

**HYBRID NON-GOVERNMENTAL ORGANIZATIONS (NGOS): STUDY OF THE MANGROVE FOREST REHABILITATION PROGRAM IN INDONESIA BY THE BLUE FOREST****Aswin Baharuddin<sup>1\*</sup>, Adelita Lubis<sup>2</sup>, Mia Aulina Lubis<sup>3</sup>, Aprilia Utami<sup>4</sup>, Khatibul Umam<sup>5</sup>, Faturrahman<sup>6</sup>, Ulfa Yunita<sup>7</sup>**

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**Abstract**

This study aims to analyze the strategies and implications of implementing a mangrove forest rehabilitation program carried out by a Non-Government Organization, namely Blue Forest. To analyze the problems in this study Green Perspectives and Hybrid NGOs are used. This research was conducted in 2017 and took locations in Makassar and Takalar. This study uses a qualitative approach and data collected through interviews, literature studies and document review. This research found that in realizing its objectives, Blue Forest combines policy advocacy and direct action to rehabilitate mangrove forests with the community.

**Keywords:** Mangrove Forests, Hybrid NGOs, Blue Forest, Indonesia.

**INTRODUCTION**

The latest UN report in 2019 shows that the pace of global warming is increasingly worrying. The report explains that despite global commitments through the Paris 2015 agreement, the facts show that carbon dioxide grew by two per cent in 2018, reaching a record high of 37 billion tons. One of the causes of this problem is deforestation of mangrove forests. Mangrove or mangrove forests are a combination of terrestrial and marine ecosystems that form a unique ecosystem in the coastal region. In other words, mangrove forests can also be said as coastal forests. This ecosystem is also one of the essential natural resources for humans and the environment. Mangroves can be a place to provide food for marine ecosystems, stabilize the coast, reduce the effects of storms and tsunamis, to become a carbon storage area such as tropical forests. As an archipelagic country, Indonesia is one of the countries with the most extensive mangrove forests in the world.

Indonesia's position is strategically globally related to the mangrove forest ecosystem. The total area of Indonesia's mangrove forests is recorded around 3 million hectares and is equivalent to 23 per cent of the world's total mangrove forests. The mangrove forests are spread in the regions of Papua, Sulawesi, Kalimantan and Sumatra (Giri et al., 2011). In the tropics, mangrove forests are forests with the highest carbon content. Mangrove forests are estimated to store more than three times the average carbon per hectare of terrestrial tropical forest (Donato et al., 2011). Other research shows that Indonesia's mangrove forests store five times more carbon per hectare compared to highland tropical forests. Furthermore, Indonesia's Mangrove Forest stores around 3.14 billion metric tons of carbon (PgC) (Murdiyarso et al., 2015). This amount covers one-third of global coastal carbon stocks (Pendleton et al., 2012).

Based on data from the Food and Agriculture Organization (2007), over the past three decades, Indonesia has lost 40% of mangroves (FAO, 2007). The data makes Indonesia the country with the fastest rate of deforestation in the world of mangrove forests. Deforestation of Indonesia's mangroves accounts for 6% of total annual forest loss, although it only covers less than 2% of the country's total forest area. This amount is equivalent to 0.05 million hectares (Mha) of a total of 0.84 Mha of annual deforestation in Indonesia (Margono et al., 2014; Ministry of Forestry Republic of Indonesia, 2014). Mangrove deforestation is estimated to be the cause of the loss of 190 million metric tons of CO<sub>2</sub> equivalent each year. This figure accounts for 20% of land-use emissions in Indonesia. The loss of mangrove forests in Indonesia contributes 42% of greenhouse gas emissions due to damage to coastal ecosystems, including swamps, mangroves and seaweed (Murdiyarso et al., 2015; Pendleton et al., 2012).

Damage to mangrove forests in Indonesia is caused by the activities of changing the function of mangrove land into ponds, settlements, industry, and so forth. Rehabilitation of mangrove forests by replanting mangrove seedlings can be said to be not proportional to the rate of mangrove damage. Lack of attention to aspects of mangrove sustainability in managing its ecosystem is also another cause of mangrove damage. The decline in the area of mangrove forests and the difficulty of rehabilitation indicate the severity of mangrove ecosystem degradation.

The ongoing degradation of mangroves and becoming increasingly complex, as well as the impacts that are increasingly able to be felt directly, have encouraged government awareness to pay more attention to issues of mangrove degradation. The Government of Indonesia has developed and implemented programs oriented to mitigating environmental

damage, in this case, mangroves, mitigation and prevention of damage. Along with the complexity of the existing problems, the government is not able to be the only entity that seeks to overcome the damage. This is due to the limited resources that are not directly proportional to the damage that is getting worse. The limitations of this government gave birth to an alternative organization that also paid attention to the issue of environmental damage, in this case, the alternative organization referred to was in the form of Non-Governmental Organizations (NGOs), namely non-profit organizations that are not bound by government structures. NGOs, as alternative organizations, also bring alternative methods in dealing with the issue of environmental damage.

This research aims to analyze the strategy and Blue Forest transnational coalition in responding to the problem of mangrove forest deforestation in Indonesia. Blue Forest has a mission to create social, economic and ecological resilience in watersheds from mountains to the sea. More specifically, this study aims to analyze the characteristics of NGOs in rehabilitating mangrove forests in Indonesia.

## **LITERATURE REVIEW**

### **Environmental Degradation in a Green Perspective**

Environmental degradation is defined as an environmental condition that experiences a decrease in quality caused by development activities which are characterized by the malfunctioning of environmental components as they should. Environmental degradation is basically caused by excessive human intervention or interference with the natural existence of the environment. Human activities in utilizing natural resources as a source of livelihood began to receive attention since these activities have an impact on the environment. The downturn that was left by the world war made the countries have the intention to rise from the downturn, especially the third world countries which intensified industrialization in sustaining economic stability. Industrialization, which presents multinational corporations, also produces pollution and hazardous waste for environmental health. Reflecting on this condition, came environmental movements whose scope was more modern in the 1960s. (Greene, 2001, pp. 387-414) As the level of environmental pollution deteriorated, these movements gradually became radical in the 1970s. Finally, during an open debate about the perspectives of

International Relations in the 1980s, the Green Perspective emerged as an alternative perspective with the environment as the agenda and focus of the study.

Green perspective, giving birth to green thoughts (green thoughts) that identify the damage or environmental degradation with environmental exploitation activities and pay attention to the environment as a global problem (Steans, Pettiford, & Diez, 2005, pp. 203-228). In the green perspective, human anthropocentricity is considered as the source of all problems of environmental degradation. Human activities, especially the exploitation of environmental resources, only benefit humans and only leave environmental damage that includes other aspects of human life safety. Environmental degradation can be minimized through coordinating policies through various collaborative schemes, uniting solidarity, involving various parties including state and non-state actors in providing understanding to humans about the impact of environmental exploitation that over the threshold will have an impact on the environmental damage which in the effort to repair it takes time with adequate financial support (Erwin, 2008).

### **Hybrid NGOs**

Non-Government Organization (NGO) or non-governmental organization is a group or organization that does not aim to seek profit or profit but to achieve collective interests. NGOs carry out voluntary activities organized at the local, national and international levels. In carrying out its programs, NGOs are always oriented towards shared interests. In addition, NGOs also carry out various services and humanitarian functions, voice the aspirations of the people towards the government, monitor public policies and encourage people to participate more in politics (Yaziji & Doh, 2009). Another definition of NGO is a non-profit organization that aims to serve the particular interests of the community by focusing advocacy and operational efforts towards social, political and economic goals, including justice, education, health, environmental protection, and human rights (Teegen, Doh, & Vachani, 2004). NGOs are organizations that are independent or free from government intervention. Therefore, NGOs rely on funding from the private sector, which has the same vision as the NGO itself.

According to Yaziji & Doh (2009), the role of NGOs, based on their activities, can be classified into three types, namely Advocacy NGOs, Service NGOs, and Hybrid and Evolving NGOs. First, Advocacy NGOs are NGOs that work to promote social, economic and political systems and promote a set of interests or ideologies. Advocacy NGOs voice and provide

institutional access to promote social benefits and / or reduce the negative impact of other economic activities. Advocacy NGOs can be divided into two groups, namely "watchdog NGOs" and "social movements". Watchdog NGOs are organizations that work only to the level of supervision. Generally, these organizations agree on broader economic, legislative and social institutions. As such, NGO watchdogs only function to monitor and ensure that the system is operating as it should. While the Social Movement NGOs want a change in the system that is considered not in accordance with the interests of the community.

Second, Service NGOs are organizations that provide services to the community in the form of goods or services, especially in the humanitarian field. This NGO was formed as a response to the political crisis, the high level of corruption and debt in a country, and global problems that cannot be handled by the state itself. Examples of service NGOs include Red Cross / Red Crescent, natural resources monitoring by WWF, and distribution of drugs through Doctors Without Borders.

Third, Hybrid and Evolving NGOs are a combination of advocacy and service NGOs. One example is NGOs in the field of environmental conservation. With regard to environmental conservation, this NGO describes the relationship between civil society, social movements and the emergence of various types of NGOs. In environmental issues, the role of NGOs is not only limited to being an agent who criticizes and demands recognition of the issues and actions were taken but also acted as a partner in building cooperation. In general, there are three environmental NGO groups, first, campaigners who are environmental NGO groups that are known by the wider community and have a direct relationship with the community. Second, think-tank groups or organizations consisting of scientists and professional analysts. In general, this group is directly involved in the formulation of policies on specific issues from the private sector and government through technical dialogues. Third, business alliance groups. Environmental NGOs included in this group represent the interests and perspectives of specific business communities (Gough & Shackley, 2001).

## **METHOD**

Problems that will be studied by researchers are social and dynamic problems. Therefore, researchers chose to use qualitative research methods to determine how to search for, collect, process and analyze the research data. This qualitative research can be used to

understand social interactions, for example, by in-depth interviews so that bright patterns will be found. Theoretically, the qualitative research format is different from the quantitative research format. The difference lies in difficulty in making qualitative research designs because in general qualitative research is not patterned. The qualitative research design format consists of three models, namely graphic format, verification format, and grounded research format. In this study used a qualitative method with descriptive design, which is research that gives an accurate description of an individual or group about the circumstances and symptoms that occur.

Furthermore, researchers will provide a crisp picture of the phenomena that occur regarding the effectiveness of the Blue Forest Coastal Ecosystem Resilience Program in the Tanakeke Islands. Furthermore, qualitative research, according to Moleong (2007: 6) is research that intends to understand phenomena about what is experienced by research subjects such as behaviour, perception, motivation, action, etc. Holistically, and by way of description in the form of words and language, in a particular natural context and by utilizing various natural methods. According to Bogdan and Taylor (1975) quoted by Moleong (2007: 4) suggested that qualitative methodology as a research procedure that produces descriptive data in the form of written or oral words from people and observable behaviour. Qualitative research aims at obtaining a complete picture of a matter according to the personal point of view studied. Qualitative research is related to the ideas, perceptions, opinions or beliefs of the people studied, and all of them cannot be measured by numbers. In this research, the subject of the study was the Non-Government Organization (NGO) named Blue Forest, represented by Ratnawaty Fadhillah, Livelihood Manager of the NGO itself. Moreover, the object of research is the effectiveness of the Blue Forest Coastal Ecosystem Resilience Program in the Tanakeke Islands.

In this study, the researchers used data collection techniques carried out using interview techniques and library research. The interview technique was carried out using a semi-structured type of interview. To avoid losing information, the researcher asks the informant for permission to use a recording device. Before conducting in-depth interviews, the researcher explains and gives a brief and clear overview and background of the research topic. There are also techniques for collecting data by examining the literature relating to the problem being investigated in the form of books, journals, reports, newspapers and articles on internet sites.

These materials will be obtained through agencies such as Blue Forest and the official website of the relevant agencies.

The type of data that will be used in this study are primary and secondary data. Primary data from this study was conducted by conducting direct interviews with the resource person, namely Ratnawaty Fadhillah, Blue Forest Livelihood Manager whereas secondary data was obtained through various sources such as books, journals, newspapers and internet sites. There are also documents and reports published by Blue Forest. The data referred to here is in the form of reviews, profiles, chronology and statistics on the programs of Rehabilitation, Resilience, Environmental Education and Sustainable Livelihoods from the Blue Forest.

The author uses qualitative data analysis techniques, namely by drawing conclusions based on the facts that exist and the relationships and patterns found in these facts. As for quantitative data, in this case, statistics, are supporting data used to clarify and strengthen the qualitative analysis. The author uses the deductive writing method, which is first to describe the problem in general, and then explain it into a specific conclusion. The author will describe the development of the Coastal Ecosystem Resilience program so that it has an impact on mangrove rehabilitation in Tanakeke Island, Takalar, Indonesia. After that, the writer will draw specific conclusions related to the implementation of the program, its successes and challenges.

## **RESULT AND DISCUSSION**

Before Blue Forest, this organization was known by the name of the Seaweed Root Foundation and later developed into the Indonesian Mangrove Action Project (MAP). MAP is part of a transnational institution based in the United States and has networks in several countries, such as Thailand, Bangladesh, and Indonesia. MAP activities in Indonesia were pioneered by Benjamin Brown in 2003. As an initiator, Benjamin Brown actually had activities in mangrove rehabilitation in Indonesia in 1999. In order to have a broader impact, in 2003 MAP was formed as part of MAP's global network. The existence of MAP in Indonesia is important because the findings of research from the MAP research network that shows the rate of destruction of mangrove forests in Indonesia is very worrying. MAP Indonesia then transformed into Blue Forest in 2012.

The initial activities of the MAP in Indonesia were carried out in North Sulawesi and Central Java. The activity is planting mangroves using the EMR (Ecological Mangrove Rehabilitation) method. After the implementation of the activity, Benjamin Brown and two colleagues from Gadjah Mada University (UGM), namely Jajang Sunjaya and Irfan Hakim formulated three main strategies. The strategy includes the mangrove rehabilitation movement, environmental education and Sustainable Livelihood. These three things then become the primary reference in all Blue Forest programs and activities.

Through these three strategies, MAM encourages substantive efforts to address mangrove issues in Indonesia. The hope is that after mangroves can grow again and provide ecosystem functions. The mangrove rehabilitation process until the ecosystem function is restored a long time, which is 5 to 10 years so that in the recovery process MAP accompanies the productive age group in the village to carry out sustainable livelihood activities. This is done by identifying the potential of what has not been utilized by the local community by using the field school learning method.

Furthermore, MAP also conducted a campaign to build public awareness related to the importance of mangrove forest conservation. Blue Forest encourages rehabilitation efforts with a new style, EMR. In general, rehabilitation efforts are carried out by replanting mangroves, but the EMR method is claimed to help rehabilitate mangroves without the need to replant mangroves. This method is carried out by identifying the position of the area that was once overgrown with mangroves and then making hydrological improvements. This hydrological improvement utilizes tidal seawater which is inhibited by making dykes so that it can encourage mangroves to grow back naturally.

The first program is Rehabilitation. Most mangrove rehabilitation efforts around the world have failed to rebuild mangrove forests. Most of these efforts are over-simplified planting projects, most of which attempt to force mangroves to grow in intertidal mud, usually below the average sea level - where mangrove forests do not grow. This happens for two reasons namely; First, the problem of land ownership makes it difficult for mangrove forests to return to their original places, i.e. areas that were converted due to unclear policies and inadequate management. Second, the lack of understanding of mangrove ecological requirements and the processes that lead to initial growth. Blue Forest then combines awareness of socio-political issues regarding land ownership with issues that understand the basics of successful ecological rehabilitation of mangroves. By understanding both the pitfalls and suggested practices



surrounding mangrove rehabilitation, we hope that mangrove forest restoration practices are rather simple but approached more scientifically and rationally and practitioners become more reflective of community actions.

The Second Program is Resilience, and Resilience refers to the integration of social, economic and ecological factors into one system. In the social system, people are involved both directly and indirectly in the management and management of coastal resources. This includes fishers, fish farmers, farmers, charcoal makers, etc. and buyers, extension agents, fisheries managers, agricultural and forestry extension agents, other government agencies, NGO workers and academics. The economic system follows the commodity chain, from the capture and production of coastal resources to the end of use. Whereas in ecological systems, ecological system assessments have three focus points, namely, the landscape level, the level of agroecosystems and habitat restoration. A better ecological foundation encourages sustainable social and economic development by providing a diversity of opportunities and increasing overall resilience.

The Third Program in Environmental Education, Environmental Education is carried out as an effective way to educate and empower community knowledge about their environment, and by educational researchers who are interested in problem-solving strategies in the educational context. Blue Forest believes in reflective thinking, and those thoughts cannot be separated from actions where students must also be involved in the real world to make education more meaningful.

The Fourth Program is Sustainable Livelihoods, Blue Forest uses several programs such as the Coastal Field School and Coastal Business School, to develop sustainable livelihoods. Coastal Field School is based on the philosophy of Farmer Field School, which is directed to develop critical thinking skills around current livelihood practices. To date, 12 types of Coastal Field Schools have been through better management of coastal commodities.

In the perspective of Yaziji & Doh (2009), the forms of programs implemented by Blue Forest can be identified as Hybrid and Evolving NGOs. Hybrid and Evolving NGO is a combination of Advocacy and Service NGO, where the organization describes the relationship between civil society and social movements. Blue Forest as a non-governmental organization can act as a Watchdog, Social Movement and also a service provider for problems that occur in the community primarily on environmental aspects. Supervision of programs and systems

that run in the community and ensure that the system runs as it should be done by the Blue Forest. As a social movement, Blue Forest acts on the problem of environmental degradation that requires changes (social change) by community needs. Furthermore, Blue Forest provides services to environmental problems in the community where Blue Forest acts as a driving force for conservation and rehabilitation of environmental problems in coastal areas with work programs such as Restoring Coastal Livelihoods, Coastal Ecosystem Resilience, Ecological Mangrove Restoration (EMR), Environmental Education for Early Childhood, and other programs.

In the perspective of Gough & Shackley (2001), it explains that there are three groups of environmental NGOs, namely campaigners, think-thanks, and business aliases. Blue Forest's position, as seen from the Gough & Shackley concept can be identified into the campaigners and think-thank groups. Blue Forest, as a non-governmental, non-profit organization, has become a pioneer for the rehabilitation and resilience of environmental ecosystems, especially mangroves in Indonesia. This happens because it is supported by professional analysts who work in it. In every work program that is carried out, Blue Forest tries to do an extended research to assess whether mangroves grow in that area, the type of mangroves, what is the effect of mangrove damage before being repaired and those things are done by involving the community to observe, analyze and present together.

In 1979, Tanakeke Island had 1776 ha of mangrove forest which was then reduced to 500 ha due to land conversion to ponds and charcoal management. Community understanding of the management and empowerment of mangrove forests has become a significant factor in the degradation of mangrove forests in Tanakeke Islands. Communities on Tanakeke Island who are still unfamiliar with the benefits of mangroves convert the extent of mangrove ecosystems into ponds as their livelihood. Mangrove trees scattered almost throughout the coastal area are cut down to make charcoal. Meanwhile, Tanakeke Island, which was built from a coral island which was hampered by freshwater supply, resulted in the growth of mangroves that were not too fast, such as mangroves on the mainland with more substrate supply.

The mangrove ecosystem acts as a protector for the island, a place to live marine life and a source of livelihood for coastal communities. Therefore, the declining condition of mangrove ecosystems causes the community's economy to recede. There are approximately 10,000 inhabitants who live on Tanakeke Island, and the community has felt the crabs, fish,

shellfish, and marine products have been much reduced due to the impact of mangrove forest degradation.

Damage to vast mangrove forests and a significant threat to the people who live there is one of the reasons for Blue Forest's rehabilitation. In 2010 Blue Forest together with Oxfam created a Restoring Coastal Livelihood (RCL) program which is a coastal livelihood activity which was then followed by a program called Coastal Ecosystem Resilience in the coastal area of Tanakeke Island. Blue Forest examines several areas that have considerable mangrove rehabilitation opportunities. The steps taken then are to carry out rehabilitation with several stages and go through a relatively lengthy process.

Ecological mangrove rehabilitation is a method applied to carry out rehabilitation on Tanakeke Island. The basic principle of this method is to improve the environmental conditions of the mangrove vegetation itself. Blue Forest first conducts an assessment of the ecological characteristics of mangrove seedlings that can grow according to their distribution location. Blue forest also tries to understand hydrological patterns to regulate the distribution and growth of mangrove species and to invite the community together to conduct research or scientific research on mangrove ecosystems. Basically, Blue Forest does not carry out activities that merely plant mangroves to restore but rather seek root causes for rehabilitation for environmental sustainability.

Besides, Blue Forest also carries out Environmental Education which is carried out using the Participatory Action method, which combines field trials, observations, pure research & imaginative games. The critical condition of mangrove and seagrass ecosystems is a concern in the Environmental Education curriculum, which is attended by more than one hundred students and dozens of people. Environmental Education is one of the efforts to build awareness early on related to the importance of environmental sustainability.

The effectiveness of the programs implemented by the Blue Forest can be seen later from the level of community participation in mangrove rehabilitation and conservation, and as many as 114 farm owners from 4 hamlets in Tanakeke allow their ponds to be rehabilitated with a total area of rehabilitation of 139 ha. Public awareness that has been able to manage mangrove cultivation after the program has been implemented is still ongoing until now. In addition to rehabilitating mangroves, Blue Forest also empowers coastal communities

regarding mangrove management as a processed home product consisting of Mangrove Tea (Achantus Tea), Nypa Palm Sugar, Mangrove Cocoa Beans and others.

## **CONCLUSIONS**

This study found that Blue Forest rehabilitated mangrove forests in Indonesia through four methods, namely Rehabilitation, Resilience, Environmental Education, and Sustainable Livelihoods. This variation in methods has proven effective in the case of rehabilitating mangrove forests on Tanakeke Island. The variety of methods combines the strategies pursued by service NGOs and NGO advocacy. Therefore, Blue Forest can be categorized as Hybrid NGOs.

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