen have different senses about climate change, they interpret climate change with the difficulty of reading the signs of nature (wind, temperature, astronomy, life, ocean currents), because there is a change of every day's pattern, so that the fishermen are hard to predict when to go to sea and predict where potential fishing grounds are.

Meanwhile the Maluku provincial government built BMKG office to help fishing communities to have information on climate change and natural disaster information. Unfortunately, the information from the fishermen community close to BMKG office, Mr. T. M in Waimahu congregation said since BMKG office was built and finished, there was only 1 officer who came at any time just to clean the office, as Cleaning Service officer not BMKG officer, whereas the fishermen community really need BMKG officer information to help them work as fishermen at sea.

Until this research is done, BMKG office is no longer feasible to be used and the community has used it for selling. Although information from BMKG on the climate can now be accessed any time on the web, twitter, Facebook, or blog, but the limited education, facilities in the settlement of fishermen in Seri, Waimahu and Silale Village, which mostly have poor infrastructure and socialization to fishermen still less, so that does not help the fishermen community much about climate change. Of course, about climate change, seasons in the fishing

community also affects both male and female fishermen. Moreover, followed by a narrow knowledge of climate change. The fishermen community should have the knowledge about climate change.

Climate change leads to global warming impacting sea level to rise, the rising of sea temperatures, decreasing salinity of seawater and changes in rainfall, hydrological patterns and wind patterns [9]. The changes that occur lead to ecological changes in marine and coastal ecosystems. Changes that occur are the intrusion of sea water into the mainland, extreme waves and increased frequency of storms, coastal erosion, coral reef damage changes in upwelling process, fish hordes, changes in fish migration patterns and increased salinity of seawater.

Changes in hydrological patterns, wind patterns along with rising sea levels cause the intensity and frequency of storms and extreme waves that occur in the oceans [10]. The impact of this climate change is experienced by bobo fishermen, tuna/traditional and fishing workers, even female fish seller, because the fish supply for market is decreased, influences fishermen's income both male and female.

C. Effects Of Climate Change On Fisherman (Men And Women)

The impacts of climate change are not limited to changes in the rainy-dry season, rise of sea level, but also affect the various aspects of fisherman's life: both economic, health, food security and others. Climate change impacts both directly and indirectly, direct changes are as follows:

1) Changes In Fishing Results

The Fishermen Group in the Seri, Waimahu and Silale congregations, on average consider climate change lately to be a disaster for them. Because current weather changes cause their catch to be more difficult to obtain and consequently the income of fishermen decreases. Mr. T.S said climate change also affects their catches, usually we got fish 1-5 pan daily if using small boat. And because of climate change we only get ½ pan or none at all.

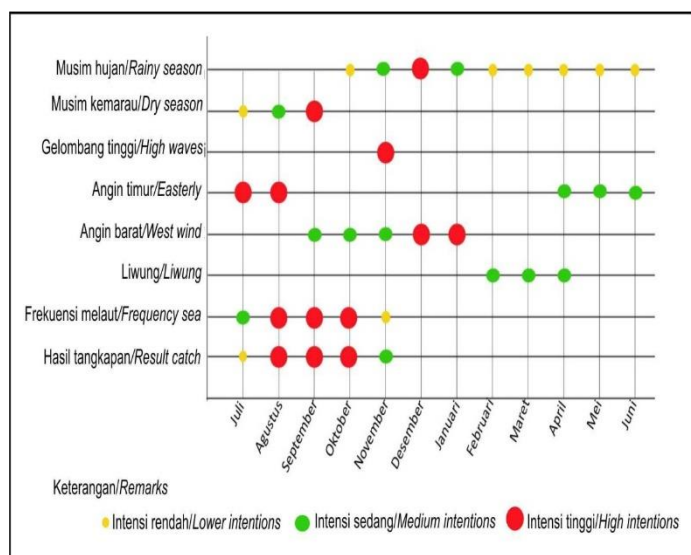
Even if the fishermen can get good results, the weather is often uncertain in the sea and it takes effort because the fishing ground becomes uncertain. Bad weather causes the fish to not rise in the surface. It becomes a problem for traditional fishermen who still rely on local knowledge and empirical experience alone in search of fish. As climate change has given a significant impact on the conditions of marine ecosystems and makes much of a difference over previous ocean conditions, the empirical experience of fishermen in searching fish becomes irrelevant. Fishermen became difficult to determine the fishing area.

2) Changes In Fishing Season

From the symptoms of climate change that experienced by fishermen in the villages of Seri, Waimahu, and Silale as strong winds, high rainfall intensity and high waves, are very influential on catching results. Moreover, Climate change

symptoms have caused disturbance in the wind season that no longer follow the directions as scheduled in the following table:

Table 2



In Seri, Waimahu and Silale area, fishermen have acknowledged the wind disturbance, as admitted by one fisherman A.R who works in Seri area:

"Since the past, in July-August, the catch we get is usually a lot, because these months are the east wind season. So, it's safer to go farther at sea. But the last few years in east wind season sometimes occurring west wind too. Just for example last July. I was stuck for hours in the middle of the ocean, because the west wind that suddenly came and lasted almost all day"

Learning from the fishermen's fishing experiences, they know that the climate changes is not only have an impact on weather, wind direction, but also changes in fishing season. According to Mr. S.P if the climate changes, we choose to find fish in the area of Ambon Bay only, if the weather worsens again, then we are more often to rest and clean the traditional fishing gears that are broken.

3) Cost Changes

Climate changes affect both the fishing income and operational costs. According to Mrs. R.T, when climate changes, the income from the fishing also changes. Usually when the sea is calm, not wavy and windy, then the results of my husband's fishing using his own boat, we can get 1 to 5 pans, and when sell them, 1 pan worth Rp. 400,000, if I sell in the market will get 1 pan for Rp. 500.000. In a day we get a total of Rp. 2. 500.000, when calculate with the expenses for oil, cigarettes, and ransom, the remaining is Rp. 1.500.000 per-day, I can save for other family needs. But if the climate change during fishing season, then my husband just gets 1/2 - 1 pan, and even my husband had to find fish away from the Ambon bay, just to get the fish. According to fishermen, in

comparison to the past there is a decrease in the amount of production that resulted in decreasing of income in every fishing, according to fishermen this is caused by climate change that occurred. The direct impact is felt by fishermen is declining catches and income, even if the price per kilogram of fish is increased due to scarcity in the market and other direct impact is the change in the amount cost to be allocated because the increasing of fuel price that balanced with reducing other expenses to gain profit.

a) Indirectly

When climate change, the impact that occurred at fishermen's settlement areas on the seashores. The rising sea level causes abrasion, erosion of the coast, because of the high sea waves. The coastal fishermen should raise the shore with rocks and sand piles for blocking the waves that rising to the coast. Some of the fishermen from the Seri, Waimahu and Silale congregations, among them

According to the Mr. S.M that "when climate change occurs, we as villagers of Seri helps to protect existing roads near seashores, which now has threatened abrasion. I am afraid when the Abrasion happens. This road will be damaged if not being taken care by local government or communities. I along with some fishermen took initiative to mending the road by piling rocks. In order to avoid abrasion on the main road ".

According to Mrs. J.M that "when climate change occurs we as mothers from Silale Village are not just silent, we are trying to looking for side jobs as women fishermen. Some women go to Ambon, and sell fish in the market, although the profit is not much but we could be home with vegetables and rice and that was enough for meal in a day. If the husband does not go to sea because of the East season, then we women should be more nimble work for our children ".

According to Mr. K.S that " when the climate changes then I as fisherman in Seri village just wait until the climate gets better. I do this because there is no other thing that I can do, in the mean time I can piling up the shore so my house is not damaged by the waves ".

From the interviews, they show that the weather changes are a threat for the work of fishermen. The threat of climate change, affecting the catches, making it difficult to get fish only in Ambon bay, which influence the income of fishermen. And it takes extra effort from fishermen to fish further out at sea.

The impacts of climate change for fishermen generally involve:

1. Difficult in in determining the fishing season.
2. Difficult in determining the catchment area
3. High risk due to sea storms and extreme waves
4. Impaired access to sea activities
5. Difficulty in abstaining commodity fisheries, both fish and other marine resources.

Generally, the various impacts of climate change that occur could potentially disrupt and even inhibit the process of fishing

by fishermen in the sea. The disruption of the fishing process has implications for the decrease of fisherman catch and the decreasing of their income level. The decrease in income occurred many times and in the long term. This is not only experienced by male fishermen only, but the impacts of climate change also affect the activities of female fishermen.

4) The Effects Of Climate Change On Female Fishers

The female fisher in Ambon, generally become fish seller commonly called "*perempuan papalele ikan*". In addition to sell the catch of their husband in form of fresh fish (acquired from his boat), also bought from other fishermen. During the time when fish is abundant, women also work to process the fish, namely smoking or marinating. Thus, men's duty is in the production activities while women's processing and marketing.

Nevertheless, sometimes men also sell fish, that is when there are middlemen from other the region who come to buy fish in the middle of the sea. In addition, when fishing away from villages and closer to the Ambon market, the catch is directly brought to market. There are also women who catch fish, by netting in "*sero*" land or fishing for a meal.

Female fishers also experiencing the impact of climate change, according to Mrs. S.T (Female Fisher in Seri) that, "climate change is indeed hamper our activities as mother, because if our husband does not get fish. We have to buy fish from another *bobo* and re-sell them. If climate change happens we have to take side job by planting cassava in the garden to eat daily". Mrs. W.K (Female Fisher in Silale) as housewife she already saves the money from net profit. When climate change occurs, we use our special savings first.

Climate change also contributes to women doing double work as household work, taking care of children and household, but also selling. Women and men's working hour is the same, from dawn at 03 A.M women have prepared meals for her husband before fishing. When the husband has gone fishing, women prepares the children to school, after which she goes to the market bringing result of last night's fishing. Although women and men are busy working but worship activities as a strengthening of spirituality continue to be done both in the family, family prayer before fishing, as well as fishing groups.

5) The Influence Of Religion In Climate Change

For the fisherman who mostly living on the coast, the climate change effects on the rise of sea level and will also affect the coastal area and also the communities living there. How religious fishermen can anticipate climate change with actions that do not harm the nature. For fishermen in the village of Silale, living on the coast would experiencing climate change with the erosion of the beach, the waves that are continuous and what could be done by the group of fishermen is protecting the environment by pilling up stone and sandbags and make artificial wall, protecting themselves from the waves.

According to the fishermen, as religious people there is no other power that can deal with climate change, such power only comes from God. For the fishermen community in Waimahu, as believers what we can do as fishermen when facing with the dangers of changes in wind season, we just ask help from God, the Ruler of life. Therefore, for fishermen groups in Waimahu Church, they are formed in 3 groups of fishermen which is one of their activities every month, is nurturing fishermen families' spirituality, through fishermen group worship: Kotabelo Fishermen Group, Tuna Fishers, Mercusuar Fishers/Bobo Net.

These Christian fishermen group is fostered by the priest and local church assemblies, once a week they have worship and read the Bible, to strengthen their faith to face climate change. In this case religion's role is a reference, that is, the form of reference to the beliefs obtained from the holy books they have. The books and the teachings of religion have the wisdom of life that has the potential to be used as a moral ground in the awareness of the environment.

According to Priest N.M, to the group of fishermen we foster them to aware of the environment that by climate change, their settlement is threatened by wave and therefore fishermen should see themselves as part of nature and protect it. Being religious is being in harmony with eco-friendly lifestyles. The priest encourages the groups of fishermen to take responsibility to caring for environmental and natural conditions by discussing the contents of the Bible that humans (Christians) should be responsible for caring for environmental and natural conditions. In addition, groups of fishermen are also invited to work to help each other, work together both for each other and even the universe.

The role of religion in fostering the spirituality of fishermen groups in the congregations becomes the strength to the fishermen to face climate change and do various strategies.

6) Survival Strategy Of Fishermen Families To Face Climate Change

Male and female fishermen in the face of climate change have strategies to survive. Strategy is an action that is used to solve the problem by making decision out of several alternative actions available. The female and male fishers' strategy to face climate change, as follows;

a) Families Economic Empowerment

Table 3

No	Research Sites	Fisherman's strategy to face Climate Change	
		Men	Women
1	Seri Congregation	<ul style="list-style-type: none"> • Working as a seasonal Farmer, just filling in time • Working as construction 	<ul style="list-style-type: none"> • Open a small kiosk stall • Sell bread and Pastries • Looking for

		laborers • Young fisherman, go to the freight driver • Helping friends work in the workshop	fish in Ambon market for selling • Working in the garden or forest with her husband • Offering house maid services
2	Waimahu Congregation	• Working as pig farmer • Working as construction labors • For young fishermen, working as ojek drivers • Working to make fishing nets • Working as minibus bus driver	• Selling foods and pastries • Selling fish in Ambon Market • Offering house maid services • Open a food stalls or kiosk
3	Silale Congregation	• Working as minibus driver • Working as construction labors • Young fishermen work in car workshop	• Selling drinks, ice, etc. • Selling ready meals, yellow rice, bread • Making sate, fish meatballs and sell them

Strategies taken by male and female fishermen to meet the economic needs when climate change happen. There are several strategies that can be done by traditional household fishermen in rural areas, such as [11]:

- 1) Doing diverse jobs though with low wages.
- 2) Utilizing the bonds of kinship and mutual exchange in the provision of security and protection.
- 3) Migrating to other areas, typically rural-urban migration as a last resort when there is no longer a choice of livelihoods in the village.

Two types of livelihood strategies within the farmers family [12]:

- 1) The *normative livelihood* strategy, i.e. strategy in the category of positive action on the basis of socio-economic activities, such as production activities, migration, substitution strategies and so forth. This

category is also called '*peaceful ways*', because it is in accordance with the prevailing norms

- 2) The *illegal livelihood* strategy, a strategy in the negative category, with unlawful acts. Such as robbing, stealing, prostitution, corruption and so on. This category is called non- *peaceful ways*, because the way is generally done by doing physical pressure and pressure.

Strategy is an action that fishermen do in dealing with the negative impacts of climate change, by doing two main things: 1). Diversification is an activity undertaken by fishermen households to increasing their income generating activities in the face of direct and indirect impacts of climate change. 2). Intensification is an activity undertaken by fishermen in order to improve the quality of fishing business capacity in facing the direct and indirect impacts of climate change. This strategy is only done by Bobo fishermen or fishermen skipper, fishermen who have the capital. Whatever the strategies undertaken by men and women fishermen to survive in climate change also affects gender construction in fishermen families.

b) *Strengthening in Gender Construction in Fishermen's Families*

Climate change affects the construction of gender in fishermen families' life. The fishermen family consists of husband and wife who work as Fishers, the husband is in charge of fishing and catching fish and the wife will deliver the catch to be sold in the market. Here it can be seen, that the existing gender constructs in the fishing family, where the husband not only works alone but the wife also takes part in helping the family economy. Thus, basically in subsistence fisher life there does not appear to be a working dichotomy between men and women or gender division of labor. But in its development that is after the development of fishing technology, began to appear the division of labor in gender.

c) *The Peace Spirituality with Nature: The Ecological Movement*

The awareness that climate change becomes a threat to the life of male and female fishers, encouraging them to take spiritual action. For fishermen who live on the coast to protect themselves against the threat of rising sea level due to climate change, men and women fishers, making natural barrier/ wall from sacks of stone and sand, compiled along the coast.

Among the female fishers, they maintain coastal environment so that no people would throw garbage on the coast. Women understand nature as the subject that contributes to their lives. The ecological movement above is born out of the consciousness of men and women fishers to make peace with nature by not making use of the nature of God's creation. The movement is seen as a peace spiritual movement to nature. Peace as a transformation at the level of consciousness, value and *world-view*, puts human beings on an equal footing between man and man, and between man and nature, in the unity of the natural community living in peace.

Man was created by God as male and female, Genesis 1:26, similar to God, but also God created nature or the earth with its contents and human beings were given the power and responsibility over earth. Genesis 1: 28. One of the symbols that is very close to the orientation of creation is the symbol of God as the Mother of the universe [13]. This symbol expresses the creative affection, which nurtures and summarizes all life. God is the Mother who has given birth to the universe, all creation. And He longs for their relationship with each other, to share and keep each other.

Man, as the image of God is a co-operator or co-creator and "Mother of the universe" in the creative act of transforming, reshaping, regenerating, and nurturing the universe. The awareness of preserving nature for fishermen encourages men and women fishers to perform ecological movements as a peaceful spirituality that oriented on creation, fights for the rights of human life and nature, for a just and sustainable life.

Paul Francis saw the importance of fostering the inner motivation that flows from spirituality to the preservation of the world. The preservation of the world is an integral part of the human life of faith. Human beings are associated with other ecological creations in universal fellowship. Jesus presents God as knowing all of His creation (Luke 12: 6) This encourages believers to make ecological repentance possible through when human take responsibility in protecting God's work. In situations such as the current ecological crisis, God calls men and women to seek and preserve the garden of world (Gen.2: 15). The Word of God as a stern rebuke to those who explore the earth. The ecological repentance needs to arrive at the act of man restoring the earth as being able to portray God.

In the face of an ecological disaster case, Men suffers from the syndrome of God, when they behave as if they were God in the presence of other ecological creations. There are still ecological communities that seek to open the destructive faces of traces of exploitation to nature that bring ecological disaster, unfortunately destruction of the earth, exploitation continues to occur and nature or earth becomes a threat to human beings rather than earth to be a blessing.

IV. CONCLUSIONS

Fishing communities are the first to get a direct impact on climate change, when working at sea. Climate change can occur in the form of sudden weather changes, increased frequency of storms, increased frequency of the waves as well as the fishing season increasingly difficult to predict the fishing schedule in the sea by fishermen be at sea will be interrupt. To fish, fishermen often have to wait for the storm to pass, because they do not know there will be a storm and a big wave or not. Climate change affects changes in fish dispersal

patterns and erratic fish numbers. The result is decline in fish production and decreased revenue for fishermen.

To face climate change, economic strengthen strategies, strengthening gender equality in the family are done by the fishermen. It was realized that the fisherman main strengthening as a religious community is to build a living spirituality as part of his belief. Spirituality which moves fishermen to do ecological movement, caring for life and earth, together with earth for sustainable life. The Assistance of religious spirituality to fishermen continues to strengthen the ecological movement as a movement of faith both in relation to others and with nature.

REFERENCES

- [1] F. Mangunjaya, *Mempertahankan Keseimbangan*, Jakarta: Yayasan Pustaka Obor Indonesia, 2016.
- [2] S. Kurniawan, *Studi biodiversitas: apakah agroforestri mampu mengkonservasi keanekaragaman hayati di DAS KONTA* Working paper 119, Bogor: World Agroforestry Centre (ICRAF) Southeast Asia Program, 2008.
- [3] B. Tjasyono, *Klimatologi Umum*, Bandung: Penerbit ITB, 2004.
- [4] Satria, *Pengantar Sosiologi Masyarakat Pesisir*, Jakarta: Ciseindo, 2002.
- [5] A. Crow and L. Crow, *Psikologi Pendidikan*, Yogyakarta: Nur Cahaya, 1989, p. 1989.
- [6] I. Scoones, *Sustainable Rural Livelihoods; A Framework for Analysis*, 1998.
- [7] H. M. Lips, *Sex and Gender*, New York: McGraw-Hill Higher, 2007.
- [8] Mulyadi, *Ekonomi Kelautan*, Jakarta: PT. Raja Grafindo Persada, 2007.
- [9] C. Chen, "Effects of Climate on Marine Ecosystem," *Fisheries for Global Welfare and Environment: 5th World Fisheries Congress* (K. Tsukamoto, T. Kawamura, T. Takeuchi, T. D. Beard, Jr. and M. J. Kaiser, Eds.), Tokyo: TERRAPUB, 2008.
- [10] S. Diposaptono and F. A. Budiman, *Menyiasati Perubahan Iklim di Wilayah Pesisir dan Pulau-pulau Kecil*, Bogor: PT. Sarana Komunikasi Utama, 2009.
- [11] J. Widodo, *Analisis Kebijakan Publik*, Malang: Bayumedia Publishing, 2009.
- [12] B. Darmawan, *Usaha Pembuatan Pakan Ikan*, Yogyakarta: Pustaka Baru Press, 2001.
- [13] S. McFague, *Blessed Are The Consumers: Climate Change and Practice of Restraint*, Minneapolis: Fortress Press, 2013.