



The Role of Woman in Facing The Impact of Climate Change in Kupang Regency

Mien Ratoe Oedjoe¹, Reny R. Masu², Apriana H.J Fanggalae³, Rolland Epafra Fanggalae*³

¹Faculty of Teacher Training and Education, Nusa Cendana University

²Faculty of Law, University of Nusa Cendana, Kupang, 85001, Nusa Tenggara Timur, Indonesia

³Faculty of Economics and Business, University of Nusa Cendana, Kupang, 85001, Nusa

Tenggara Timur, Indonesia

Email: rolland_fanggalae@staf.undana.ac.id

Abstract

Climate change has an impact that is affecting the availability, resilience and sustainability of human life, especially the family and household. The impact of climate change includes floods, extreme climate in the sea, drought, hurricanes, pests and landslides. In these conditions, the resilience of families and households will be affected, due to the complexity of the problems, which are related to the fulfillment of basic needs, lack of clean water, a problem in meeting the needs for food, economic issues, education and family health issues. In this case, most feel a good woman is a wife and family member; who focuses on family. The purpose of this study was to identify the impacts of climate change on women, their unidentified efforts in the face of climate change impacts, which were identified through the efforts of government policies, programs and activities, facing the impact of climate change, especially for women and developing models in the face of women's empowerment impacts of climate change. This research was related to the role of women in the face of climate change impacts in Kupang Regency and sub-districts of Tablolong and Oesao and these locations have been experiencing frequent impacts of climate change such as floods and extreme climate in the sea. The source of the data used was the results of interviews, questionnaires and focus group discussions (30 women participants) with purposively selected informants based on subjects who mastered the

problems and so on using snowball sampling. While the use of data analysis was to use a combination of quantitative analysis in the form of cross-tabulation and qualitative analysis. The results achieved by women were instrumental in fighting climate change, and still trying to cope with the impacts of climate change. Similarly, the role of central and local government was limited to the policy level and was not optimal in terms of implementation. This was also found in nine component model implementation PUG.

Keywords: Impact of climate change, Role of women

Introduction

Extreme climate change such as floods, droughts, strong winds, landslides, forest fires, drought/lack of clean water, crop failures, extreme weather at sea, alternating diseases, increased crop pests, nutritional and poor children, affect among other things on meeting the needs for clean water, education, health, food security and the economy. The impact of climate change has put human beings in the situation and condition of vulnerability, helplessness and the inability to meet the minimum requirements for living. This is closely linked with poverty, because this is a major problem of development and is complex and multi-dimensional, not only economically but also socially, culturally, politically and even ideologically.

There is talk that the most who feel poverty are women. The domestic activity role of women in society is still embraced by women especially as a housewife, thus carrying out all the activities in the house to meet the needs of families, run by women as a form of women's responsibility and not as a burden. Women's day-to-day activities that are usually done, for example are: looking for clean water, looking for food ingredients, seeking firewood, taking the child to the hospital, buying drugs, and taking care of the education of children.

It is said that "women are extraordinary actors in the face of climate change mitigation and adaptation, at the same applying local wisdom", whereas female gender-based division of

work is entrusted to play a role in domestic activities. Similarly, public activities are an extension of the domestic selling activity in the market e.g. mama catfish. Although men are also experiencing the effects of climate change, it is mostly felt by females. It is recognised that the world and Indonesia, through a commitment to prevent, overcome and rehabilitate the impacts of climate change, have a commitment to the world, including Indonesia. The commitment is realised through the enactment of various laws and agreements on mitigation and adaptation to climate change, and the responsibility of each state to implement them and report the efforts made and the progress and problems encountered, and action plans that have been taken to address the negative impacts experienced. From the description of the commitments and the problems above, it can be said that Indonesia's commitment to the empowerment of the women's role optimally in the face of climate change has not been followed, and it is therefore necessary to study and to find out how the role of women in the face of climate change impacts on this role as a woman, a housewife or head of the family. This will be input in order to find out how women find solutions to overcome the problem of food insecurity, water shortages, crop failures, floods, landslides and other problems as a follow-up due to extreme climate change. This study focused on the efforts made by women to cope with the impacts of climate change, the government's efforts, empowerment models used in playing the impacts of climate change and was formulated with the title "The Role Of Women In Facing The Impact Of Climate Change In Kupang Regency".

Methods

This research has been conducted in the two sub-districts of Kupang Regency - West and East Kupang within the Tablolong village and Oesao village, who had experienced the effects of climate change and extreme floods, droughts and tornados as well as pests on seaweed crops. The research used qualitative methods to describe the role of women in the face of climate

change. Data was collected using study stages of documentation, interviews with informants, focus group discussions (FGD) of 30 women, then processed using the stages of data processing, editing, coding and data tabulating using a simple frequency distribution table.

Discussion

Tablolong Village

Tablolong villagers with a livelihood as fishermen and seaweed farmers cannot be separated from the effects of extreme climate in the sea. From FGD, it was known that seaweed farmers and fishermen suffered and were faced with these problems:

- Extreme climate change causes ocean temperatures to cool down and this will affect the seaweed harvest usually occurring in March to August.
- Seaweed farmers also often have difficulty in obtaining an adequate yield during uncertain climate or the transition season, that usually occurs in September through November. Fishermen would find it difficult to fish due to wind and big waves which did not allow them to earn a living at sea.
- In 2009 until now, pest attacks have occurred on seaweed seeds that caused the decline of income of each family, because the seaweed prices decreased. At this time, farmers and seaweed fishermen cannot work and certainly earned income which could not meet the needs of family life. The problems that arose were food security, education, health, clean water and economic problems.

Because the problem with the domestic role of women is a greater burden required of women as housewives to arrange or manage the fulfillment their needs. The foregoing was supported by the results of a FGD, which provides an overview of the understanding of the role of women that "the majority of people Tablolong was Rote tribe has the same view with the

public at large about the role of women that women are housewives who are fully responsible for the work in the house appliances including caring for and educating children. So that in addressing availability requirements "kitchen" and the care and education of children remains a concern of women as housewives and girls" (FGD dated 16 April 2015).

Description of food security issues

The adequacy of food security is evidenced by the availability of staple food for the family. If the availability of staple food meal replacement cannot be reached, there are difficulties in obtaining replacement staple foods. In the event of a disaster at sea and extreme climate pest infestation on sea grass communities, especially women, revealed that meal replacements are not available and difficult to obtain (100 %). The difficulty can be overcome by a variety of efforts including the use of local wisdom contained in the community which can be cultivated through a close family.

In addition, women who manage food for family members assume that it is the duty of a mother to seek food stuff staple food replacement if the normal food is not available. This is because women always have the ability to provide a home, for example barns provide dried fish, corn, sweet potatoes, *lu'at* and starfruit dried. The role of women was supported by data showing that the decision-making regarding the food that will be consumed. 80 % percent of respondents answered that the mother has a role, 3.33 % said the father makes the decisions and 16.67 % said that the father and mother are equally responsible for taking decisions about the foods that they will consume. In addition to the claim for the role of women in the domestic sphere, it can be seen also on the data that as many as 93.33 %, said the women who play a role in food processing and 6.67 % said that men play roled in food processing.

From the aspect of food security indicators in the test division of roles, the role of women in Tablolong village was very dominant when materials feed in the management of the

household, while in search of food problems, there are similarities between the roles of women and men in the family. Women are still given a dual role in terms of food security, namely women/mothers for food processing and decision-making power regarding foodstuffs to be consumed, while men have a role in getting the food.

Aspects of the availability of clean water

Measurement of respondents' opinions on water availability to community needs: The need for water in Tablolong village can be resolved because in general there are wells in each household. Data has pointed out that of 30 households only 1 household does not have a well, which amounted to 96.67 % who have wells. The existence of these wells will help women to control and manage the household. The above data suggested that despite the extreme climate, it does not affect the availability of clean water, because as many as 30 people (100%) replied that the water remains available in the wells with water debit adequate and that it is not difficult to reach the water source. One (3.33 %) had difficulty in reaching the water source.

Aspects of clean water in the Tablolong village was not an issue in the lives of local people. However, the role of women in water use is still limited in household consumption, while the use of water for agriculture is still lacking, which according to our observations on 16 April 2015 can not find a family farm run by women. Water use by women to water their plants in the agriculture sector was very limited due to factors of agricultural knowledge by women and the factors of inadequate soil structure. Additionally, intervention/attention of the government in matters of agriculture in Tablolong village is also rare.

Aspects of Health

In the season where Tablolong village can not go to sea and seaweed can not grow, causing income seaweed farmers and fishermen to decline, the consequences are very complex,

where the need for health care becomes impaired. The availability of drugs for sick family members, access to the nearest doctor or health care requires a sufficient budget. If access to health care and medicine is not possible, then an alternative treatment can be obtained through traditional medicines that have been believed to provide health benefits for the local family. However, it should be cultivated by planting their availability of medicinal herbal plants at least in their yard.

The data we obtained provided an overview of the availability of drug conditions and difficulty getting care physicians as well as the use of traditional medicine, if the family can not seek services and medical drugs. In fact, as many as 60 % said there was no available cure for a sick family member and 40% claimed to have the availability of medicines when there was an ill family member. Housewives/women mixed their own traditional medicine using medicinal plants and this was one of the skills of a housewife/Tablolong rural women. 80% of respondents said traditional medicine was not difficult to reach and easy to mix because it has been used for generations and could be obtained at the locations around the village or purchased in the market at low prices. Data on care for sick family remains the responsibility of women at 53.33 %, who stated that the decision to consult a family member who is ill was the mother/female, while 6.67 % said the father/man took the decision to check their sick family members. 40% stated that providing care for sick family members were mothers, 23.33 % stated that providing care for a sick family member was the father and mother, 20 % said other family members who provide care when there was a family illness and 6.67 % said that providing care for a sick family member was the father/ man.

Aspect of Education

Data obtained regarding the education sector showed that the level of higher education such as junior high and high school, the male/man number was higher than the number of

women/mothers. The gap between the education gained in men and women based on the understanding that although there is a greater chance that school girls, rather than boys, would be homemakers who help their husbands manage the household, the role of the main livelihood was in the hands of the husband. Husband and wife were responsible for the child and family and should receive proper education in a supportive role for living.

Efforts made by Women

Based on the results of focus group discussions, interviews and observations of the research team, there were efforts made by Tablolong rural women in the face of climate change, even if the women did not know what was meant by the concept of climate change, much less knowledge about the serious impacts of climate change in the form of natural disasters. But based on their experiences, women can know the signs of change of climate.

Based on the entrenched gender roles that women are responsible for ensuring the fulfillment of the needs of the household, the basic needs mentioned includes:

- Availability of clean water: including reduced water debit, dry wells, the long dry season;
- Economy:
 - the seaweed harvest was reduced, storms at sea disturbed the catch so that it is reduced,
 - the seaweed pest, fishermen cannot go to sea, trade to make ends meet.
- Health:
 - breathing disease (Ispa) for children and society,
 - malaria,
 - diarrhea,
 - mother mortality,

- child mortality, and
- reduction in plant species commonly used for traditional medicine.
- women are trying to get a card of community health, *askeskin*, *Jampersal* and utilise traditional medicines for the benefit of family health.
- Education:
 - there were illiterate people, especially women, but there was a willingness to participate in non-formal education organised by the local government, religious institutions and NGOs.
 - women of childbearing age and parents permit their child to attend school in the city/county/province with family or guardian.
- Food security: they always provide food to keep stock (barns) for a family, such as potatoes and beans, so the number and variety of foods can be assured.

Government Efforts

The government recognised that the need to give special attention to women and marginalised groups, through the enactment of Presidential Decree No. 9 of 2000 on gender mainstreaming, Governor Decree No. 8 of 2001 on mainstreaming at the provincial level and NTT Governor Regulation No. 14 of 2008 on the implementation of gender mainstreaming in every environment on education in ENT subsequently been accommodated in RPJMP, RPJMD ENT province.

Although in the RPJMD and Strategic Plan and Work Plan, both central and local government have stated policies/programs in the face of climate change, especially for women and children, so too it has accommodated through *Musrenbangdes/lur* but on the fact that occurs in the field of policies/the government program was not maximised or implemented. This means

that the central government and local efforts in the face of climate change was still at the level of policy/program alone and has not been optimally implemented. This is evident from the results of FGD (16 April 2015) and interviewed with villagers in Tablolong village and field observation which showed that:

1. In the tornado disaster in 2011, there was no assistance from the government to Tablolong village; the main political problem was an indication that no assistance was given.
2. Tub shelter, assisted only by PNPM Mandiri in 2011.
3. Yet focused economic empowerment of women as small loans to village women in Tablolong village which has the potential impact such as beach tourism and seaweed breeding efforts that contribute to the rural economy and the Tablolong village.
4. Yet focused capacity building for rural communities, especially women of the PKK in Tablolong village.
5. Women were less involved in decisions concerning the management of relief and empowerment, while women were known to be those most vulnerable to climate change impacts associated with clean water, household food security, family health, education and economic activities of the family.
6. Less in the planning, preparation and community empowerment.
7. Less synergistic coordination among government agencies, the public and the private sector and academia.
8. Assistance only repressive/temporary.
9. Yet met the strategic needs of women in the long term

Oesao Village

Residents in the Oesao village most have worked as farmers and they need adequate water to irrigate their rice field. With rain-fed irrigation systems and artificial dams, farmers can irrigate their rice fields that can be harvested twice a year. Additionally, harvested rice fields that have been completed can be used to grow other crops, both vegetables and maize. Livelihood based on agriculture has benefited farmers and communities in and around the Kupang City. The need for clothing, food and strengthening family economics will always be met and sustained. Strengthening the capacity of women through the acquisition of non-formal education opportunity was always open for access by women; a child's future can be met through education, access to health services accessible and easy to obtain. However, the situation and the conditions experienced change with the natural disasters that cannot be avoided, such as drought, erratic monsoon rains, floods, whirlwinds and ever experienced pressure to residents in all aspects of life. (Interviewed on 22 October 2013), including the absence of clean water, dwindling food and clothing fulfillment, malaria, limited access to education, and loss of income sources. In Oesao village when natural disasters occurred as a result of climate change, they hit rural communities especially women so very hard, making it difficult to meet all the needs of family life and the household. (FGD, dated October 22, 2015). FGD was known that the farmers in the Oesao village were faced with several problems:

- The rainy season can not be predicted accurately; usually the rainy season led to calculations based on local knowledge as the basis for planting, which is no longer appropriate, as it has an impact on crop failure.
- Drought hit farmers' rice fields due to erratic rainfall, while rice farmers rely heavily on rainfall and rain-fed dams availability.

- Changes in the rainy season with a very large rainfall caused flooding and waterlogged rice fields; rice paddies could not be planted, crop yields were inadequate, and this effected domestic economic resilience and meeting the needs for food, education and health.

Aspects of Food Security

Aspects of food security in question is a shortage of staple foods. For villagers in Oesao village, staple food was rice, paddy rice production to meet the needs of the household during the waiting period following planting. Moreover, it can be sold in the form of rice to the market to get money for day-to-day interests and other strategic interests, namely education and health of family members. In the Oesao village community, in addition to the staple food of rice, people also grow potatoes, and corn was the staple food, although not yet planted for additional food consumption and for sale to the market. Therefore, in the event of a natural disaster, flood, wind, drought and whirlwind, villagers in Oesao village had no trouble getting food instead of rice. The choice of meal replacement food staples can also be obtained by eating bananas, which are widely planted in the yard of society (Observed on October 22, 2013). Food security indicators were measured by the availability of staple foods, meal replacement consumed, food availability and the difficulty of obtaining replacement in the event of a flood and tornado. The data obtained indicated that as many as 30 people (100 %) of the respondents said that in the event of a tornado, the family found that it was not difficult to provide staple foods such as rice, because every household still had rice coupled with the help of local government, so that people could consume staples as staple food. Every household problem was the difficulty to repair the damage to his house (FGD, October 22, 2015).

Meanwhile, for people who experience catastrophic flooding, it was difficult to obtain and provide the staple food for daily consumption, because of flooding and a prolonged growing

season that is targeted twice; this can not be achieved, so that the availability of rice for consumption for one year was reduced, even discharged. A total of 30 people (100 %) suggested that they may seek food substitutes, such as potatoes, corn or bananas and had no difficulty in working on. Women as mothers in the household have a major role in getting a meal replacement for household members. Availability of food instead of rice in the community helps ease the burden on families, as 30 respondents (100 %) said that it was not difficult to obtain and provide a meal replacement.

Women have a supply of food with a storage system that is located in the "attic" near the fireplace or in a high place to maintain the quality and durability of corn from various attack damage. Model availability at the household granary (saving staple food) helps families in the transition season or in the event of a natural disaster. The dominant role of women is in food security and food processing. The data obtained showed that when making decisions about food that will be consumed, 76.67 % of the respondents answered the father has a role, 20 % stated that mother makes the decisions and 3.33 % stated that she is equally responsible as the father for decisions about food that they will consume. A total of 53.33 % said that the availability of food was for mothers to find, 26.67%, and 20% said that it was for both father and mother. Besides the role of women in the domestic sphere, it can be seen also on the data above that as much as 80 %, said the women play a role in food processing, 6.67 % said that men and women together play a role in food processing while 13.33 % declared the male role in the processing of food for family consumption.

Availability of Clean Water

The need for water in Oesao village can be resolved because in general there are wells in each household. Data has pointed out that of 30 households only 10 % of households do not have wells, which amounted to 90.00 % who have wells. The existence of this well helps women

to control and manage the household. The data obtained suggests that, although there are cyclones, they do not affect the availability of clean water. 96.67 % responded that water remains available in the well with sufficient water debit, supported with 86.67 % of government it was not difficult to obtain clean water. In addition, there was 83.33 % in which the well is not far from the location of the household, so it was 96.67 % expressed that it was not hard to reach a water source, such as a nearby spring. During the floods, people have difficulty accessing clean water because water wells owned could not be used to meet the need for clean water, and how to deal with it was to take water directly from the spring at a place that did not experience catastrophic flooding (interviewed on October 21, 2015).

Aspects of Health

One of the effects experienced by people in the flood season tornado was the disruption of public health with a variety of diseases. Disease that was often experienced by people was malaria and dengue fever, cough, runny nose and respiratory distress, diarrhea and vomiting. The disease occurs in the rainy season and when the water was not receding due to rain and flooding. (interviewed October 22th 2015). Health aspects of drug availability was measured with the family, use of traditional medicines, difficulty obtaining the drug from a doctor, and difficulty obtaining traditional medicine. The data obtained provide an overview of the condition of the availability of drugs and the difficulty getting care physicians as well as the use of traditional medicine if the family can not seek services and medical drugs.

In fact, as many as 96.67% said there no available cure for a sick family member and 3.45% has declared the availability of medicines when a family member was ill. Seeking treatment from doctors and traditional medicine could be a way out of health problems for the family; as much as 100% stated that it was not difficult to obtain medication from a doctor, this was because there were currently health insurance programs of the government and supported by

access to a health centre or an easy *pustu* reached by the community (interviewed on 22 October 2015). In principle, women care for sick family members. Data were obtained that 60% stated that the decision to consult a family member who was ill was the mother/female, while 3.33% said the father/man who took the decision to consult a sick family member and as much as 36.67% stated father and mother equally made the decision. This amounted to 73.33 % who stated that providing care for sick family members are mothers, and 26.67% stated that providing care for a sick family member was the father and mother. Processing of documents related to the issue of health programs, as much as 63.33% was taken care of by the mother, 30.00% said both father and mother were both instrumental and 6.67% taken care of by father. Thus, the role of women in the health aspect was very dominant; it was related to the role of women that was constructed by society as caring, serving, seeking fulfillment of eating and drinking to avoid members of the family becoming sick.

Economic aspects measure respondents' opinions on a second job alternative in the event of a disaster at the time, can be seen in the table below which gives an overview of current work done on flood, all farmland being inundated. During that time the farmers were not able to carry out a job working on the rice field. To help meet the needs of women, farmers often seek other jobs of making cakes, and frying corn for sale on the market. In addition, they can be working in paddy fields belonging to the village which did not experience flooding. A total of 63.33% said that they were looking for a second job replacement for the main job. The purpose of looking for a second job is to meet their daily needs. A total of 76.67 % revealed that they needed a second job to help meet the needs of everyday life during the flood. The role of women in productive economic activity is still limited to the selling of agricultural produce in the market, while the decision becomes productive dominant by male authority. While the role of women in the dominant economic variables is the financial manager in the family, but not the main breadwinner. Limited access of women in the public sphere was conditioned by society's view is

that the role of women was in the domestic sphere and the role of men was making a living in the public domain. The data in the table above give firmness to the view that it was essentially the view of the people who played roles who still follow the views of the public at large, but it does not mean women/mothers were not given the opportunity to assist the man. A total of 100% stated the role of women was in the domestic sphere and the role of men was for giving a living finance for education in a child's life.

Aspects of Education

The role of women in the Oesao village in children's education was also very large. The data in the table below gives the answers that the role of the father and mother is as much as 100% to determine the child's future through education. In the Oesao village all children were given the opportunity to attend school. Here, although the decision to send children with the highest percentage of decisions taken over by the father, yet according to the results of FDG, it said that managing the needs of a child at school is in the hands of the mother. Problems in meeting the needs of school children go to the attention of the mother. How to manage a limited budget during floods and tornados will give an additional burden to the mother to seek alternative funding to finance the needs of school children. The data obtained showed that the father took the decision to send the child to school, and all children, both men and women are given equal opportunity for education. But the mother always prepares the child and makes the child follow the teaching and learning process in schools. The efforts of women were based on the results of focus group discussions, interviews and observations of the research team, as well as Tablolong village and Oesao village. These also showed the efforts of women in the face of climate change, even if women do not know what was meant by the concept of climate change impacts, much less knowledge about the impact of climate change, which is a serious form of natural disasters. But based on their experiences, women can know the signs of climate change.



According to entrenched gender roles, women were responsible for ensuring the fulfillment of the needs of the household. Basic needs mentioned include: the availability of clean water include reduced water debit, murky well water, the dry season and the rainy season was difficult to predict; associated with the economy, there was a reduced harvests, floods, hurricanes, droughts which caused crops to be reduced, causing hardship to women who trade with farmers to make ends meet; associated with health, breathing disease (*ispa*) for children and society, malaria, diarrhea, mother and child mortality, and reduction in plant species commonly used for traditional medicine. Women were trying to get and always use a public health card, *Askeskin*, *Jampersal* and utilise traditional medicines for the benefit of family health. Related to education, there were illiterate people, especially women, and children who have not had access to education, although there is a willingness to participate in non-formal education organised by the government, religious institutions and NGOs.

In addition, women of childbearing age and parents permitted their child to attend school in the city/county/province with family or guardian. Related to food security, they always provide food to keep stock (barns) for a family, such as potatoes and beans, so that the amount and variety of food can be guaranteed. However realising the role of rural women, Oesao village was not optimal by the following factors, namely: 1) Low female education. There was a gap between men/father education and women/mothers. The gap between the education gained in men and women based on the understanding that although the number of school girls was higher than boys, the girls would be homemakers who help their husbands manage the household, leaving the role of the main livelihood in the hands of the husband. Husband and wife were responsible for their child and family and should receive proper education in a supportive role for living. Women were considered to play a role in managing the household and taking care of the needs of males/men and children. 2) In Oesao village, some village women feel resigned to the current condition she is living in. Moreover, she is facing the double burden due to the

impact of climate change. Government efforts : The Government recognises that the need to give special attention to women and marginalized groups through the enactment of Presidential Decree No. 9 of 2000 on gender mainstreaming, Governor Decree No. 8 of 2001 on mainstreaming at the provincial level and ENT Governor Regulation No. 14 of 2008 on the implementation of gender mainstreaming in every environment on education ENT, subsequently having been accommodated in RPJMP, RPJMD ENT province.

Although in the RPJMD and Strategic Plan and Work Plan, both central and local government have stated policies/programs in the face of climate change, especially for women and children, so too it has accommodated through *Musrenbangdes/lur* but in the fact that occur in the field of policies/the government program was not maximised or implemented. This means that the central government and local efforts in the face of climate change was still at the level of policy/program alone and has not been optimally implemented. This is evident from the results of FGD (October 22, 2015) and interviews with villagers in Oesao village and field observation results showed that: 1) At the time of the tornado disaster, no help was given by the government in the village of Kupang district Oesao, in accordance with the needs : people need building materials to rebuild shattered homes and given rice aid. 2) Shelter assisted is not permanent 3) Yet optimal economic empowerment of women as small loans to women in Oesao village. Though the village has the potential, Oesao business in the domestic economy contributed increased income for rural communities and the government of Oesao. 4) Yet optimal capacity building for rural communities, especially women of the PKK. 5) Women were less involved in decisions concerning the management of relief and empowerment, while women were known to be those most vulnerable to climate change impacts associated with clean water, household food security, family health, education and economic activities of the family. 6) Less in the planning, preparation and community empowerment. 7) Less synergistic coordination among government agencies, the

public and the private sector and academia. 8) Assistance only repressive/temporary. 9) Yet meet the strategic needs of women in the long term.

Models Role of women in the face of climate change impacts:

Model of women's empowerment in the face of climate change put forward by the components of the implementation of Gender Mainstreaming (PUG): In terms of implementation, it appears that the components used for the empowerment of the women's role in dealing with the impact of climate change. The implementation component of the role of women in the face of climate change were: 1. Good will. 2. Rules. 3. Human Resources/Task Force. 4. Fund emergency response. 5. Facility. 6. Coordination between government, private and community. 7. Empowerment of women. 8. Empowerment Society (society should be independent in facing climate change. 9. Responsible Sector and Location Map Unidentified 9 Component Implementation PUG that had been applied in the impact of climate change. There were five components available and can be used to deal with the effects of climate change, in this study conducted in the Tablong village and the village Oesao village. The components were available: the rule of law which has been set up to the level of East Nusa Tenggara Governor Rule, the component that was the formation of a task force of reference, the reference basis of good will/commitment of the government, and the enactment of handling the problem of climate change funds. There were four components that needed to be taken to ensure that the handling of climate change impacts were not gender-neutral or gender-responsive but sided with the problems and needs of both men and women chiefly for improving the role of women in the face of climate change impacts in the two target villages. Based on the explanation above, it can be argued that females are role models in the face of climate change, as shown in Figure 1 and 2.



Figure 1. PUG The implementation component of the role of women in the face of climate change

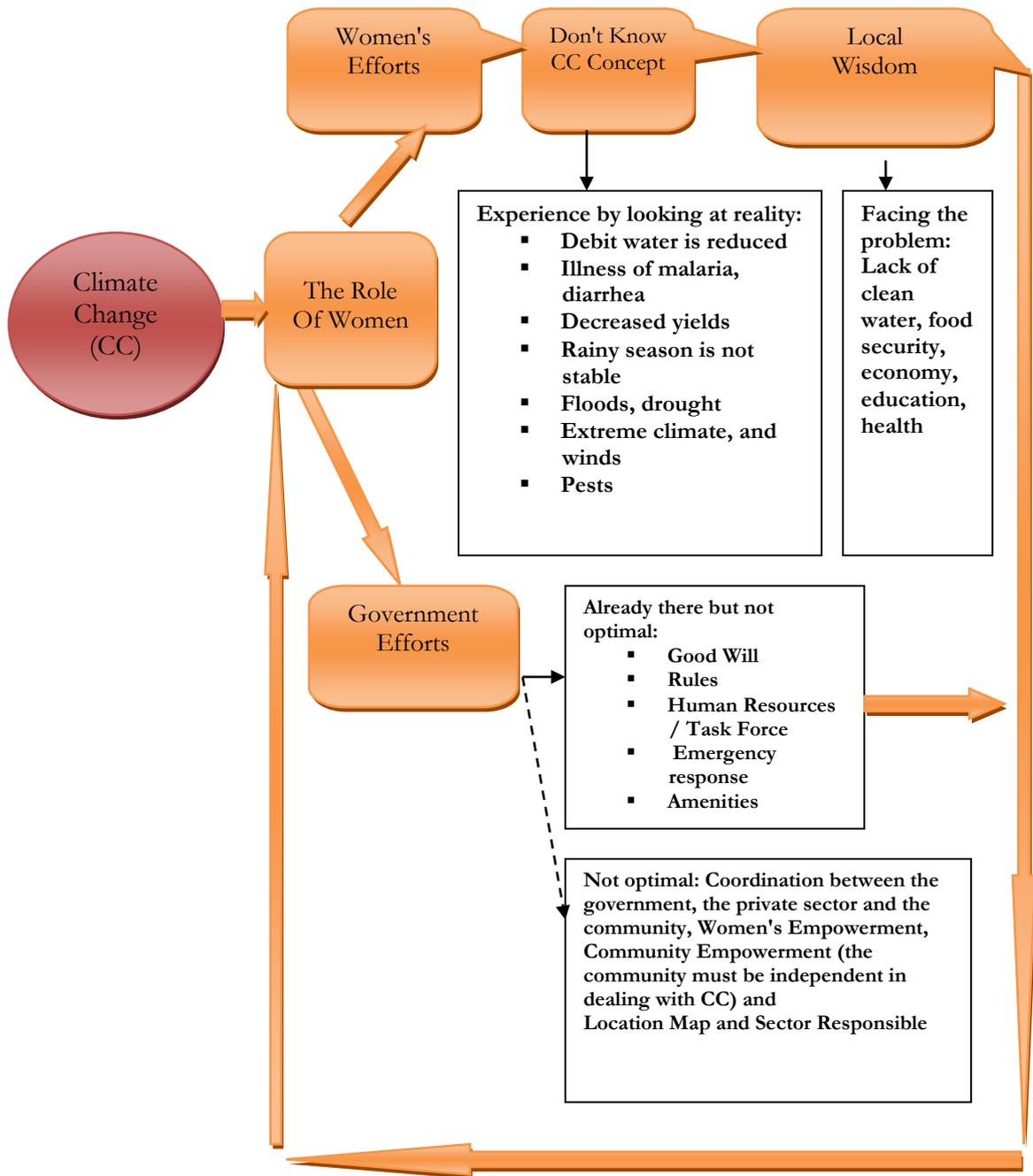


Figure 2. Model the role of woman in facing the impact of climate change

Conclusions

Of the overall problem and the results, it can be concluded that Tablolong village community as a coastal village whose main occupation as fishermen and seaweed farmers, cannot be separated from the impact of climate change in the form of extreme climate, pests on seaweed, sea water



temperature which always turns into a problem for their lives and sustainability of life. Follow-up problems that are directly related to extreme climate impacts on the sea are problems of food security, education, health, the availability of clean water, and the role of women. Women play an important and primary role in managing household needs and problems faced in the household; this role is not followed by access and views that can provide interventions in terms of adaptation including prevention, handling and rehabilitation of the impacts of climate change for women.

Suggestions

Intervention programs and activities that can help women manage households in extreme climates need to be given so that the sustainability of household life is not neglected.



References

- Dwi Astuti Ismi, dkk,ed, 2011, Pergeseran Paradigma Pembangunan Pemberdayaan Perempuan Menuju Pengarusutamaan Gender, Cakra Book –Solo Maret 2011
- Forum masyarakat sipil untuk Keadilan Iklim, “Keadilan Gender dalam Keadilan Iklim”, Januari 2011
- Fakta-Fakta Perubahan Iklim, www.suprememastertv.com/ina/climate-change-kit
- GIZ, “*Development of a Gender Concept for the Forests and Climate Change Programme (FORCLIME) in Indonesia*” Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Forests and Climate Change Programme (FORCLIME), Januari 2011
- Ketinggian Muka Laut Di Wilayah Banjarmasin”, Jurnal Ekonomi Lingkungan Vol.12/No.2/2008
- Nur Alami, Athiqah. ‘Perempuan dan Dampak Perubahan iklim’ (portal Prakarsa Rakyat atau www.prakarsa-rakyat.org. 22 januari 2010)
- Nurdin, SP, MSi, “Antipasi Perubahan Iklim untuk Keberlanjutan Ketahanan Pangan” Jurnal Dialog
- REDD.Net, “Gender dan REDD+”, Bulletin REDD-Net Asia-Pacific Edisi 04 - Mei 2011
- Surjono, Gunanto, “Korban Kebijakan Sosial Penanggulangan Bencana Alam kekeringan Study Kasus di Kabupaten Grobogan Jawa Tengah”
- Susandi, Armi.Dkk, “ Dampak Perubahan Iklim Terhadap Dampak Perubahan Iklim Terhadap Ketinggian Muka Laut Di Wilayah Banjarmasin, Jurnal Ekonomi Lingkungan Vol.12/No.2/2008
- Sosial Ekonomi Pertanian Indonesia, Artikel ‘Dampak Perubahan Iklim Terhadap Pertanian’.
- Tim Sintesis Kebijakan, “Dampak Perubahan iklim terhadap Sektor Pertanian, serta strategi antisipasi dan teknologi adaptasi”, Jurnal 138 Pengembangan Inovasi Pertanian 1(2), 2008



International Journal of Innovation, Creativity and Change. www.ijicc.net
Volume 5, Issue 3, 2019 Special Edition: *Science, Applied Science, Teaching and Education*

The Work Bank, Laporan “Adaptasi terhadap Perubahan Iklim”, Kebijakan Publik, Edisi 4/

November / 2011