

The Empowerment of Rawa Pening Communities in Enhancing Cleanliness and Environmental Sustainability

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ABSTRACT

Rawa Pening is one of the villages in Semarang Regency, Central Java. It is known as an area with a lot of problems, especially those that are related to environmental damage and cleanliness. Obstacles that are faced by the Rawa Pening community are the lack of motivation and awareness about the importance of environmental cleanliness, mainly in terms of disposing trash around the Lake of Rawa Pening and water hyacinth weeds problem in the lake. The aims of this study are 1) Building a village empowerment program in Rawa Pening village to improve environmental sustainability and cleanliness, 2) Explaining the strategies, tips, and mechanisms performed by the community in pursuing environmental sustainability and cleanliness. This study used a qualitative method with data collection techniques through in-depth interviews and FGDs as well as involved observations. The solution that can be carried out to overcome the problem of environmental damage is by conducting socialization of Rawa Pening village movement through local culture and community empowerment programs. The result of the community empowerment program is that Rawa Pening village can improve cleanliness and environmental sustainability through cultural awareness. The Rawa Pening village movement has improved environmental sustainability and cleanliness. With the awareness through culture and local wisdom, the Rawa Pening community is committed to make sustainable efforts from the clean and healthy Rawa Pening movement program.

Keywords: Empowerment, environmental cleanliness, Baru Klinting, Rawa Pening

INTRODUCTION

Indonesia has abundant natural resources; one of them is the lake ecosystem. There are 840 small and big lakes in Indonesia. A lake is highly needed for human life because the lake ecosystem provides productive natural resources. A lake serves as drinking water material and sources of animal-based protein, mineral, and energy, transportation means, and tourism area. The lake typology in Indonesia varies and majority of the lakes in Indonesia are natural lake (Haryani, 2013). As one form of freshwater ecosystem on the earth, a lake has important functions for the living creatures on earth. A lake has three functions for human life: ecology, cultivation, and social economy. One activity from cultivation aspect that is often done by the community who lives around the lake is floating net aquaculture. Meanwhile from social economy aspect, the lake is related directly to the life of people who live around it

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(Wulandari, 2013). A lake also functions as a hydroelectric power plant, irrigation, farming, fisheries, tourism, livelihood sources, and flood controller. Because of the important functions of the lake for human life, lakes in Indonesia should receive more attention from the community around the lake and from the local government as well. When lake utilization and management are arranged properly and consider the condition and quality of the environment, lake usage and processing will bring additional values to improve community welfare, health, and environmental preservation. On the contrary, if lake utilization and management are not done properly, it will result in the declining quality of the environment which is impactful to the community welfare.

Rawa Pening is a natural lake that has given life for the community around the lake. Besides that, it also provides beautiful natural view that brings good potentials for tourism field. The beautiful and exotic Rawa Pening Lake as one of tourism areas in Central Java has been visited by many domestic and foreign tourists. The community around Rawa Pening Lake has felt many benefits from the lake for their life continuation. However, since 1998 the quality of Rawa Pening Lake has decreased and later on the damage continues to increase and hard to control. Various efforts have been done in returning Rawa Pening Lake to its previous condition but until 2020 it has not shown any satisfying result. In order to overcome this problem, it needs active roles from the government and the community in doing revitalization, mainly from the people who live around Rawa Pening Lake so that quality of the lake can be returned as before and community welfare improves. Therefore, in this case, community empowerment becomes an important and urgent thing to do. Community empowerment should focus on human resources as a *subject* or *implementer* and not as an *object*. Human resources empowerment of a community is a building process where local people have the initiative to start the empowerment activity process for shared prosperity. The aim of community empowerment is to build, train, move, and provide motivation and awareness to the community either independently or collectively to strive for development and prosperity. Empowerment according to Sahendra (2006:74-75) is a dynamic sustainable activity that synergistically promotes the involvement of all available potencies in evolutionary ways by involving the community. Community empowerment is increasing the power of those who are less fortunate (Suhendra 2006:77). Furthermore, community empowerment is an effort to intensify the community's abilities and potencies so that they can actualize their identities, values, and dignities maximally to survive and to develop themselves independently in economic, social, religious, and cultural fields (Wijaya, 2003:106). The government's role in a community empowerment activity is very important, but the most prominent is the active role and aspiration of the local community itself, as the subject who deals with the problems. Therefore, it is important to find out the potencies of local people as the empowerment subject in every community empowerment.

Rawa Pening Lake is appointed as one of 15 lakes in Indonesia that needs immediate revitalization because it suffers severe damage which brings more harm than good for the community. In its progress, Rawa Pening Lake, which is located in Ambarawa-Banyubiru, Semarang Regency, Central Java continues to decrease its quality, meanwhile, this lake has a vital function for the community's daily life. The local and central governments have done various efforts to solve this problem, however this crucial problem hasn't been overcome yet up to this current time. In community empowerment, one supporting factor to reach the target of empowerment activity is highly influenced by the approaching model that is used in implementing the empowerment. In this case, the intended approach is related to the method that is used so that the community which becomes the empowerment target may have an open

characteristic in receiving the empowerment. The empowerment concept explains that community resources are an important key for the success of empowerment. In the context of Rawa Pening community empowerment research, the focus of the research will be the community role in pursuing the sustainability and health of the lake. So far, the local government has an active role and has complete programs that are designed to control the damage of Rawa Pening Lake. However, this should not take over the role of local people who understand the most about their needs and directly affected by the damage of Rawa Pening Lake. Therefore, when the local community is not optimally involved in the effort of improving the function and quality of the lake, it will impede the success and it will only become an endless project, and even it may create new problems. Based on that problem, this research will explain the empowerment of Rawa Pening Lake community to pursue a clean, healthy, and sustainable lake by using resources of the local people. Empowerment of the local community, as the subject of cleanliness and sustainability movement of Rawa Pening Lake, has been done previously, but it didn't show a significant result. In this research, community empowerment is not implemented in the top-down method, but it uses the bottom-up method, where the community becomes the damage controller of Rawa Pening Lake while coordinating with local government who roles as the facilitator or mentor only. An empowerment form that is appropriate with the context of Rawa Pening Lake community is by using a local culture approach, the Baru Klinting approach. Values and culture have very important roles that may support and accelerate the changing process in the community so that a strong, advanced, and independent community can be built to reach the goals of community empowerment. Baru Klinting Festival expects the community of Rawa Pening Lake to be able to live harmoniously with nature also to preserve and manage the environment for shared prosperity. This research will also describe and deeply analyze the impacts of Rawa Pening Lake damage for the community and Baru Klinting Festival is used to promote the environmental sustainability movement through tourism.

Research Questions

Based on the background problems above, following are the research problems that will be explained

in this study:

1. How is the damage of Rawa Pening Lake and what kind of efforts should be done to solve it?
2. So far, why did not government programs to solve the problem of Rawa Pening Lake give an optimum result?
3. How is the role of Rawa Pening community in attempting the sustainability and health of the lake?
4. What kind of community empowerment program suitable for Rawa Pening community?
5. How is local culture used as media of Rawa Pening community empowerment?

Research Urgency For Community

This research is expected to be able to help in solving the problems of Rawa Pening Lake, preparing and providing qualified, creative, and responsive community resources through training and socialization by using local culture media.

For Semarang Regency Government

This research may identify chances and strategies to develop natural resources and community; becomes the best solution to overcome the environmental damage

problem through a partnership with universities, NGOs, and other social organizations. The government will receive the highest benefit in terms of obtaining the appropriate community resources.

For Universities

It develops the potencies of universities in supporting the availability of facilitators and encourages directed natural and human resources development to the community as well as the development of the capacity building of the involved universities.

RESEARCH METHOD

This research will use a qualitative method. A qualitative method is used to understand, describe, and explain a social phenomenon. It can be attained by analyzing individuals' or groups' experiences. Experiences may be related to the life or practice that emphasizes knowledge analysis and story. It can be achieved through analysis of interaction, communication, and documentation. Data sources are obtained from observations and interviews to have a deeper understanding of the current and more comprehensive situation. Data analysis is done by using an analytical and logical model to evaluate and to check the collected data. Deep interviews and observations are performed by getting involved in the community to explain the overall situation of Rawa Pening Lake, included in it is the culture of local people. A conceptual framework is a system of concept, assumption, expectation, belief, and theory that supports and informs the research which acts as a map that connects all aspects of the research that include research problems, literature reviews, methodology, data collection, and analysis method. The research location is in Rawa Pening, Banyubiru, Ambarawa, Semarang Regency. The community and research location in Rawa Pening Lake are selected because previously it was famous as a natural, beautiful, and clean lake, but now it faces severe damage. The community empowerment uses a cultural approach that is Baru Klinting Festival to campaign a movement to preserve and manage the environment through tourism.

RESULTS AND DISCUSSIONS

General Description of Research Location

Geography

Rawa Pening is a natural lake that is located in Semarang Regency, Central Java Province, which is about 40 km south of Semarang City. Administrative boundaries of Rawa Pening are: at the north is adjacent with Bawen Sub-Regency, at the south is adjoin with Ambarawa-Banyubiru Sub-Regency, and at the west is neighboring with Tuntang Sub-Regency. Ambarawa connects important train lanes because it has a serrated railway that links all areas in Central Java until Jogjakarta through Magelang. The train lane of Semarang-Ambarawa-Magelang operated until 1977. At this present time, this train lane is used as Ambarawa Train Museum, one of the tourist destinations in Central Java Rawa Pening is located in the southeast of Ambarawa City. According to J Van Bemallen, a geologist, this lake was formed from a basin of a tectonic lake which occurred from tectonic gravitation, a shift due to gravity that caused the Ancient Telomoyo Mountain – which was known as Soropati and Sobek – produced Klegung fault that is no longer active. During the pre-historic period, the east side of Soropati shifted to the northeast so that the area between Telomoyo Mountain and Payungrong highlands had decreased. As a result, the bottom leg part was broken and folded which finally created a basin that was filled with rainwater and produced many springs from the aquifer fracture. This basin is known as Rawa Pening Lake. This lake is the main

water resource of Tuntang River that boils down to the Java Sea. Later on, in 1921-1923 the Dutch East Indies Government stemmed the water flow that came out from Rawa Pening Lake by building Gerak Jelok Dam (43, 25 m width with 6 radial doors) on the upstream part of Tuntang River to be flown to the turbines of Jelok and Timo hydroelectric power plant whose capacity is 25MW. Astronomically, the location of Rawa Pening Lake is on 7 15'55" SL – 7 18'54" SL and 110 24'54" EL and 110 27'18"EL (RBI map scale 1:25.000 Ambarawa sheet).



Photo of Rawa Pening lake and community activities looking for fish and other aquatic animals for their survival

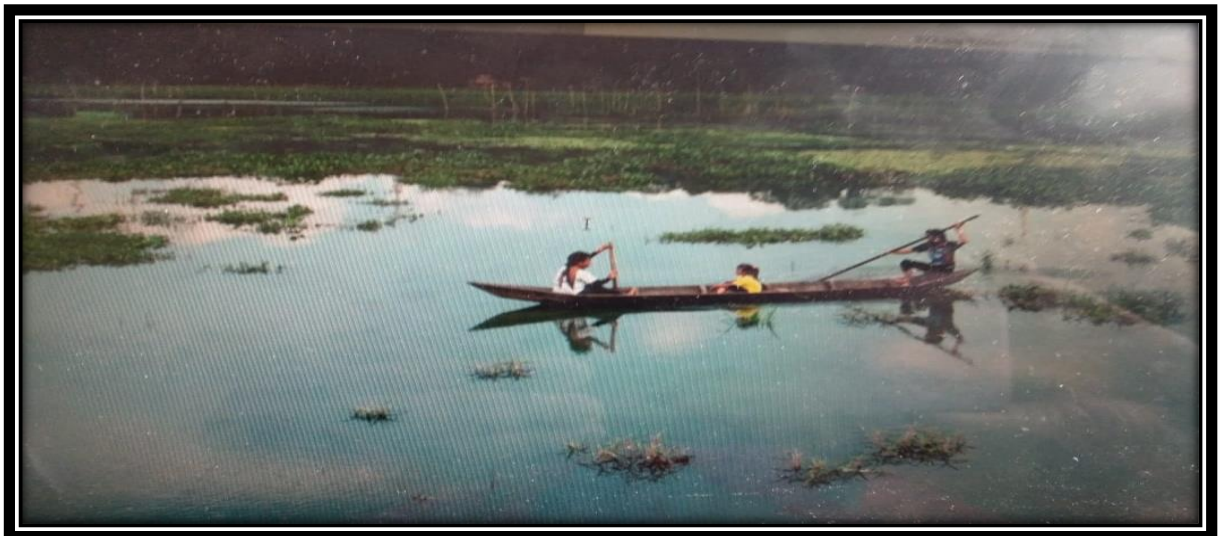


Photo of condition of Rawa Pening lake which experiences declining quality due to massive growth of water hyacinth and domestic waste

Profile of Rawa Pening Lake

The name of Rawa Pening Lake is derived from the word *rawa* (lake) and *pening* (Javanese word for "clear" or "clean") and it is a natural lake in Semarang Regency, Central Java Province with an area of 2,670 hectares and it was famous with its clean and clear water. Until today, Rawa Pening Lake has a role as a life source for the

surrounding people to support their various activities. Some natural resources of Rawa Pening Lake are peat, water hyacinth, inland fisheries, cultural heritage, and beautiful natural view. Rawa Pening Lake has offered many things that bring positive and negative impacts. The negative impact such as clean water supply is threatened, increasingly rare inland fisheries and habitat for the animals. Almost more than 60 percent of Rawa Pening Lake surface is overgrown with water hyacinth weeds which causes the productivity function of Rawa Pening Lake to decrease. The amount of fish in Rawa Pening Lake also declines in which previously there were plenty of fish and served as economic resources and to be consumed by the people of Rawa Pening Lake and the surrounding areas. While for the positive impact, Rawa Pening Lake has a role as life sources for the community because it can't be separated from various activities of the people performed in Rawa Pening Lake. Community activities increase along with the development in the area of Rawa Pening Lake. According to Connell & Milner (1995 in Ardi, 2013:959) to meet the human need, the surrounding areas of the lake is changed to be appropriated with the way of life and the way of life of human, such as housing, road facilities, household sewerage, farmland, recreation, etc.



Photo of Rawa Pening lake filled with water hyacinth plants on the surface

The climate in Rawa Pening Lake

The climate in Rawa Pening Lake can be categorized as a humid tropical climate because it is included in Af until Am type of Koppen climate classification while according to Schmidt Ferguson climate classification it is in C-D climate. If it is classified, the areas around Ambarawa or Rawa Pening Lake is categorized as monsoon forest (Soeprobowati, 2012: 38).

Ecosystem Condition, Decreasing Quality of Rawa Pening Lake, and Community Role Toward Lake Preservation

Impact of water hyacinth massive growth that may damage Rawa Pening Lake

An ecosystem is a life chain that influences each other in forming a community living in a certain environment (Suharini and Palangan 2010:5). An ecosystem is characterized by the exchange of materials and energy transformation that takes place among various components on the system itself with other systems. The ecosystem of a lake is very useful to support human life. Related with that, the decreasing function and

benefit of the lake are caused by pollution and environmental damage around the lake. Being seen from the function, the ecosystem consists of two components; they are autotrophic and heterotrophic components. Autotrophic components are the organisms that can provide their own food independently by changing inorganic substances into organic substances with the help of the sunlight and chlorophyll. The examples are grass, rice, corn, wheat. While heterotrophic components are organisms that use organic materials that have been provided as food materials because they can't produce food by themselves. The examples are humans, animals, and microorganisms (Irwan, 1996:31). Rawa Pening Lake which formerly was famous with its water clarity and beauty has been damaged since 1998 and it continues to decline from time to time up to this present time. The community around the lake feels the impact of the damage, considering that the lake ecosystem is very useful to support the community life. The decreasing function of Rawa Pening Lake is caused by pollution and environmental damage of the lake water, and it is added with the community behavior in which they do not aware to preserve the environment by disposing trash into the lake. Besides that, it is triggered with water hyacinth growth so that it fulfills the lake and it is not balanced with a good eradication method. Nevertheless, water hyacinth has a positive and negative impact too. For the people around Rawa Pening Lake, water hyacinth becomes an endless source of blessing that can be taken and used as a family economic source by selling its stem as a raw material to make woven crafts that are exported to foreign countries. Besides that, water hyacinth has biologic properties such as a filter for the polluted water, compost, source of ammonium sulfate gas, gas, hydrogen, nitrogen, methane, and a raw material for plant fertilizer. Water hyacinth also can be used for the paper industry, craft, and raw material of carbon active. However, water hyacinth becomes a problem that can't be overcome yet because of its massive growth. Water hyacinth wild growth fulfilling the lake surface decreases the aesthetic of the environment that reduces the beauty of the water surface, impedes the water traffic, and hinders the sunlight that goes into the water which declines oxygen solution in the water. The dominant vegetation in Rawa Pening Lake is water hyacinth because it grows rapidly, so it is considered as a weed that damages the aquatic environment. The significant growth of water hyacinth took place in 2005 and 2013. In 2000 water hyacinth covered 25% of the surface, and in 2005 it increased by 65%. It declines to 32% in 2009 and 45% in 2013. This very rapid growth of water hyacinth disturbs the fishery activities, ruins the beauty of the lake, and accelerates the silting of the lake. Factors that change the area of water hyacinth and lake surface are sedimentation, climate, and land usage.

Changes in Rawa Pening Lake Condition and Community Attitude

The natural Rawa Pening Lake, that its width is 2,660 hectares, is in alarming and critical condition. It is very unfortunate because physically, Rawa Pening Lake has an exotic agro-tourism potency that attracts people's attention. Besides that, it is a source of blessing for the surrounding community as it becomes the livelihood for the farmers and fishermen around the lake. The results of studies on Rawa Pening show that Rawa Pening conditions undergo extensive changes from year to year and reap dangerous and detrimental problems of living. The lake silts because of sedimentation that is resulted from the uncontrolled growth of water hyacinth. Later on, the dead water hyacinth produced waste that enters the river. Besides that, the people who plant around the lake also face a threat because of the dry lake condition. If it is not solved immediately, Rawa Pening Lake may disappear. In 1998 and previous years, the depth of this lake was 15 meters while the latest data in 2018 showed a similar width but it was only 3 meters deep due to sedimentation. Lake has decreased its carrying capacity and functions as a result of sedimentation and silting due to water hyacinth

that fulfills the lake is not less than 75% of the lake width and because of erosion from the water river that enters the lake. Every year, the silting is 42 cm height because of the factory and household waste and also 14 tributaries surround it. The erosion is caused by deforestation and land usage changing to be housing. Indirectly, besides causing sedimentation, water hyacinth also reduces the water capacity of the lake. Now, the water debit volume of Rawa Pening Lake, which is used for irrigation and hydroelectric power plant, has shrunk. The sedimentation reaches 72 tons per year. Even, the sedimentation has deteriorated starting from the upstream. On the other hand, there is eutrophication factor or high fertility rate which triggers water hyacinth growth. So far, although experiencing a critical situation like this, the community's awareness is very low. This community low sense of crisis toward the lake deteriorating condition shows low sensitivity of the community about environmental damage and preservation. All this time, there is no good response yet from the community about the government efforts to handle the crisis in Rawa Pening Lake. The community still thinks and acts based on their physical needs in facing the land problem for farming or the lake condition that deteriorates. One important thing that is stated in their mind is they can have a meal for today. Therefore, awareness to do countermeasure acts together with the government hasn't been done yet. In fact, water capacity that continues to decline may cause the power of hydroelectric power plant and irrigation to water the rice field also decrease. Certainly, this will bring impact to the farmland and rice field which cause big loss. Data show that water width of Rawa Pening Lake was narrowed down during 2000-2007. The highest narrowing rate occurred in 2007 that reached 4.4%. However, from 2007-2013, it reached 3.5% - 12.8% per year. Quality declining in the period 2000-2013 was the narrowing and dynamic lake width surface (Trisakti 2014:398). Central Java Governor, in dealing with these complex problems, offers lake revitalization mainly for the short term and involves various stakeholders for the long term.

Community Empowerment in Preserving Rawa Pening Lake

Kartasmita (1995:95) states that community empowerment efforts should be performed in three ways. They are (1) creating situation or climate that may develop the community potencies; it is based on assumption that every person and/or community has the potencies to develop and to be developed, (2) community empowerment process is highly rooted on the independence process which may widen to the family and the community group either locally or nationally, (3) empowerment also means strengthening the community power or resources by applying real steps, accommodating various inputs, providing facilities and infrastructures either physically (irrigation, road, and electricity) or socially (schools, and health service facilities) which can be accessed by the lowest level of the community. This explanation is reinforced by Adisasmita (2006:35). Community empowerment is an effort in utilizing and managing community resources in the villages in more effective and efficient methods that covers: input aspect such as human resources, fund, tools, or facilities, data, plans, and technology. Then, process aspects such as implementation, monitoring, and supervision should be well prepared too. The next is output aspects such as achieving targets, effectivity, and efficiency that become the goals of this community empowerment activity. Therefore, the research context is the community of Rawa Pening Lake that becomes the empowerment subject because they are the closest people who understand and directly experience the problems of their area. Rawa Pening Lake community empowerment has a goal to maintain and preserve Rawa Pening Lake that has experienced ecosystem damage. The assumption is that every person or family of Rawa Pening Lake community has the potencies to develop so that every community member is encouraged to be more active and productive in utilizing

water hyacinth that fulfills the lake and may damage the ecosystem and quality of the lake. The community is taught not only to take the water hyacinth but also how to process the weed to be creative products that may bring economic benefit. Declining quality of the lake and environmental damage that harm the community have been felt by the community of Rawa Pening Lake with the depletion of natural resources which previously had huge amount of fish and other sea animals that could be consumed and sold. Besides that, the community behavior in disposing trash and household waste which cause the environmental damage and dirtier water of the lake should be an urgent agenda to be overcome; that is by educating the community of Rawa Pening Lake and the surrounding areas. Because of the trash that piles up in the lake, the community may run out of clean water for their daily needs, and in turn it will be very prone to the declining of community health. In this case, the community of Rawa Pening Lake has the key role in striving for the preservation and cleanliness of the lake and in overcoming sedimentation, trash, and environmental pollution that includes local fish specialty and the native flora and fauna of the lake. These people also need to be taught about how to manage water hyacinth as the main problem in Rawa Pening Lake, and they should be encouraged to take more water hyacinth as it has two functions: decreasing the weed that disturbs the lake quality and community economic empowerment. With these abundant potencies of Rawa Pening Lake, the community may be driven independently and collectively to manage these natural potencies responsibly by digging and processing the potencies for social welfare. In this case, community empowerment refers to the empowerment concept, which is individual independence that later on develops into family independence. This includes independence in thinking, taking action, and controlling what they do. Independence is highly needed in the community empowerment because it is a condition that is signed with the community ability to think, decide, and do the correct actions to solve their problems by using their own power/ability. With this individual and family independence, the government's role could be reduced gradually, and at the end it should be released and handed over to the community of Rawa Pening Lake as the implementer in keeping, preserving, empowering, and managing the surrounding environment independently in a responsible manner. Revitalization effort of Rawa Pening Lake by involving the community as the mobilizer can be implemented with following strategies: (1) educate the families around Rawa Pening Lake that have clean water problem by cleaning the houses and garbage, taking more water hyacinth to reduce the waste so it may cleanse the water, etc., (2) provide the community with understanding and ability to assess the risks and consequences that are faced individually or collectively, (3) give good understanding toward the risks of environmental pollution and availability of clean water for their health and environmental cleanliness, (4) use water hyacinth as fertilizer and craft that may increase community economy, (5) Baru Klinting Festival becomes a community celebration that moves and motivates them individually and collectively to care about and to preserve the environment. Those five strategies need to be done consistently, being monitored and evaluated to return the lake quality.

Baru Klinting, the local culture that serves as a media in maintaining and preserving a healthy and sustainable Rawa Pening Lake

Lately, environmental damage is getting worse and it certainly needs urgent actions to overcome and to prevent it from continuing. Awareness toward the nature and the environment are highly needed at this time to balance the overexploitation from the community and certain organizations. One method to return the community awareness about the importance of environment for their life is by using a cultural approach that ever lived in its era. At this moment, Rawa Pening Lake experiences problems of

siltation, water hyacinth massive growth, and water pollution because of sewage. Previously, Rawa Pening had very clear water and it has a legend about a dragon, which is named Baru Klinting. It is expected that through a cultural approach, it will be easier for the community to receive values and appeals from the message that is delivered from the story to care about environmental sustainability. Baru Klinting Festival in this research has a goal to return the spirit of caring toward nature and the environment. The community gets and works together to build again, to preserve the nature and the environment. Baru Klinting was a son of Endang Sawitri and his father was a king who was meditating in a cave on the slope of Telomoyo Mountain. Baru Klinting wanted to look for his father. His mother allowed him to meet his father, and she gave him a small bell to be carried, a proof of his father's legacy. Happily, Baru Klinting went to the hermitage of Ki Hajar Salokantara, his father. When he arrived there, Baru Klinting was welcomed, and he was asked to meditate in the forest. One day, the harvest time came and there were abundant crops and yields in the village of the forest where he meditated. The village people went to the forest to hunt animals for the party dish. They didn't find any animals and finally they found Baru Klinting's body that they thought a root. Therefore, together they cut Baru Klinting's body for their dish. The party was very lively. Then Baru Klinting changed his body to be a dirty boy who asked for meal. Instead of giving him the meal, these people banished him from the party rudely. An old woman saw that and she took Baru Klinting to her house where she served meals to him. After Baru Klinting finished his meals, he told the old lady that when she heard a roar sound, she had to enter into a mortar. Afterwards, Baru Klinting returned to the village party. As previously, he was not treated well. Then, he held a contest. He plugged in a stick to the ground and he said if anyone could pull out the stick, he would leave the village. Unfortunately, none of the people in village could pull out the stick that Baru Klinting plugged in. Finally, Baru Klinting pulled out the stick by himself and water spurt out from the hole which soon got bigger and caused a big flood. The old woman was able to survive because she rode on a mortar as Baru Klinting told her. From that legend, there is a moral message that greediness may turn people to be covetous therefore they won't care about other people who need help. Self-control becomes a main factor, to be personal safety net as a provision of life to live in the community for not doing bad actions. Baru Klinting Festival has a goal to return awareness spirit toward the nature and the environment. It is an effective method to do to collect the community and to work together to rebuild and preserve the nature and the environment. To deal with the environmental damage, the cultural approach is expected to make the community aware to have a clean and healthy lifestyle, to maintain and preserve nature and the environment more seriously based on individual and collective awareness. Through the local culture approach, the community will easily accept the values and appeals from the message to care about environmental preservation. The legend of Baru Klinting has moral messages; they are: individual self-control to be the main factor, to be a personal safety net as the provision of life into the community by not doing any harmful deeds toward human fellows, nature, and the environment. Community awareness and empowerment through local wisdom is thought to be effective and directly hit the community of Rawa Pening Lake. Baru Klinting is a name that attaches from the legend of the origin of Rawa Pening Lake. It is told to the offspring of the community in Rawa Pening Lake and the surrounding areas, and it becomes an option for the community empowerment approach. Values in the community are needed to decide which actions or attitudes that are considered right or wrong, good or bad. Based on the cultural values, the norm is arranged which states what things should be done and which one that is considered good or bad that may influence the activity of the community empowerment. There are many activities in Baru Klinting Festival, such as ornamental boat competition,

traditional art competition, duck catching competition, and exhibition about economic potencies of the local people. It is held annually in Rawa Pening Lake area, and it is attended by the community. Through Baru Klinting Festival, the spirit of community awareness toward nature is refreshed again. When the community gets together and works to preserve nature and the environment, a new life has been realized. Besides that, Baru Klinting Festival also promotes Rawa Pening Lake that is exotic, beautiful, and rich with natural resources as a reliable tourism destination. Research shows that Baru Klinting Festival is proven to be effective and successful in realizing the healthy, clean, and beautiful Rawa Pening Lake that is appropriate with the local context. Through the cultural approach, the community is reminded and taught the importance to maintain and preserve the natural resources continuously both individually and collectively. Spreading Baru Klinting Festival movement may inspire other areas through social networks, keep on campaigning the movement to maintain the environment and to change the paradigm that has been incorrect so far in managing nature and the environment. Baru Klinting Legend is considered effective to be used to teach and to realize the community about the importance to maintain and to preserve nature and to care about human fellows. It is because basically, the relationship among humans, nature, and God is related to each other and can't be separated. If one is being damaged or hurt, the others will be damaged and hurt as well even it may lead to collective death. Reversely, the universe will provide a life for humans if humans make friends with nature. By using the local culture approach, the community learns how to be responsible to maintain and to preserve nature as a form of obedience to God.

Declining Quality of Rawa Pening Lake That Is Caused by Water Hyacinth Growth and The Handling Efforts

At this present time, the condition of Rawa Pening Lake is in severe damage and pollution. Some of the damages and pollution include high level of sedimentation, declining water quality, damage in the water catchment area, lots of floating net cages and water hyacinth, flood in the downstream area, etc. Looking into those conditions, it needs sustainable lake management strategy by concerning about carrying capacity and capacity of the lake. Handling the Rawa Pening Lake becomes an urgent program because Rawa Pening Lake is a semi natural lake that has a strategic role as a natural reservoir for the hydroelectric power plant, main source of drinking water, irrigation, fisheries, and tourism. Meanwhile, siltation occurs because of sedimentation, erosion, and uncontrolled growth of water plants, mainly water hyacinth. This massive water hyacinth growth covers the lake surface. In the dry season, the covering of the lake surface because of water hyacinth and other water plants reaches 80% of the width of the lake surface. Certainly, to overcome this problem, it needs a collective action not only by the government but also mainly by the local community of Rawa Pening Lake. One continuous effort that is performed by the government and the local people of Rawa Pening Lake up to this time is preserving the ecosystem of Rawa Pening Lake through extermination effort of water hyacinth that fulfills the lake. This water hyacinth extermination is done by the community manually and using machines. The people of Rawa Pening Lake take water hyacinth manually only in the morning at 04.00-10.00 am, meanwhile if they use a machine, they can do it all day long. It is because taking the water hyacinth manually is quite a heavy job therefore, they can't work in a long time. After the water hyacinth is taken, instead of disposing it, the community uses it as animal feed, fertilizer, biogas material, and woven handy craft. Majority members of the community receive many blessings from water hyacinth in which they may take it anytime and as much as they want since the basic characteristic of this plant will never run out although it is taken as much as possible due to its rapid growth. However, the community doesn't want to take too much water hyacinth and doesn't want to involve

all the family members for this job. They have satisfied in taking it as they think the amount has been enough, which is about 6-8 kg per day. The next process is they remove the leaves of the water hyacinth and take the stems to be weighed. Then, it is sold in wet or dry condition to the collectors which later sell it to middlemen by sending it to Jogjakarta. The selling price of water hyacinth for the length of 70 cm is between IDR 6,000 – IDR 7,000/kg. If they take more water hyacinth, certainly their daily earning will increase. Unfortunately, they don't do that. Therefore, it needs the community empowerment to make the job of taking water hyacinth to be more productive for the economic welfare, also as quality control for the damage of Rawa Pening Lake. Furthermore, the community of Rawa Pening Lake should be mobilized continuously to get involved directly and to take an active action in the lake revitalization program. The implementation should be adjusted with the contexts of each village and the availability of local village resources. The goals of this revitalization process are to actualize the preservation and to manage the ecosystem of Rawa Pening Lake that has been stated as one of 15 lakes in Indonesia that needs immediate revitalization. One obstacle that is encountered is that there are many problems in the program implementation. In order to overcome it, the local government together with the local community and Department of Tourism and Environment of Semarang Regency continue to review Rawa Pening Lake as a case study. In its development, this program also involves research and development institutions, universities, and researchers in Semarang Regency and the surrounding areas.

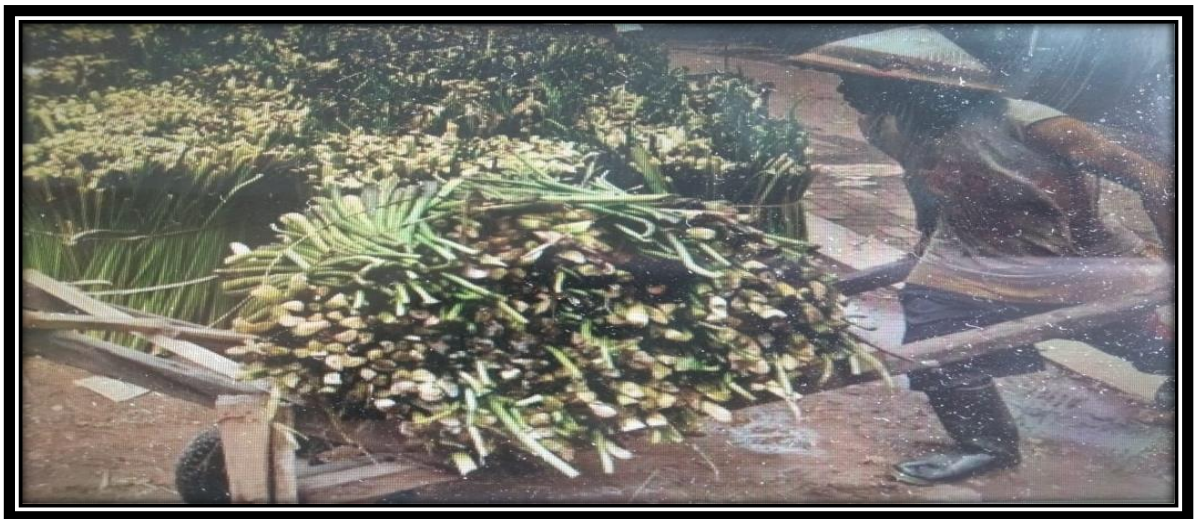


Photo of community of Rawa Pening collecting water hyacinth plants

Rawa Pening Lake Ecosystem Movement and Lake Revitalization Program

In its development, the effort of lake revitalization that is implemented by the government and the local people have not shown the expected result yet. It is because the institutional system and policy implementation have not been optimal yet. Besides that, the role of the Rawa Pening Lake community is less adequate. Their involvement to take part in pursuing the clean, healthy, and sustainable lake are still low; even they don't seem to care about it. In this case, the local government keeps on trying to overcome this problem by writing *Grand Design of Rawa Pening Lake Ecosystem Saving Movement*. In this program, there are three approaches that are designed to figure out the root problems; they are (1) science and technology application for remediation of water body and water catchment area, (2) institutional development in managing the lake, and (3) community empowerment in lake conservation

management. Next, these three approaches will synergistically be supportive and integrative to each other. Based on SWOT analysis, then root problems of Rawa Pening Lake will be solved through Super Priority Programs (main programs) and Priority Programs (supporting programs). This Super Priority Programs consist of 6 activities. They are (1) water hyacinth handling, (2) critical land handling, flood erosion, and sedimentation handling, (3) declining water nutrient content of Rawa Pening Lake, (4) review of current lake limnology and reconstruction of water quality in the past, (5) implementation of environmentally friendly agriculture, and (6) improvement of the community involvement and concern in Rawa Pening Lake Conservation management. Furthermore, the priority programs that have been created consist of several activities. They are the development programs of environmentally friendly fisheries of Rawa Pening Lake; integrated waste control; integrated drainage; Rawa Pening Lake research center; the planning of developing Rawa Pening Lake based on the area and management policy of water hyacinth that involves the community; the development of regulation/policy management on Rawa Pening Lake and water catchment areas; border line policy and natural resources protection; zoning utilization of Rawa Pening Lake; water hyacinth utilization to solve the blooming problems and to increase community income; the development of ecosystem and environmental awareness forum. However, the implementation of these activity programs highly depends on the coordination and cooperation among institutions and community involvement. The empowerment activities may create changes for better aspects of life for the community of Rawa Pening Lake. Therefore, it certainly will improve the quality of life and community welfare. The local community needs to grow the sense of strong will and working ethic; the efficient, effective, accountable behavior; and be able to appreciate openness principle. In order to actualize those senses, the following are several activities that have been designed together with the community: (1) training on cleanliness and health, (2) creating a joint program about environmental preservation, (3) prevention on environmental damage to evaluate government programs that have been executed so far, and case study on environmental preservation by using a local culture approach. The local culture of Rawa Pening Lake, Baru Klinting Festival, is considered capable of being the media to mobilize environmental care community. Through Baru Klinting legend, the community is reminded of the importance to maintain a harmonious relationship between humans and nature. Baru Klinting legend warns the community not to be greedy and dominating nature to satisfy their needs.

CONCLUSIONS

A community empowerment program can be said successful if it fully involves the community as spearhead. While for the revitalization program of Rawa Pening Lake preservation, the local community needs to be facilitated to review the problems they face and attempt for welfare fulfillment by using their own potencies, either individually or collectively. When clean water supply in Rawa Pening Lake starts to be threatened and inland fisheries are rare, the community will feel the impact first. Therefore, the community of Rawa Pening Lake should be the main actor in implementing the lake revitalization program. No matter how good the government program is, if community involvement is still low, the lake revitalization will never be realized. Practical programs related to the lake revitalization through the community empowerment that is aware about clean and healthy environment have been implemented. They are (1) improving study toward the community empowerment that is aware about clean and healthy Rawa Pening Lake by using a relevant and contextual method; (2) conducting sustainable training and coaching for the community in preserving and maintaining the environment and equipping the community in managing potencies and strength of

Rawa Pening Lake; (3) holding Baru Klinting Festival annually as the reminding media about the importance to preserve the environment and Rawa Pening Lake. The implementation of the Rawa Pening Lake revitalization program is executed in short and long terms by the local people and the Local Government of Semarang Regency.

REFERENCES

- Abimanyu K (2016). Analisa Pemanfaatan Sumber Daya Alam Rawa pening Kabupaten semarang.
Skrripsi Program Studi Pendidikan Geografi Fakultas Ilmu Soasil
UNS
- Foy Nancy. (1994). Empowering The Politics of Alternative Development. Blackwell
Publisher. Cam
Cambridge. USA
- Fitriana Fatchatus Saidah (2019) Pemberdayaan masyarakat Melalui Pemanfaatana
Enceng Gondok
danau rawa Pening Oleh Kelompok Usaha Pemuda Produktif
(KUPP) Karya
Muda Syarina Production. Tugas Akhir Pengembangan
Masyarakat Islam
Fakultas Dakwah Dan Komunikasi Universitas Islam Negri
Walisongo.
- Haryani, gadis (2013). Kondisi Danau di Indonesia dan Strategi Pengelolaannya.
Jurnal Cibinong:
Pusat Penelitian Limnologi-LIPI
- Irwan Zp13). Kondisi Danau di Indonesia dan Strategi Pengelolaannya. Jurnal
Cibinong:
Pusat Penelitian Limnologi-LIPI
- Kementrian Lingkungan Hidup (2001). 15 Danau Prioritas Nasional. Jakarta:
Kementrian Lingkungan
Hidup.
- Kartasasmita Ginandjar (1997). Pemberdayaan Masyarakat. Konsep pemberdayaan
yang berakar pada
Masyarakat. Makalah disampaikan dalam sarasehan DPD Golkar
TK I. Jawa
Timur.
- Lilis Karwati (2018) Model pemberdayaan Masyarakat Terintegrasi dengan Kearifan
dan Nilai
Budaya Lokal melalui pendekatan Sosial Wira Usaha. Visi Jurnal
Ilmiah
Pendidikan dan Tenaga Kependidikan Pendidikan Non
Formal. Vol.13 N0. 2
- Mochtar, Tasambar dll (2004). Studi Optimalisasi Potensi di Kawasan Rawa Pening
Semarang
Balitbang. Provinsi Jateng bekerjasama dengan Fakultas Tehnik
UNDIP.
- Pemerintah Provinsi JawaTengah (2018). Ringkasan Executive Rencana Pengelolaan
Danau Rawa
Pening Semarang.
- Suharto E (2005). Membangun Masyarakat. Memberdayakan Rakyat Kajian Strategi
Pembangunan

Kesejahteraan Sosial dan pekerjaan Sosial Bandung: PT. Rafika
Aditama.
Trisakti (2014). Pemanfaatan Penginderaan Jauh Untuk Memantau Parameter
Ekosistem air Danau
(Studi Kasus Danau rawa Pening) dalam Prosidingb: Seminar
Nasional
Penginderaan Jauh 2014.
_____(2013). Studi Penentuan Ukuran dan Distribusi Danau Air Vegetasi dengan
Metode
Penginderaan Jauh. Jurnal Limnotek 20 (1):10-20.
[https://crysweb.com/new/gaya_hidup/festival-baruklenting-kampanyekan-pelestarian-
danau-rawa-
pening](https://crysweb.com/new/gaya_hidup/festival-baruklenting-kampanyekan-pelestarian-danau-rawa-pening)
[https://www.wawasan.co/news/detail/6373/pendangkalan-rawa=pening-jadi_persoalan
serius](https://www.wawasan.co/news/detail/6373/pendangkalan-rawa=pening-jadi_persoalan_serius)