

Can the Implementation of Conservation Village Increase the Environmental Support in Forest Management in Bukit Barisan Selatan National Park, Lampung, Indonesia?

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Can the Implementation of Conservation Village Increase the Environmental Support in Forest Management in Bukit Barisan Selatan National Park, Lampung, Indonesia?

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ABSTRACT

This study analyzes the successful implementation of conservation villages in getting support from the environment in forest management in the Bukit Barisan National Park. The research uses a qualitative case study method, reinforced by a desk review of relevant research literature. Interviews and focus group discussions were conducted to gain a deeper understanding of how successful policy implementation is. The success of policy implementation is reviewed by marketing policy analysis and further analysis using a matrix of environmental reactions to policy implementation. The results showed that marketing policy in terms of policy acceptance and policy adoption had failed/successful as well as on the readiness strategy side, it was successful where a conservation task force was formed which has the task of managing and monitoring forest products and implementing this conservation village agreement. The community has become an important part of the policy, the village government fully supports being the implementer of the policy and is manifested in the form of providing access and facilities, and for the NGO they provide full support through the provision of budgetary resources and facilitators for training and counseling related to building awareness for saving forests. Analysis of environmental reactions provides options for implementation effectiveness through the choice of cooperation in resource management and the values of non-government actors for sustainable forest management. One practical implication is that the government can use the findings of this study to support the achievement of a sustainable conservation village development model, to raise awareness, participation as the main aspect of sustainable forest management.

Key words:

Policy Implementation, Village Conservation, Environmental Support, Awareness and Participation

1. INTRODUCTION

Indonesia is a country that has a large forest area so that it can be said as the lungs of the world. In this regard, the government's attention to the obligation to conserve forests is a top priority that must be implemented, considering that the function of forests in Indonesia plays a major role in meeting human needs [1]. As a conservation forest area that also has an ecological function, Bukit Barisan Selatan National Park is a national park that is intended to protect the tropical rainforests of the island of Sumatra and the richness of the biological world it has [2].

UNESCO has declared Bukit Barisan Selatan National Park a World Heritage [3]. Bukit Barisan Selatan was declared a Wildlife Sanctuary in 1935 and became a National Park in 1982. Initially, the size of the park was 356,800 hectares. However, the current area of the park calculated using GIS is approximately 324,000 hectares. Bukit Barisan Selatan National Park is located at the tip of the southwest region of Sumatra [4]. Seventy percent of the park (249,552 hectares) belongs to the administration of the West Lampung area and the Tanggamus area, both of which are members of Lampung Province [5]. The rest of the park covers 74,822 hectares (23% of the total park area) and is in the Kaur area of Bengkulu province. South Sumatra is also very important for the overlapping of park borders with provincial borders. Bukit Barisan Selatan National Park has some of the most recently protected lowland forests in Sumatra [6]. It is extremely rich in biodiversity and is home to three of the world's most threatened large mammals: the Sumatran elephant (less than 2000 surviving today), the Sumatran rhino (total global population: 300 individuals and more drastically reduced in number) and the Sumatran tiger (total global population approximately 400 individuals) [7].

Bukit Barisan Selatan National Park is included in the Global 200 Ecoregions, which is the most striking ranking of terrestrial, freshwater and marine habitats on earth from a biological point of view made by the World Wide Fund for Nature or WWF, which is a non-governmental organization international affairs dealing with conservation, research and restoration of the environment and forests [8]. This park was highlighted as a priority area for the conservation of the Sumatran rhino through the Asian Rhino and Elephant Action Strategy (AREAS) program from WWF. In addition, WWF in collaboration with IUCN and WCS has identified the Bukit Barisan Selatan National Park as the Tiger Conservation Unit, which is the most important forest area for conservation in the world. Finally, in 2002, UNESCO has selected this area to be proposed as a World Heritage Buffer Mountainous Area along with Gunung Leuser and Kerinci Seblat National Parks [9]. Bukit Barisan Selatan National Park is also one of the national parks in Sumatra that represents the highest priority for the Tiger Conservation Unit. It is also the only national park that has the largest lowland forest ecosystem in the tropical rain forest in Southeast Asia [10]. In addition, this national park has a strategic function as a life support system area whose role is very important for the surrounding community, because this area is a catchment area. This area has at least 23 major rivers and hundreds of tributaries that carry water from the national park to downstream areas along the coast of Tanggamus Regency, West Lampung and South Bengkulu. In previous years there have been many who have conducted research on saving tropical rain forests in the Bukit Barisan Selatan National Park through various scientific perspectives and fields which were then used as references to become new innovations in preserving and saving conservation in this forest [11]. This study aims to analyze the successful implementation of conservation villages. Previous research has never examined the effectiveness of conservation villages using marketing policies and environmental reactions (resources and actor values) [12]. Marketing analysis and understanding the types of environmental reactions will be useful for raising awareness, participation as an aspect of sustainable forest management [13].

2. THEORITICAL REVIEW

2.1. Forest and Forest Conservation Area

Forests are natural resources that provide various benefits for human welfare, both benefits that can be felt directly or indirectly by humans. The government determines certain areas to be used as production forest areas, protected forests, or conservation forests [14]. Conservation forest which is a conservation area according to Law 41 of 1999 concerning forestry in Chapter I Article 1 states that a forest area with certain characteristics has the main function of

preserving plant and animal diversity and their ecosystem [15]. Conservation areas provide many benefits for the government and local economic activities, especially as natural tourism locations. Nature tourism activities in Nature Tourism Parks have tended to become mass tourism activities. This mass tourism is economically beneficial but can have a negative KKP on conservation areas. Tourism activities in conservation areas tend to increase along with increasing awareness about nature conservation [16]. Increasing nature-themed tourism such as leisurely walks in the wild/hiking, hiking/trekking or mountain biking is a new trend in people's lives which ultimately has an ecological KKP on forest ecosystems [17].

Natural conservation forest areas can be used sustainably, one of which is through the use of environmental services in the form of nature tourism activities [18]. Several types of nature conservation are include National Parks, Grand Forest Parks and Nature Tourism Parks [19, 20]. According to Government Regulation Number 28 of 2011 concerning Management of Nature Reserve Areas and Natural Conservation Areas, in Chapter Article 10 the criteria for Nature Tourism Parks include : 1) having natural attractions in the form of plants, animals or natural landscapes, natural phenomena and geological formations that unique; 2) has a sufficient area to ensure the preservation of the potential and natural attractions to be utilized for tourism and nature recreation; 3) the surrounding environmental conditions support efforts to develop natural tourism. Management of conservation areas according to Alikodra [21], aims to prevent damage to the function of the environmental order, so that it can support social needs and improve the economy of communities around the conservation area [22]. With this management objective, it will be followed by an increase in the environmental function of the soil, water, climate, plants and animals as well as the historical and cultural values of the nation[23, 24]. Besides that, maintaining the diversity of plants, animals, ecosystem types and natural uniqueness, so that the function of the environmental order can be maintained. Conservation areas according to [25], have a very important role in sustainable development, namely: first, has an important role for producing clean water sources needed by humans, industrial growth, agriculture and irrigation and so on; second, has an important role for the growth of the country's foreign exchange and locally-generated revenue ; third, has a role in food security, poverty alleviation and fourth, has a role for protection and as a center of biological wealth. The existence of conservation forests is a state asset that is managed with the aim of providing the greatest benefit to mankind, which must be preserved and grateful for as a gift from God Almighty. The benefits of the forest are very large, especially for the people who live around the forest and in the forest. These communities have a high dependence on forest resources in meeting their daily needs.

2.2. Environmental Support in Successful Forest Management

One part of the public policy process is the implementation of public policy. The public policy analysis section usually examines the relationship between a policy and the problem, the content of the policy, examines what policy makers do and do not do, and the consequences that will be created (outputs) of a policy. Policy analysis is basically a form of engineering and improving a policy [26]. Iqbal describes the implementation actors on who has the impact and/or who is affected by the policy programs, and development activities [27]. They can be men or women, communities, socio-economic groups, or institutions in various dimensions at every level of society. In general, the role of actors in implementation is divided into three, namely the government, the private sector, and the community. Wakka, reveals that the role of actors in the implementation of a policy or program is influenced by the power and interests, resources, and values of the actor [28]. According to Yakin, there are four elements that need to be considered to analyze the success of the roles of actors in implementing a policy, namely as follows: a) actor participation, namely by assessing how the roles of related actors in

implementing a policy; b) actor's perspective, namely by assessing how the actors understand the program; c) accessibility of actors, namely by assessing how the access of actors in program implementation; and d) determination of action, namely by assessing how the role of the actor in determining the action [29].

In conservation areas, many parties have interests. According to Borrini-Feyerabend, parties who have an interest in conservation areas are people who live and live in or around conservation areas, people who benefit economically from the resources contained in conservation areas, governments who have responsibility for to the preservation of conservation areas, NGOs that have an interest in the preservation of conservation areas, and so on. Each has different interests in conservation areas. The tangible form of support provided by the community is socialization and counseling activities that are held every week to manage forest resources. In addition, NGOs provide support in the form of providing budgetary resources for activities in the forest or village as well as providing facilitators to assist village communities in managing and conserving forests.

3. METHODOLOGY

The research was conducted in Sukamarga Village, Suoh, West Lampung. on 12 june - 25 august 2021. Qualitative case study research, strengthened by desk review of relevant research literature. Data collection was done by interview, observation, and documentation study. Interviews were conducted with 40 people, consisting of: 10 people from the community, 5 people from village and district governments, 5 people from NGOs, 10 people from NGOs and the rest were interviews with the community from the management, observation and production divisions.

The collected data is then reviewed through the analysis of Marketing Analysis [30] and the Policy Implementation Environment Matrix developed [31]. Marketing analysis can explain the content to which the successful implementation of conservation village policies is seen from 3 processes that influence each other, namely:

- a. Policy acceptance, when the community and others can understand the conservation village policy as the rules of the game to realize responsible, optimal, and sustainable forest management; on the other hand, village government in this context also understands policy as a task that must be carried out.
- b. Policy adoption, when the community and others can accept the policy of the rules of the game to realize responsible, optimal, and sustainable forest management; on the other hand, village governments in this context also accept policies as tasks that must be implemented.
- c. Readiness strategy, when the community and others implement and become part of the conservation village policy; on the other hand the local government is ready to be the implementer of the policy

The policy implementation environment matrix developed [31], is used as a further analysis to see the effectiveness of policy implementation. The model divides the assessment of the effectiveness of policy implementation into four parts, which are a meeting of 2 main variables, namely: the approval of the stakeholders on the content of the policy and the two resources owned by the stakeholders. The approval variable for the policy is divided into pro-policy and contra-policy. Meanwhile, the resource variables owned by the stakeholders are divided into strong and weak. Based on the implementation typology, the opportunity to produce sustainable implementation performance is when it gets environmental support, in this case non-government stakeholders (communities and NGOs). Such conditions will result in the

implementation type of co-operation and conformity, while poor implementation performance occurs in the type of implementation of counter-action and detachment.

Resources of the actors	Value of the actors	
	Pro-Policy	Contra Policy
Strong	Co-Operation	Counter Action
Weak	Conformity	Detachment

Figure 1. Type of environmental reaction to policy implementation
Source: [31]

20 4. RESULT AND DISCUSSION

4.1. Results

4.1.1. Overview of Conservation Park

1 Bukit Barisan Selatan National Park is part of the Bukit Barisan mountains. The mountainous area of Bukit Barisan has a variety of natural vegetation such as mangrove forest vegetation, coastal forests, and tropical lowland forests. Bukit Barisan Selatan is one of three national parks in Sumatra that received a prestigious award from UNESCO in 2004 [32]. BBSNP together with Gunung Leuser National Park [TNGL] and Kerinci Seblat National Park [TNKS] have been named Tropical Rainforest Heritage of Sumatra [TRHS] [33]. Sumatran Tropical Rainforest World. Bukit Barisan Selatan National Park stretches from Bengkulu to Lampung. The area is about 355,511 hectares. Administratively, the area covers Tanggamus Regency [10,500 ha] and West Lampung Regency as well as the West Coast covering an area of 280,300 hectares for Lampung, and in Kaur Regency, Bengkulu about 64,711 hectares. Initially, in 1935, TNBBS was a Wildlife Sanctuary which was established through Besluit Van der Gouverneur-Generat Van Nederlandseh Indie No. 48 s.d. 1935. Its name, South Sumatra I [SSI] covers an area of 356,800 hectares. The territory, Reg. 49B Krui Barat, Reg. 46B Sekincau, Reg. 47B Bukit Penetoh, Reg. 22B Kubunicik, Reg. 49 Southern SSI, and Reg. 52 East Kaur. Furthermore, on October 14, 1982, the South Sumatra I Wildlife Reserve was declared a TNBBS area through the Statement Letter (SP) of the Minister of Agriculture No. 936/Mentan/X/1982 [33]. Based on the Regulation of the Minister of Forestry No. P.03/Menhut-II/2007 dated February 1, 2007 regarding the Organization and Work Procedure of the National Park Technical Implementation Unit, the TNBBS Hall was designated as the BBSNP Center.



Figure 2. Bukit Barisan Selatan National Park Map

Then what is the interesting thing about this national park? Apart from being the habitat of the Rafflesia arnoldii flower, this area is also the habitat of three endangered mammals. Sumatran elephants [*Elephas maximus sumatrensis*], Sumatran tigers [*Panthera tigris sumatrae*], and Sumatran rhinos [*Dicerorhinus sumatrensis*] live here. Specifically for rhinos, in November 2005, rhino Rosa, who was four years old at the time, and is now in the Sumatran Rhino Sanctuary [SRS], Way Kambas National Park, Lampung, used to often go in and out of residential areas in BBSNP. Before being rescued, Rosa is thought to have wandered around for a while in the community area.



Figure 3. Key Animal Pictures

The Sumatran rhino is a rare two-horned animal. Based on the IUCN status Critical [Critically Endangered] or one step towards extinction in the wild. Its existence is spread in Gunung Leuser National Park, South Bukit Barisan National Park, Way Kambas National Park, and West Kutai, East Kalimantan. The number is estimated to be no more than 100 individuals.

BBSNP has important value for the protection of several large mammals. There are at least 122 species of mammals including six endangered species according to the IUCN Red Data Book such as the Sumatran elephant (*Elephas maximus sumatranus*), Sumatran rhino (*Dicerorhinus sumatrensis*), Tapir (*Tapirus indicus*), Sumatran tiger (*Panthera tigris sumatrae*), Sun bear (*Helarcto malayanus*), and ajag (*Cuon alpinus*); 123 species of herpetofauna (reptiles and amphibians including turtles); 53 types of fish; 221 insects and 450 bird species including 9 hornbill species. BBSNP is an Important Area for Birds (DPB), with criteria A1. Endangered Birds and A2. Limited Distributed Birds. TNBBS is also one of the priority landscapes for the conservation of Sumatran tiger habitat. In addition, BBSNP is a habitat for amazing types of flora. Apart from having Rafflesia as the largest rare flower in the world, there is also Amorphophallus as the tallest flower in the world. Other types of flora reach 514 species of trees and undergrowth, 126 species of orchids, 26 species of rattan, and 25 species of bamboo..



Figure 4. Rafflesia Arnoldii flower

According to the Meteorology and Geophysics Agency (1973), based on the average annual rainfall, the BBSNP area can be grouped into two parts, namely the western part of the national park with moderately high rainfall ranging from 3000-3500 mm per year and the eastern part of the national park ranging from between 2500-3000 mm per year. This difference is caused by the influence of the Bukit Barisan Selatan mountain chain so that the eastern part is drier. The BBSNP area is the upstream part of the rivers that will flow into residential and agricultural areas in the downstream area so that it plays a very important role as a catchment area and protects the water system. Most of the existing rivers flow to the southwest and empties into the Indonesian Ocean while some empties into the Semangka Bay. The rivers flowing in the northern part of the national park consist of Air Nasal Kiri, Air Sambat, Air Nasal Kanan, Way Menula, Way Simpang and Way Laai. The rivers flowing in the central part of the national park consist of Way Tenumbang, Way Biha, Way Marang, Way Ngambur Bunuk, Way Tembuli, Way Ngaras, Way Pintau, Way Pemerihan, Way Lemong, and Way Semangka. Meanwhile, in the southern part of the national park, there are Way Canguk, Way Sanga, Way Menanga Kiri, Way Menanga Kanan, Way Paya, Way Genesis, Way Sulaeman and Way Blambangan. At the southern end of the national park, there is a lake separated only by tens of meters wide sand beach, namely Menjukut Lake (150 ha). In the central part, namely in the Suoh area, there are 4 (four) adjacent lakes, namely Asam Lake (160 ha), Lebar Lake (60 ha), Oil Lake (10 ha), and Belibis Lake (3 ha). While the Southeast, South and West parts of the national park are surrounded by oceans, namely the waters of Semangka Bay, Tanjung China and the Indonesian Ocean.

Apart from the various flora and fauna diversity that exists in the Bukit Barisan Selatan National Park, this has actually returned to being a boomerang for the ecosystem and vegetation that is there, this is due to human activities (especially encroachment and illegal logging). having damaged. The damage is characterized by changes in vegetation cover to vegetation cover that is not the same as it should be. Because the BBSNP area is a representative protected area for lowland and mountainous rain forest, naturally, initially the BBSNP area was forest.



Figure 5. Image of encroachment and illegal logging

However, some of the vegetation has now become secondary forest, shrubs, shrubs, coffee plantations, even some of it is in the form of open land that is not vegetated, resulting in a decrease in biodiversity and habitat functions as well as protection functions. Evolutionarily, vegetation that has undergone these changes, through a succession process will gradually recover [34]. However, this process takes a long time, and it is even feared that the succession process will lead to a new balance that is not in accordance with the original conditions. This is because the changes in vegetation occur due to human intervention which tends to increase. In fact, the damage needs to be repaired immediately considering that BBSNP not only functions as a conservation area for living natural resources and their ecosystems, but also functions as a protected area for downstream areas [35]. Therefore, ecosystem restoration is an important activity that needs to be prioritized. Therefore, an agreement was born on the conservation area or better known as the KKP [36]. Which aims to secure the remaining forest

and reduce pressure on the Bukit Barisan Selatan National Park area through optimizing land management and sustainable village development. Recovery activities consist of rehabilitation/restoration, participatory observation and community economic improvement. Ecosystem rehabilitation is an action to restore ecosystems that have damaged functions in the form of reduced land cover for the purpose of achieving a balance of biological natural resources and their ecosystems close to their original condition [37]. Ecosystem restoration is an act of restoration of function damage in the form of land cover through planting, habitat and population development for the purpose of achieving a balance of living natural resources and their ecosystems close to their original condition. While the participatory observation activities include, joint observation activities which later become a medium to build awareness of forest areas and observations carried out to see the potential that exists in forest areas that can be utilized economically by the community (especially non-timber forest products). And for the activities of improving the local community's economy related to the production of superior products and business savings cooperatives.



Figure 6. Reforestation Activities



Figure 7. Observation Activities

4.1.2. Marketing Policy Conservation Village

The implementation of conservation village policies is the right thing to be able to increase public awareness of saving forests from various threats. The conservation village is also an answer to various problems faced by the community around the Bukit Barisan Selatan National Park who always experience problems related to animal-human conflicts, forest management, land disputes, and economic development [38]. The real manifestation of the things above can be seen in the existing program of activities in the implementation of this conservation village. These activities include restoration/rehabilitation, observation and improvement of the community's economy in innovation of superior products and forest resources that did not have a previous value to have a high selling value. In this study, the author uses a marketing policy analysis [3] see how successful the implementation of this conservation village is in saving the forest in [Bukit Barisan Selatan National Park](#) [39].

Based on the details of the 3 activities above, at the level of effectiveness this policy has been effective and is said to be successful. This is because the implementing actors, namely the village government, NGOs and the community, have understood the context of the conservation village policy as a rule to realize participation, community welfare and environmental sustainability and are manifested in increasing the participation of the Sukamarga village community on a regular basis. This can be seen from the regularity of discussion and socialization activities carried out jointly by each stakeholder in the implementation of this conservation village.

In addition to regular discussions as an indication of the acceptance of good policies by stakeholders, this activity takes place in the establishment of a collective agreement on the implementation of conservation village policies, this becomes a rule that every community

must follow properly. This agreement was made based on several points that adjust the topography and the latest community conditions that have not been covered in the application of conservation villages so that together with the stakeholders set this rule as a general and technical guideline for the implementation of conservation villages, this rule is called the conservation of the village conservation agreement [KKP].



Figure 8. Draft of Pekon Conservation Agreement



Figure 9. Damar forest product harvesting activities

After the determination, the stakeholders in the implementation of the conservation village formed a task force in the conservation village by dividing two different types of groups. This was done because the management of forest products could be managed effectively and efficiently. The 2 groups were divided into women's and men's groups. Where the women's group focused more on coffee, cocoa, and fruit forest products while the men's group focused more on agricultural forest products and wood and non-timber forest products that had to be obtained from the forest first.

4.1. Discussion

Policy implementation does not exist in a vacuum [39], involving many stakeholders including non-governmental actors who interact in the implementation process. Kiviniemi's [31], describes public policy leading to governmental actions which are supported by 2 things, namely the resources owned by the government and the value to be achieved, it does not exist in a vacuum, but the environmental influence factor in this case is non-existent. -governmental actors exert influence on the implementation process.

The implementation of the conservation village policy must show the effectiveness of its implementation. The policy implementation environment matrix developed by Kiviniemi [31] analyzes the effectiveness of the implementation choice model, both Co-operation, conformity, counter-action, detachment must be chosen and built wisely in accordance with the objectives of the conservation village policy. Using typology, the successful implementation of the conservation village policy need to get support from government stakeholders, so that the resulting type of implementation is Co-operation, conformity.

Bevir, with the wave of democratization, implementation studies cannot be separated from the idea of adopting a democratic governance approach to explain failures and successes [40]. Putra, in the perspective of a democratic governance approach, successful implementation goes through 2 stages, namely: participation/environmental support, namely not only the community but also NGOs. Next is the implementation towards the goal. How big is the level of community participation in designing programs has an assumption that if the activities are designed to be aspirational and beneficial to the wider community, then it is considered successful. Thus the program they designed was implemented properly so as to achieve the goal [41].

Using the analysis of environmental reactions to policy implementation developed by Kiviniemi [31], helps to demonstrate the success and effectiveness of its implementation. The effectiveness of the implementation of the conservation village policy is carried out by 2 changes to the framework, namely through the framework of building agreement on the content of the policy and the resources owned by the stakeholders.

The success of implementing a conservation village is about the value and support of the resources that each stakeholder has in carrying out this program. This program aims to secure the remaining forest and reduce pressure on the Bukit Barisan Selatan National Park area through optimizing land management and sustainable village development. The application of the Conservation Village Model in saving Tropical Rain Forests in BBSNP can reduce human activities such as hunting outside and illegal land clearing in forest area [26] that can threaten the ecosystem [42]. Conservation of Pekon is part of the Bestari program which is a collaboration between the Bukit Barisan Selatan National Park Center (BBTN [32] S) with WCS, WWF-Indonesia, and YABI, which aims to preserve priority habitats in Bukit Barisan Selatan National Park-TNBBS (Conserving priority habitats) [43]. in Bukit Barisan Selatan National Park, Sumatra). This program is part of the International Climate Initiative (IKI) funding scheme of the Federal Ministry for the Environment, Nature Conservation, and Nuclear Security (BMU) which is channeled through KFW (German Development Bank)S. One of the outputs of this program is to reduce pressure on the Intensive Protection Zone (IPZ) area – BBSNP through capacity building and community involvement in ecosystem restoration and land use management in surrounding villages.

The support values and resources are then mapped by the author using a marketing policy analysis and an environmental reaction matrix which can then explain the successful implementation of the conservation village policy in terms of three mutually influencing processes, namely:

- a. Policy acceptance, in this section the stakeholders (NGOs and the community) have understood the context of the conservation village policy as a rule for realizing participation, community welfare and environmental sustainability and is manifested in increasing the participation of the community of Sukarga village on a regular basis. socialization related to the points of agreement in the village community. conservation, such as forest governance, natural resource utilization management and others.
- b. Policy adoption, where at this stage stakeholders, especially communities directly adjacent to BBSNP, have accepted this conservation village policy as a rule which is then set by the village government in a concrete and valid way in official village regulations.
- c. Policy readiness, at this stage stakeholders, especially the community, have positioned themselves as an important part of policy implementation. This was later manifested in the formation of a conservation village task force which has the same goal but different objects, namely this task force is divided into 2 parts, namely a women's group that focuses on coffee and forest products and a men's group that focuses on agriculture. and management of timber and non-timber forest products. wood and the use of forest products that are not useful into something useful and have a selling value.

Table 1. Marketing Policy Implementation

<i>Stakeholder</i>	<i>Policy acceptance</i>	<i>Policy adoption</i>	<i>Strategi readiness</i>
Village government	Activity socialization	Planning together with the community	serving the strengths, weaknesses, opportunities and potential threats

NGO	Community empowerment Community	Capacity building through training in seedling and plant techniques.	Joint observations can be a medium to build awareness of forest areas
Community	Activity socialization	Observations to see the potential that exists in forest areas that can be utilized economically by the community (especially non-timber forest products)	Planting crops that function in a conservation, economic and social way

Source: Interview and Observation, 2021

4.1.3. Typology of Environmental Reaction to Policy Implementation

The application of the conservation village model in TNBBS seen from the ideal type analysis of environmental reactions shows the results of Co-operation or supports . This can be seen through the implementation of the program activities where the community is always enthusiastic and punctual in attending socialization activities, counseling and direct practice in the field.

Table 2. Ideal Types of Environmental Reaction to Conservationn Pekon

Resources of the actors	Value of the actors	
	Pro-Policy	Contra Policy
Strong	NGO, Community and Village Government	Counter Action
Weak	Conformity	Detachment

Table 3. Cooperation Environment

No	Activity Description	Pekon Sukamarga
1	Activity Socialization	+
2	Planning with the community	+
3	Planting crops that function in a conservation, economic and social way	+
4	Community capacity building through nursery and plant technique training	+
5	Application and regulation of cropping patterns from short-term to long-term crops	+
6	Determination of KKP to become Village Regulation	+
7	Intercropping (low, medium, tall plants)	+

Source: Interview and Observation, 2021

For example, the process of implementing reforestation activities consists of 7 activities as listed in table 3. In the table above, the Sukamarga Community responded positively that all activities from implementing the conservation village were well received. In addition, the resources owned by the stakeholders are channeled appropriately in accordance with mutually agreed guidelines so that reforestation activities can run according to the concept of the village

conservation agreement. This can be seen from the level of community participation and the level of capacity possessed by the community slowly starting to show significant changes. In fact, small business groups have started to form around the area with the theme of using local products that are not useful to be useful and on the part of the village government in regional spatial planning which is starting to be systematic by paying attention to the conservation elements in it plan. For example, regulations related to area management for business locations that should not be too close to conservation areas for fear of inadvertently damaging the biodiversity contained and prohibiting the erection of permanent buildings around the area. This is because the area directly adjacent to BBSNP is an area surrounded by fire paths, so it is feared that one day the magma in the ground will suddenly explode. Then in the Participatory Observation activity, the second KKP program activity is participatory observation.

The results of the evaluation of participatory observation activities, indicators of participatory observation are generally responded positively by the community around BBSNP, this is shown through the attitude of the community who always helps stakeholders in carrying out these conservation activities at any time, even the community and village government also often conduct Focus Group Discussions and share related strengths, weaknesses, opportunities and potential threats that exist if they are directly adjacent to BBSNP. Then the income increase activity was also responded very positively by the community directly adjacent to BBSNP, this was shown by the increased creativity of housewives who initially created a 0% savings and loan cooperative and the interest payments were then not used by the cooperative but returned to members so that the community those who follow don't feel overwhelmed and have an emergency receptacle when needing cash fast. After the existence of the KKP in an effort to save the forest directly adjacent to BBSNP, they have started to recognize good product marketing strategies and how to distribute them effectively and efficiently [43].

In addition, resource support from every stakeholder in the implementation of this conservation village plays a very important role in the successful implementation of the conservation village [44]. Actor resource support is provided through the provision of facilities, budget funds and infrastructure for the socialization of policies, programs and activities, extension activities and field schools for the community. These activities include: 1) Reforestation/Rehabilitation includes: Counseling and socialization on river borders and river flow conservation, Restoration with timber plants (forest restoration), Restoration in BBSNP especially in former encroached areas, 2) Participatory Observations include: Management re-discussion tourism between ecotourism and National Park management permit holders, planting 20 wood trees in gardens in the National Park, improving vanilla, cocoa and rice cultivation skills; 3) Increasing Community Income includes: Development of post-harvest business for agricultural commodities such as cocoa, vanilla and rice, Training on Pest Control of Plant Diseases, Field Schools for Pest Control of Plants, Reducing the use of hazardous/toxic/inorganic materials and starting to use organic materials in cultivation practices [45]. In addition, resource support and acceptance of policies are very important for the implementation of conservation village activities, this is due to the fact that conservation parks can increase public access, the role and function of national parks for sustainability and community welfare [46]. Pekon conservation is also a tool that can be used to save critical forest degradation and help the economic life of communities around buffer zones [47].

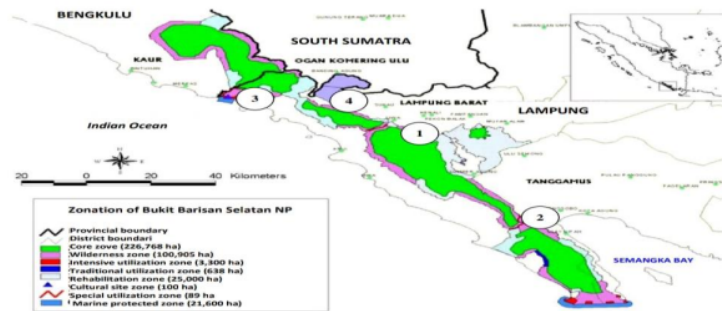


Figure 10. Pekon conservation agreement Map

The location map above describes 4 locations for the implementation of the Pekon Conservation Agreement Program in Bukit Barisan Selatan National Park, then at the implementation stage of the conservation village there are other activities besides technical matters such as reforestation and observation of vegetation in the forest [48]. Another form of activity from the conservation village section to save tropical rain forests is resource support in the form of the Formation of Community Movements and Partnerships to create appropriate strategies and concept maps to save natural resources from upstream to downstream by connecting various rules that have been set by the central or regional government [49]. This is motivated by the increasingly complex problem of damage to watersheds (DAS) in Indonesia where there is a conflict of interest between the upstream, middle and downstream areas. It should be understood that the watershed boundary is different from the administrative boundary, so it is often forgotten that community activities in the upstream village/regency/regency administration area greatly affect the downstream administrative area. In the upstream, mining (quarrying, coal mining), palm oil waste, logging, etc. will have an impact on environmental problems downstream, such as: river silting which causes flooding, closure of irrigation intake gates by sedimentation, water pollution, sedimentation in reservoirs so that the age of reduce reservoir service life, etc [50]. Therefore, an integrated watershed management effort that involves the community and stakeholders is needed to manage the watershed properly [51]. Downstream areas provide incentives to upstream areas to support forest conservation efforts. Many efforts can be made to conduct watershed conservation, including; reforestation, forest conservation, saving water with infiltration wells, biopori (downstream area), upstream Micro Hydro Power Plant (PLTHM) so that upstream communities can empower the forest village community (MDH) economy, which in turn MDH cares about the preservation of water sources [52].

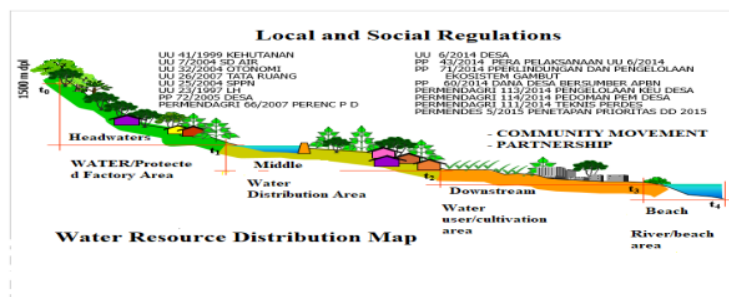


Figure 11. Water Resource Distribution Map

The role of watershed (river flow) is vital in human life [53]. The disturbed river areas will certainly threaten human life. Remember, the damaged watershed can cause disasters such as drought, floods, and landslides. Therefore, we really have to provide an understanding to the wider community about the importance of integrated watershed management. The small steps made by actors in this conservation area are in the protected or upstream areas of actors and stakeholders [54]. Building a sustainable protected area by carrying out monitoring forest reforestation regularly, increasing the role of women in agricultural forest communities and concrete law enforcement. In the buffer or middle area which is a water distribution area, a strengthening of rural greening and revitalization of situ2, reservoirs, water buildings, urban drainage and zero waste [3R]. Then in the downstream cultivation area determined permanent rice fields where there is no construction of permanent building because it will damage the mass and soil fertility. In addition, there is also a river structuring river and recharge wells and environmentally friendly industries. And in the area of the river or coastal estuaries carried out conservation of rivers and coral reefs. The watershed management is very important to remember, for the balance of water and land ecosystems. Good bad natural resources will depend on the quality of the watershed, from upstream to downstream. As a result of the weakness of the watershed management, it will be seen from the landslide, flood, and prolonged drought. However, watershed management technology must be accepted in various places by paying attention to the balance of ecosystems or with the principles of green ecology so that the watershed management runs rationally and sustainably. DAS Management must be carried out before decreasing the quantity and water quality due to water collection and water pollution by humans [55].

This research is important because the implementation of conservation villages through analysis of marketing policy and environmental intercome is a new innovation in reviewing forest conservation through perspectives how things can be acceptable and well understood. Conservation villages can also increase public access, roles and functions with national parks for sustainability and community welfare. And tools that can be used to save critical forest degradation and help the economic life of the community around the buffer zone. Therefore, the main aspect of the successful implementation of this conservation village is the value / support of stakeholders and resources possessed to be able to run this conservation village well and precisely in accordance with the planned agreed upon. The successful implementation of this conservation village will have a positive impact on forest management in the sustainable and sustainable and sustainable Bukit Barisan National Park

5. CONCLUSIONS

1. The Pekon Conservation Model has a significant impact on saving tropical rain forests in TNBBS, namely increasing community access, roles and joint functions of national parks for sustainability and community welfare, which can be seen from the presence of superior products in the form of coffee and rice.
2. The successful implementation of Pekon Conservation must take into account the type of community and the local cultural values of the community. The success of the conservation village around the forest is largely determined by the community's acceptance of the program and increased participation in program implementation so that in its implementation the program can be run effectively and efficiently. 22
3. The effectiveness of conservation areas in efforts to save tropical rain forests can be increased by increasing training, group strengthening, community understanding of empowerment, capacity of facilitators, mentoring processes, networks and partnerships,

proportion of empowerment activities according to local conditions and needs, as well as monitoring and evaluation carried out sustainable.

4. In Realizing Sustainable Forest Conservation, the government has established several policies that can help strengthen the implementation of conservation policies in efforts to save tropical rain forests in TNBBS.
5. The implementation of the Conservation Pekon in Tropical Rain Forests in TNBBS has had a positive impact on the vegetation that has started to vary again, whereas previously it had decreased in diversity of vegetation and flora and fauna. In addition, the implementation of Pekon Conservation can also make the community less dependent on the forest, thereby reducing the threat of exploitation of human resources. and also reduce degraded land in watersheds [DAS]

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