

## Implementation of peatland restoration policies in Jambi Province (case study of the Jambi Provincial Forestry Service)

<sup>1</sup>Cut Aziza Dewi, <sup>2</sup>Ruslan Abdul Gani, <sup>3</sup>Imam Arifa'illah Syaiful Huda

Universitas Islam Negeri Sultan Thaha Saifuddin Jambi  
(email: cutazizadewi051@gmail.com)

### Abstract

This research is entitled Regional Government Readiness of Jambi Province in Implementing Peatland Restoration Policy. The problem is that Jambi Province is one of the seven provinces that have prioritized peatland restoration since 2016. Therefore, it is necessary to know how prepared they are in implementing the policy. Knowing the efforts made for the implementation of peatland restoration, and knowing the constraints and solutions provided for the implementation of peatland restoration in Jambi Province. This research method uses qualitative research using a case study approach. Data was collected by means of field observations, interviews, and documentation as evidence of the implementation of peatland restoration policies in Jambi Province. The use of data in this study is primary data and secondary data. Based on the research that has been done, it can be concluded that: 1) The readiness for the implementation of peatland restoration policies in Jambi Province is mature and has been running since 2017 by the Regional Peat Restoration Agency under the auspices of the Jambi Provincial Forestry Service. 2) The form of effort from the peatland restoration policy is to carry out three restoration programs, namely rewetting, revegetation, and revitalization which have been implemented by all three. These three programs have also been implemented in several areas such as Tanjung Jabung Timur Regency, Muaro Jambi Regency, and Sarolangun. 3) Obstacles that exist such as pros and cons in the community are trying to be overcome by conducting socialization and explanations about the benefits of peatland restoration that will be carried out.

**keywords:** Policy, Restoration, Peatland

### Preliminary

Biomass production that exceeds the decomposition process that occurs in a system is called peatland. Government regulation number 57 of 2016 concerning amendments to government regulation number 71 of 2014 concerning the protection and management of peat ecosystems says, peat can be defined as organic material formed naturally from incompletely decomposed plant remains with a thickness of 50 (fifty) centimeters. or more and accumulates in swamps. The peat ecosystem is a unified whole and comprehensive and influences each other to form balance, stability and productivity (Ramadhan, 2020).

Indonesia is ranked 4th for the largest peatland in the world, which is around 14.9 million hectares. The three islands that have peatlands in Indonesia are Sumatra, Kalimantan, and Papua. There are main functions possessed by peatlands consisting of: 1) peat functions as a carbon sink, 2) peat functions as a water buffer, 3) peat serves as a place to live for various types of unique flora and fauna, 4) peat also functions as a place to find livelihoods for the people who live around it (Ramadhan, 2020).

Some natural factors or human-made ignorance can be a destructive factor for peatlands. Damage to the function of this ecosystem can occur on a large scale illegal logging of trees which not only has an impact on reducing the number of trees in the forest, but also destroys homes for the flora and fauna that live in it. Improper placement of drainage canals can cause drought as well as a cause of damage to peatland ecosystems. Peatlands are dry which cannot be reversed or can be said to be irreversible so that peatlands have a high potential for fires such as fires in the past few years (Herman, 2019).

Peatland as an ecosystem in which there is a lot of life is sometimes damaged or intentionally damaged either naturally or by human intervention. Without realizing it, many lives depend on peatlands, not only flora and fauna but also humans themselves. Human self-awareness as living beings who have reason and mind is considered lacking in preserving nature. For example, opening new land on peatland by burning, it has a large enough risk to cause forest fires due to the nature of the peatland itself. Therefore, it is necessary to restore peatlands to restore the peatlands themselves.

Damage to peatlands can be caused by several factors, such as incorrect water management, causing degradation of peatlands. The cause of peatland degradation can also be due to fires and excessive mining activities that have an impact on destroying nature, and the impact of forest fires on peatlands will also help contribute to global climate change which is the impact of increased greenhouse gas emissions released into the environment. air (Budi Darmawan, 2016: 196).

Peat restoration is a long process to restore the ecological function of the peatland itself and to improve the welfare of the people affected by the degraded peatland (KBBI,

2009). In carrying out peat restoration, the important thing to do is to maintain the water content in it. Therefore, the Peat Restoration Agency (BRG) formed by the government seeks restoration through a 3R approach: rewetting or wetting of peat, revegetation or replanting, and revitalizing livelihood sources.

The Peat Restoration Agency or also called BRG which is stipulated by Presidential Regulation no. 1 of 2016 is an effort by the Indonesian government in the form of institutions to strengthen fire prevention efforts and efforts to reduce the level of greenhouse gas emissions that have an impact on climate change. Peat restoration is an effort to accelerate the restoration of the function of the peat swamp ecosystem after experiencing damage from the impact of fire or other things on a hydrological unit of peat and for the protection and regulation of its natural water system. Peatland Restoration Agency in line with Government Regulation (PP) No. 71/2014 Junto PP 57/2016 concerning the Management and Protection of Peat Ecosystems, which divides peat areas into cultivation functions and protection functions with the scale of the KHG friendly approach (Haris, 2019: 13).

Local governments have not prioritized peatland restoration because the implementation of peatland restoration is not the business and authority given by the central government or the tasks and authorities are divided between the central government and local governments. Therefore, the government through the Ministry of Environment and Forestry (KLHK) issued a regulation regarding the task of assisting peatland restoration to local governments that own peatlands and there are 7 provinces that are government restoration priorities. The seven provinces are South Sumatra, Riau, Jambi, South Kalimantan, Central Kalimantan, West Kalimantan and Papua.

From the explanation above, it becomes interesting to be discussed by the author. Jambi Province which has a fairly large area of peat forest based on data about 621,000 ha, and more than 100 villages located in peat areas spread across the regencies of Tanjung Jabung Barat, Tanjung Jabung Timur, Muaro Jambi, and Sarolangun. Peatlands often experience forest fires, with various causes, either natural or man-made. Therefore, the focus of the problem in this study is that the implementation of peat restoration policies requires

the readiness of local governments as stakeholders in implementing peat restoration policies. The readiness in question is related to preparations to carry out the established policies, such as planning programs and human resources.

## Method

The research site was conducted at the Jambi Provincial Forestry Office, with field research in two districts as examples of the implementation of peatland restoration policies in Jambi province. The targeted areas are Muaro Jambi Regency and East Tanjung Jabung Regency. The object of research is emphasized on government policies in peatland restoration in Jambi Province, as well as seeing how the implementation of these policies in protecting peatland ecosystems in order to obtain more accurate information so that it will be very helpful for the author.

The type of research used in this study is a type of qualitative research using a case study research approach. Case study research approach is to examine a particular case or phenomenon that exists in society which is carried out in depth to study the background, circumstances, and interactions that occur. Case studies are carried out on a unified system which can be in the form of a program, activity, event, or group of individuals that exist in certain circumstances or conditions. As explained by Sugiyono, case study research is in-depth research related to programs, events, processes, activities, to one or more people. This study aims to describe the "Implementation of Peatland Restoration Policy in Jambi Province (Case Study of the Jambi Provincial Forestry Service)" with various phenomena of existing problems. Therefore, this research will later contain excerpts of data obtained by researchers from information to provide information that describes the presentation as a report. In writing the research, the writer analyzes the data and as far as possible describes it as original.

## Results and Discussion

### Regional Government of Jambi Province Readiness in Peatland Restoration

Implementation of peatland restoration as stated in presidential regulation no. 1 of 2016 concerning peatland restoration is the initial reference for each area that prioritizes peatland restoration. Support in peatland restoration is certainly a support in the implementation of the policy, the form of support is manifested by the formation of a peatland restoration agency or can be referred to as BRG.

Jambi Province as one of the 7 provinces that are priority peatlands has a peat restoration agency that helps carry out peatland restoration. These peatlands are spread over six regencies in Jambi Province, namely Tanjung Jabung Timur Regency, Muaro Jambi Regency, Sarolangun Regency, Merangin Regency and Tebo Regency.

Mr. Joko Triono, SP as the head of the watershed control section said that the implementation of peatland restoration in Jambi province has been carried out since 2017 in collaboration with various relevant agencies. The Jambi Provincial Peat Restoration Agency is under the auspices of the Jambi Provincial Forestry Service and has a TRGD (regional peat restoration team), namely the Jambi Province Environmental Service..

Jambi Province has been good in preparing the implementation of peat restoration by having main and supporting agencies that are capable of carrying out the duties and functions listed in the legal basis related to peat restoration itself. Presidential Regulation no. 1 of 2016 concerning peat restoration was not ignored and postponed by the Jambi Provincial Government as one of the steps to maintain the peatland ecosystem in which there are many flora and fauna that coexist and also help the community in protecting the land to help earn their living income. Jambi Province is also physically ready to carry out peat restoration with the establishment of a peat restoration agency that collaborates with various stakeholders and also coordinates with the environmental service which has the task of assisting the forestry service's performance and monitoring the implementation of peat restoration directly in the field.

## Implementation of the Peatland Restoration Policy in Jambi Province

Peatlands have a variety of uses and uses that are very important in areas such as biodiversity, carbon storage and water. Indonesia as a country that has the largest peatland area in Southeast Asia covering an area of 270,630 km<sup>2</sup>, but within 33 years the area of peatlands has decreased by almost half to 149,054.75 km<sup>2</sup>. The area of peatland owned by Indonesia in 2018 was 148,331 km<sup>2</sup>.

The Indonesian government tries to deal with cases of peatland damage by carrying out restoration. Peatlands are also very important assets as environmental assets, social resources and also economics. Starting with the establishment of the Peatland Restoration Agency as a forum for the implementation of peatland restoration policies.

Jambi Province is also a priority in implementing peatland restoration policies. As one of the largest carbon storage areas on Sumatra Island, after South Sumatra and Riau Province, Jambi has a land area of 621 089 ha based on an indicative map of Jambi Province peat restoration. Peatlands in Jambi Province are generally located in downstream areas, most of which are part of the eastern coast of Sumatra, which are spread over the districts of Tanjung Jabung Timur (46%), Muaro Jambi (30%) and Tanjung Jabung Barat (20%). But in addition, the peat area in this province is critical with 8.07% so that it requires good management and there must be an intervention to prevent degradation.

Forest and land fires that occurred in 2015 that caused smoke haze, are peatland fires caused by several factors, especially the hydrological factors of dry peat areas. The cause of damage to peatlands is due to land drought because there are too many canals for draining peatlands so that the land does not have soil moisture so it is prone to fires in the dry season and if there is a fire the land has no water reserves to help extinguish the fire. The importance of peatland restoration is to maintain a balanced ecosystem and prevent forest and land fires that will harm various parties.

The Peatland Restoration Agency has three programs to carry out peatland restoration, namely rewetting (wetting), revegetation (replanting), and revitalizing

livelihood sources. Jambi Province has started to implement a peat restoration policy from 2017-2020 through the RI peat restoration agency budget by monitoring and evaluating activities carried out by the peat restoration agency in Jambi Province. Through the author's interview with Mr. Joko Triono, SP, it can be seen that several districts have had peat restoration carried out, namely East Tanjung Jabung, Muaro Jambi, and Sarolangun districts. Such as, District Dendang, Geragai, Muara Sabak. For Muaro Jambi Regency, there are Kumpeh Subdistricts, and Sungai Gelam Subdistricts".

The implementation of the program launched by the peatland restoration agency, namely rewetting or wetting, what was done from this program was to build canal blocks in peat areas and also construct boreholes that functioned as water retainers to store water in rivers or canals. This wetting is done so that the peatlands do not dry out and increase the humidity of the peat to avoid fires in the dry season, as it is known that the dry season in Jambi often causes land fires that result in the loss of trees, and makes many fauna die in forest fires.

In the second program, namely revegetation, this program replants trees in peatland areas affected by forest fires. Replanting can be done when the peatlands are moist again. The plants chosen for planting must also not disturb the water cycle in the peat ecosystem. Revegetation serves to maintain the sustainability of the peat ecosystem and can also strengthen the canal blocking that is built. There are several plants that are native to peatlands such as jelutung, ramin, island swamp, gaharu and meranti. Plants such as pineapple, coffee, coconut are also peat-friendly plants which also have an economical price so that they can help the livelihoods of the people around peatlands.

The last program of peatland restoration is the revitalization of livelihood sources or can be called economic revitalization to help support the welfare of the people living around the peatland area. Not a few people live in areas around peatlands, so the community's source of livelihood comes from peatland forests. When peatland fires occur, it is not uncommon for people to suffer financial losses. For this reason, the importance of this program is to help the community recover its economic condition. The concern is that if the

government does not take part, the community will try to replant plants that are easy to live after the fire but are not peat-friendly.

The implementation of the implementation of peat restoration requires a lot of cooperation between relevant parties for the implementation of peatland restoration, starting with socializing about the restoration of areas that are included in the peatland restoration agenda. The programs mentioned by the author as a whole have not been implemented, as the agency responsible for the implementation of peat restoration, the Jambi Provincial Peat Restoration Agency has targets in peatland restoration which will continue to grow every year. as conveyed by Mr. Joko Triono, SP said that in 2017 they built canal blocks, in 2018 they built canal blocks and drilled wells, in 2019 they built canal blocks and drilled wells, and for 2020 they built canal blocks. for 2021 it is planned for the construction of canal blocking.

The implementation of the three programs of peatland restoration has been carried out, but there are still some areas that have not been touched by restoration. in the research conducted by the author, the first location is in the area of RT 07/02, Ganmbut Jaya Village, Sungai Gelam District, Muaro Jambi Regency. In Peat Jaya Village, the author conducted an interview with Mr. Rivai as the secretary of Peat Jaya Village. In 2015 there was a fire incident that scorched around 200 ha of Wargani's gardens. This is certainly detrimental to the community and it takes quite a long time to restore peatlands. For this reason, the implementation of restoration is needed by the residents of Peat Jaya Village. Since 2017, the first restoration program, namely rewetting, has been implemented by building several canal blocks that function to restore soil moisture in Peat Jaya Village. In addition, there are also given two suction units.

The first observation location is in the area of RT 07/02 Gambut Jaya Village, Sungai Gelam District, Muaro Jambi Regency. The author visited the site to interview local authorities regarding peatland management in the area. The role of the community in assisting the implementation of peatland restoration is very important, because the peatlands in Peat Jaya Village are owned by individuals or legally owned by the



community. The fire incident in 2015 that devoured the community's land caused by sparks caused a lot of losses. About 200 ha of gardens were burnt and it was very difficult to extinguish the fires because the burned area was peatland.

The people of Peat Jaya Village as a whole cultivate oil palm plantations on their own land by clearing the land through clearing or manual grass clearing by the community itself. To prevent fires from occurring in the previous year, the development of peatland restoration in Gambut Jaya Village was to build canal blocking as the beginning of the policy implementation program, namely rewetting or wetting. the construction of a new peatland restoration program for a rewetting or wetting program, namely the construction of canal blocking and having two suction units.

The two authors' observational research was carried out on peat land in RT 06 Dusun Rejosari, Pandan Sejahtera Village, Geragai District, Tanjung Jabung Timur Regency. The author conducted an interview with Mr. Suwarno not much different, the damage to peatlands in this area was also caused by land fires because local residents cleared land by burning, this incident occurred in 2015-2017. Clearing land by burning is considered the easiest and cheapest way because in the past the community or village officials from Pandan Prosperous Village did not yet have tools that helped in facilitating land clearing. The losses caused by these fires are numerous, such as the smoke that makes people sick to their breath, and many activities have been stopped due to the smoke haze of the fires.

The implementation of this restoration is a solution for the prosperous pandanus community to maintain and run oil palm plantations well in facing the seasons in the tropics. The construction of canal blocks and drilled wells has been carried out in Pandan Prosperous Village since 2017. These canal blocks function to maintain the amount of water and soil moisture during the dry season, and drill wells as a water supply to anticipate fires on peatlands. The construction of peatland restoration has started in Pandan Prosperous Village since 2017 with the initial construction of 14 canal blocks, continued in 2018 50 canal blocks, in 2019 building 25 drilled wells along with suction devices, and in the same year the government provided assistance community revitalization, namely by providing livestock

assistance as many as 10 Bali cattle, because of our success in implementing peatland restoration in 2020, we added another 10 cows. For the plan in 2021, livestock assistance will be provided again.

The role of the community is very important in helping to maintain the development that has been carried out. The people of Pandan Sejahtera Village assist the implementation of peatland restoration by maintaining and maintaining the assistance that has been obtained, and they also carry out such assistance such as livestock assistance in order to support the community's economy. Aids that must be maintained and developed so that assistance from the government can be provided annually as a form of successful implementation of peatland restoration and the community becomes independent to maintain and maintain their regional peatlands.

The implementation of peat restoration in Jambi Province has begun, not only rewetting or wetting as the beginning of the foundation for restoration on peatlands which functions to maintain and restore the peat ecosystem for the better, but also revegetation or replanting of trees in Jambi Province. Peatlands, as well as economic revitalization have also been carried out, but the implementation of peatland restoration has not been carried out in all locations because the implementation of this program takes time to complete. and the implementation of peatland restoration can also be carried out properly if the community is able to work together to maintain and maintain and is willing to develop the development that has been carried out.

### **Obstacles in Restoring Peatlands in Jambi Province**

The implementation of programs made by the government does not always get approval from related parties. This is an obstacle for the government to maximize the implementation of the program that is the target of achievement. Some of these things are a challenge for the government itself. Therefore, efforts to overcome these obstacles are needed. The peatland restoration program in Jambi Province is also inseparable from several things in the field. Not all of the programs that have been prepared for implementation have been approved by the community. In an interview that the author conducted with Mr. Joko

Triono as the watershed control section of the Jambi Provincial Forestry Service, he said that some locations to be restored were rejected by the community because they were used as public transportation routes.

Of the cons received by the government from the community in carrying out peatland restoration, the solution taken by the government from the above problems is to approach through talks with the local community and not force the community to carry out restoration at the location to minimize inconvenience to the community and maintain harmonious relations between government and society.

The obstacles obtained are inseparable from the lack of knowledge from the local community regarding peatland restoration. From the observations made by the author, related parties said that some communities do not know the functions and benefits of peatland restoration. Some people do not know the benefits so there are many conflicts at the beginning. So this requires more outreach to the community.

Then in the research conducted in Gambut Jaya Village, Sungai Gelam District, Muaro Jambi Regency and Pandan Sejahtera Village, Geragai District, Tanjung Jabung Timur Regency. The author finds the pros and cons of the community. Such as public distrust of peatland restoration policies launched by the Government. This is because they do not understand the benefits of peatland restoration. Therefore, the provincial government also cooperates with the village government concerned to conduct socialization with the local community in order to provide an understanding of this peatland restoration program. And from the efforts made by the government, now the people of Gambut Jaya Village have benefited from the implementation of this program, such as sufficient water needs on community plantation lands during the dry season.

The people of Pandan Sejahtera Village who are members of the Pioneer Jaya farmer group are then fostered by the BRG through Mr. Suwarno. This group of 28 people was given more socialization and understanding regarding restoration. These members will be given their respective duties to carry out maintenance and even patrols to protect peatlands. there are no significant obstacles that occur in the community related to the implementation

of this peatland restoration policy, from the government side, the government has also implemented this policy by implementing programs from the implementation of peat restoration. Therefore, the government continues to approach it by socializing peatland restoration and the benefits that will be received by the community. Efforts made by the government to preserve and protect the environment cannot be separated from the participation of the community in its implementation, because the community is the subject of development and implementation of the policies made by the government with the aim of achieving the expected goals. Peatland restoration is one of the government's policies to protect the environment of peatland, which is one of the lands that has a lot of flora and fauna that can help maintain the balance of ecosystems in life.

Pandan Sejahtera Village, Geragai District, Tanjung Jabung Timur Regency, the community initially had many pros and cons. Like they don't understand the trust of this peatland restoration development. Meanwhile, the benefits of this restoration are very large, such as the construction of canal blocks that help maintain the amount of water and soil moisture in the dry season so that the community's plantation land does not experience drought. Then the construction of drilled wells, it really helps the community to protect their land in the event of a fire, and economic revitalization also helps support the community's own economy and helps the community to use natural fertilizer from livestock manure itself.

## Conclusion

Based on the research that has been carried out and with the data sources obtained, it can be concluded that the implementation of the peatland restoration policy has been implemented well. Judging from the restoration program, namely rewetting, revegetation, and revitalizing the community's economy, which has been implemented in several areas that are indeed needed to carry out peat restoration.

The readiness of the Jambi Provincial Government is very mature in implementing peat restoration policies. This can be seen from the seriousness of the Jambi Provincial Peat Restoration Agency which is under the auspices of the Jambi Provincial Forestry Service in

implementing peat restoration policies. The programs that have been prepared are already running in several regencies such as Muaro Jambi Regency, East Tanjung Jabung Regency, and also Sarolangun. Peatland restoration takes a long time to realize. Therefore, the role of relevant agencies and even the community is also the key to the success of the Jambi Provincial Government in implementing this peatland restoration policy.

The Jambi Provincial Government has made efforts to realize the implementation of peat restoration policies. The initial effort made by the government was to conduct socialization to related parties and also the community regarding how the restoration itself was carried out. Then the second effort that was carried out after the socialization was completed was to run three programs of peatland restoration.

These programs are rewetting, revegetation, and economic revitalization. Of the three programs, the implementation has gone well from wetting or rewetting, namely by building canal blocking and drilled wells that function to maintain water availability and maintain peatland moisture. The second program has also been carried out, namely revegetation or replanting of trees affected by fires. And the last program, namely economic revitalization, has also been carried out by providing livestock assistance to the community, which later if there is profit from raising livestock, it can be used to help the community's economy.

In implementing the policy, of course, there will be pros and cons from the community. So the government is trying to find a solution by providing socialization or understanding to the community regarding peatland restoration. The government as a service provider to the community also cannot carry out restoration by forcing the community. Therefore, the government is trying to do as much as possible to implement the peatland restoration policy in Jambi Province.

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