

# Sabuk Janur: tools to move community participation in reducing natural disasters and environment (case study at Lawu mount slope in Indonesia)

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**Abstract.** Globalization in general both traditional values and local knowledge that exist in a society, but this is different in the community of mountain slope lawu on the Java Island precisely in Karanganyar regency of Central Java is still maintained local cultural values to maintain sustainability Springs. This is a foothold for cheaper the benefits of community culture that play an important role in environmental conservation and social solidarity to cope with natural disasters and the environment. The research method used is qualitative with explanatory case study approach. The results showed that the Myth of Sabuk Janur proved able to build public awareness in preserving the environment and overcoming natural disasters and the environment. The high level of community participation in every development is evident from every stage of community participation in a program. Where the solidarity of social visible in all conditions, namely social solidarity in the nature of the in-celebration and the nature of overcoming the disaster that befall. The preservation of local cultural values is still done because of the existence of the identity of local communities. This is because the integration of national value and local potential becomes a prerequisite in every development plan. Thus the cultural approach is an effective strategy in solving the problems exist in an area, especially in overcoming natural disasters and the environment.

## 1. Introduction

Basically human ecology sees a mutual relationship between man and his environment. Human ecology is seen as the relationship between man and God Almighty, with his neighbor and with the environment (nature and artificial) in the vicinity. Man has two traits that underlie his relationship to his environment: first, his biological nature and his instincts as biological living beings; need for food, reproduce, remove dirt, require air and space. Second, have values, norms, minds, attitudes and perceptions about the world around and place itself in it [1].

Development based on environmental in principle strives for sustainable development. Development based on environmental is an effort to develop local communities with their ecosystems towards higher productivity and higher levels of fulfillment that are sustainably implemented in both ecological and social terms. Natural resource management should be done as efficiently as possible and by always maintaining an ecological system to meet the basic needs of its. Thus to achieve a balance between production activities and environmental carrying capacity required a change in production mode and consumption style. The community life on the slopes of Lawu Mount is modest, utilizing what they have is very relevant to support environmentally conscious development.



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Globalization in general abandon traditional values as well as local knowledge that exist in a society, however this differs in the community of lawu mountain slopes on the island of Java precisely in Karanganyar regency of Central Java which still maintain the local cultural values to preserve the springs . This becomes a foothold for further exploration of local cultural values that play an important role in influencing people's participation in environmental conservation and social solidarity to cope with natural and environmental disasters.

According to [1], environmental sustainability will be achieved when the use of existing resources is not drained out without adequate compensation. In addition, the community must also be prepared to utilize resources wisely. Conflicts that occur in the utilization of resources by various parties involved as actors in the actual development process is a process of interaction between people, technology and resources, and humans as the driving force.

Meanwhile, according to [2] related to resource utilization, the need for programs: (1) maintaining and improving land productivity by utilizing local resources (such as potential crop species, local superior seeds, green manure, compost and biofertilizer) ; (2) increasing the diversification of food crops; (3) optimization of integrated farming system through plant livestock systems, plant-based fisheries combined with efforts to increase crop production; (4) cultivating and planting the yard with useful plant species (such as family medicinal plants) and adapted to local conditions, and utilizing technologies that farmers can easily adopt and implement; (5) enhancing mentoring, guidance and training for farmers and farmer groups to encourage and enhance farmer self-reliance; (6) increasing the role of women in farming; (7) conducting surveys and mapping of food availability and vulnerability aimed at obtaining a true picture of the food conditions in Indonesia.

Conserving biodiversity means ensuring the continuity of sustainable development. There are four things that stand out that biodiversity has important economic prospects; (1) biodiversity is a potential source of genetic wealth; (2) biodiversity in the forests is the only hope of human life because there are scientific medicines; (3) having biodiversity means having a great choice to develop science and technology; (4) have biodiversity of varying species richness [3].

[4] defines local wisdom or indigenous knowledge as follows: "Indigenous knowledge is local knowledge that is unique to a given culture or society. That is important as a basis for a society which facilitates communication and decision-making ". Local people have many local wisdom / local knowledge in managing water resources in order to remain sustainable, development will be effective when there is synergy with the knowledge possessed by the local community.

UU no. 22 Tahun 1999 and PP no. 20 Tahun 2000, stipulates that local governments have full responsibility for strengthening local cultures. Local governments should create an atmosphere conducive to the growth of social groups, encouraging the growth of values and norms that enable them to enrich the social life of local communities and provide a driving infrastructure for the growth of civil society with high social capital. Thus, the management of water resources must be integrated which is implemented in a cross-sectoral manner by taking into account the function of water as an economic, ecological and social function.

Some of the reasons for the disturbance of water sources are: (1) the decreasing of land as water catchment area due to the development of residential and industrial areas; (2) declining water quality as a result of disposing of various wastes into rivers or water sources; (3) the decreasing of environmental carrying capacity to the sustainability of water resource function and benefit due to uncontrolled upland land use behavior; And (4) disruption of water resources sustainability and threatened sustainability of irrigation waterworks functions as a result of uncontrollable return of excavated materials for development [5].

Integrated and sustainable development needs to be realized in the optimal management of water resources fairly and maintain ecological balance. Therefore, it is necessary to manage water resources based on local culture and local wisdom for effective management. This research will explore further how local cultural values and local wisdom play an important role in influencing community participation in environmental conservation and social solidarity to overcome natural and environmental disasters.

## 2. Methods

This research is focused on the community on the slope of Mount Lawu in Karanganyar Regency. There are a variety of reasons that researchers deem to set a very urgent research setting to do. First, the region has an important role in conservation to reduce the sedimentation rate of the Bengawan Solo River. Secondly, in that area local wisdom plays an important role in maintaining harmony and maintaining environmental balance. Based on the problems posed in this research, which is more emphasis on the process and meaning of the problem, then the right type of research is descriptive qualitative research with phenomenology approach[6]. Because the research will be conducted in one district and focus on a particular problem, the analytical technique used is a single case analysis[7]. According to [8], in a single case analysis in each case the analysis process was performed using an interactive analysis model. In this analytical model, the three components of the analysis are: data reduction, data presentation and drawing conclusions or verification.

## 3. Results and Discussion

### 3.1. Local Culture of Lawu Mount Slope

Karanganyar District, Central Java, is indeed a very rich location with culture and tradition. One of the areas that contribute a lot to the diversity of traditions is the area at the foot of Lawu Mount. In the area of Kalisoro Village, Tawangmangu, which is famous for its clean tradition of Mondosiyo tradition. Before we see more about what is '*Mondosiyo*' traditional ceremony, now we first check the origin of this traditional ceremony. It is said that there is a very cruel and cruel king named '*Prabu Baka*'. He caused the society can not live peacefully because he is the king of human eaters and to stop the arbitrary acts perpetrated by the tyrant, then '*Patut Tetuka*' is also present to kill and break the chain of misery of the people. He comes from the hermitage '*Pringgodani*' then named with '*Eyang Kancanegara*.' In an attempt to kill '*Prabu Baka*,' Tetuka slams the king's head on a rock (now called '*Watu Gilang*'). After that, the garlic plant grows from the former lying fangs '*Prabu Baka*' teeth, while in other places grow onion on the ground where the molars are scattered on the ground. Both plants are also a major commodity of the residents of Pancot and Blumbang. However, before King of Baka died, he also ordered that every '*Wuku Mondosiyo*,' on Tuesday '*Kliwon*' clean village '*Mondosiyo*.'

This traditional ceremony is a tradition of chicken catching throw which is a clean village tradition as a form of gratitude after passing the previous trials. Chickens in this case are the votive media for some residents of Dusun Pancot. Mondosiyo ceremony is one of the cultural tourism wealth of Karanganyar. Mondosiyo tradition itself takes place once in seven months (Javanese calendar) and fall on Tuesday Kliwon Wuku Mondosiyo. While the peak of the implementation of this traditional ceremony is at Pancot Village Market Hall. The procession of clean tradition of Dusun Pancot village begins two days before Tuesday Kliwon is on Sunday Pon. On that day, residents of Dusun Pancot will collect rice to be processed into gandrak and also other types of cuisine as complementary offerings. The procession continued on the following day on Monday Wage where the notice was made by hitting bende in the evening. When the peak activity comes, the activity starts from the morning. The tradition of Mondosiyo begins with slaughter of goats and chickens at Punden Bale Patokan in the morning around 7 pm. The ceremony then continues in the 10 o'clock range when all offerings are prepared in punden and continue at 1 pm where Manyar Sewu gending begins to be played. The peak of the event is a chicken catching start at 4 pm. Before the event began, traditional entertainment like the usual reog was held while thousands of residents filled the Pancot Village Market Hall. Not to forget also before the start of the water event that was taken from Bale Patokan first splashed in Batu Gilang contained in the building in the market area. Shortly after, the peak of Mondosiyo tradition began. Chickens brought by voting citizens began to be thrown into the roof of the hall. Meanwhile, thousands of residents in attendance will scramble and try to catch the chicken. For citizens who throw this thing is a form of gratitude for the trials that have been passed.

Meanwhile, for citizens who catch this is a form of business to get luck and blessing when they get a chicken.

The next culture is '*Srawung Seni Suku*,' is a big pray packed in the form of art performances, discussion and distribution of plant seeds. The event was held to derive the noble values of Suku Temple, the preservation of nature around the slopes of Lawu Mount, and the culture of the people around the temple and the slopes of the mountain. '*Srawung Seni Suku*' event closed with the distribution of plant or tree seedlings. Visitors who are present are welcome to take tree seeds for free to take home and planted in the yard. This is held regularly every year as an effort to preserve nature and respond to global warming issues that are currently being discussed a lot. '*Srawung Seni Suku*' event became the tourism magnet of Karanganyar district when commemorating the turn of the year. Art performances displayed by local, overseas, classical, and modern artists provide color and diversity in the performing arts.

### 3.2. *Myths That Developed in Maintaining Environmental Sustainability*

Behind the '*Sabuk Janur*' dance stored myth very strong for the people on the slope of Lawu Mount precisely in Plawan Village Hamlet Girimulyo Karanganyar District. Folklore whose main character '*Kyai Sabuk Janur*' stems from the presence of an abundant source of water in the village of Girimulyo. In the first time, source of springs used for the purposes of the population for drinking water, bathing and irrigating rice fields, once the water does not flow again. There are village elders concerned about the condition of people who lack water for daily necessities and even the planted rice also can not grow and dry so that the population fails to harvest.

Based on incident '*Kyai Sabuk Janur*' suspicious with existing springs. The Kyai then along the water source location and it turns out the flow of water for the residents is blocked by a large rock. '*Kyai Sabuk Janur*' ask for help to God Almighty by doing a meditation ritual on the big rock that became the water barrier and it turns behind the big rock inhabited a very large centipede. The gulf centipede is disturbed to go out and attack the Kyai. With the '*Janur Kuning*' weapon Sang '*Kyai Sabuk Janur*' is successful mencabuknya hingga injured But with the policy of '*Kyai Sabuk Janur*' centipede is not in the kill and even healed from the wound. Finally, the big centipede helped remove large stones with the help of other branch clubs. Residents of the community finally get a source of clean water and lancer back.

The '*Sabuk Janur*' Myth is finally developed in a '*Sabuk Janur*' Dance. This dance is finally able as a tool to move the society to participate in every development, especially the community participation in maintaining environmental sustainability and social solidarity in overcoming natural disasters and limits that befall.

According to the story of '*Prabu Baladewa*' puppets at the time of the war Westernayudha, told '*Kresna*' to meditate in Grojogansewu. This is to avoid Baladewa fought in the battlefield, because kesaktiaannya without enemies who can match it. To the east of Grojogan Sewu there is a similar waterfall called Pringgodani. This place is an antagonistic setting of King Anom Gatotkaca his son Bima. To get there through the narrow and steep streets. Here there is a hermitage also there is a grave which supposedly is the grave of Gatotkaca. The grave was sacred and many pilgrims came. Above there is Pringgosepi forest.

In addition to the puppet myth, there are also other myths trusted by the community around for generations. Dikisahkan there is a pair of young people who are making love in the lake Grojogan Sewu. They bathe together under the waterfall. Because it is a prohibition, then the two young people are cursed to be the stones scattered under the waterfall.

There is also a myth that until now still held firm and trusted. This is related to the existence of a bridge called "kretek pegat". Who called the bridge "pegat". The name is given based on empirical experience, that the bridge often leads to pegatan or divorce. At some point in the evening, it is often seen that a grandfather passes through the mist covering the clogs of pegat. They believe that the grandfather was a supernatural creature andhahan (subordinate) ruler in Grojogan Sewu. Namely Kyai Baladewa.

### 3.3. *The Local Wisdom of The Community to Do Conservation*

Geographical conditions in mountain areas that have steep slopes will certainly result in the presence of disaster-prone areas, especially landslides. Landslides often occur in areas with steep slopes. This disaster happens because of the greedy human error itself. The condition of sloping soil is still desperate to be used for real agricultural land for land conservation areas. But to overcome these disasters, people in Blurmbang Village have their own way. This method has been done by ancestors first and inherited to the present generation and still used. That way is to regulate the flow of water in agricultural areas so as not to stagnate. So create a channel that the water continues to flow arela land by means of twisting winding. In making this channel farmers rely on their long-used instincts from past work experience. This method is good enough to overcome the problem of landslide disaster that usually occurs in the agricultural area. This is evidenced by the absence of such longer land disasters to date. Farmers argue that landslide disaster occurs because there is a puddle in the field so that in the soil also contains a lot of water. This condition makes the deep soil become loose and makes the ground easy to move. By using the method then the loose soil only on the surface only so it will not potentially landslide disaster.

Geographical condition in Girimulyo village is very supportive to overcome the existing landslide disaster that usually haunts the people who live on the slopes. The area in Girimulyo village is very safe from the disaster. This is evidenced by the disaster never happened in Girimulyo Village. This is due to the natural condition of Girimulyo Village area which consists of rocks. Most of the villages in Girimulyo Village consisting of rocks make this a rare disaster. Even if it happens but the scale is small and only occurs in the area of agricultural land. The area in Girimulyo village only has a layer of soil as deep as 3-4 meters and then in it all the rocks. But 5 years ago the area in Girimulyo Village ever happened tornado disaster. This disaster has resulted in some houses damaged. The community does not know the origin and cause of the disaster. The area had never experienced this disaster before. That way the people do not know and able to overcome them. For a flood disaster that might attack the community in Girimulyo Village, the community has entered into an unwritten agreement. The agreement is a prohibition to take stones in the river. These stones serve as a brace of water that may occur during the rainy season comes. Until now residents in Girimulyo village no one wants to take stones in the river.

### 3.4. *The Local Wisdom of the community to do water management*

The environment is a basic need for human life. To maintain the availability of those basic needs, the environment requires sustainability for its functions, such as the availability of water, fertile soil and air that sustains for plants to live. Farmers' efforts and behavior in managing water resources are closely related to their perception of the environment. In the village of Wonorejo most are farmers, where in everyday life is always dealing with nature. In this activity they are guided by the experiences and knowledge they capture in managing the sustainability of water resources. There are various local wisdom of the community in managing the water source in order to remain sustainable.

'Mamayu hayuning bawana' is a slogan that remains firmly held by most Javanese people, especially the people at the foot of Mount Lawu. This is a guide in conducting activities that are closely related to the natural environment. "Memayu hayuning bawana" means protecting the safety and prosperity of the world. Their behavior in understanding the motto is shown by maintaining themselves and the physical environment in symbolic-ritual. Local people still perform rituals to obtain supernatural powers, also aims to maintain the balance between humans and the natural environment. They argued that the destruction of nature brought a very disastrous disaster. Floods, landslides, and droughts are caused by human hands that do not conserve natural resources. They hope that the values in the slogan are included in education in schools since primary education, in the hope that all human beings are aware of the importance of nature sustainability.

'Nandur Kebecikan, ndheder kautaman. Nandur will be slogan ngunduh null '. It means to plant virtue, to train virtue. Planting the good will reap the good. For that everyone is obliged to do



good to others and do something for the common good. For example, planting trees in the forest is an activity that is routinely done by the community of Gunung Lawu Mountain together with PERHUTANI to maintain the sustainability of the water source. This activity is done with the hope that the land is not avalanched, and the water source remains sustainable. This is evidence that communities around forests have high participation in maintaining the ecological balance of forests without expecting economic returns from the results of such activities. They also planted trees on their own land. People have local wisdom in planting trees that are expected to keep the water source sustainable. They plant trees (avocado, banyan tree, dadap, aren) around the stream of the spring water. The plants according to their observations so far are very important in maintaining the water source. With their collective consciousness, they multiply tree planting together with local community leaders independently.

'Dadio wong kang nandur wiji keli'. Meaning to Be the one who planted the beans carried by the current (drift), ie berbatlah unconditionally; Beramalah for a long term. Life is not only in the world because after the life of the world there is life akherat. Local wisdom of the community is reflected in maintaining the source of water supplied to the PDAM, various actions taken include: (1) checking the flow of water, if one is blocked immediately removed; (2) if any damaged pipeline is repaired immediately, even funds for repairs come from the residents' dues, without waiting for funding for maintenance from the PDAM; (3) provide a water filter to prevent clogging; (4) provide lids or beds to water sources from leaf litter; (5) clearing the trenches around the river; (6) creates a small river for a small stream of water sources in a particular sub-village rather than the water being disposed of; And (6) does not dispose of trashes of agricultural produce to the stream of spring water.

'Alam paringane Gusti, mulo kito jogo alam iki'. The point is that man and nature are God's creations, so humans must nurture, utilize and preserve them well. Thus farmers act strongly influenced by local cultural values. They assume that water resources are used for the common good. This means that the sentence reflects the local wisdom of the community in looking at the water source. The public recognizes that the spring is a common property that must be nurtured, guarded and tuned for the next generation. It also reflects in the practice of Psal 33 ayat 3 UUD 1945 namely "Earth, water, and natural resources contained underneath are controlled by the state and used as much as possible for the welfare of the people". They let some of the water resources in their area be taken for the benefit of PDAM Karanganyar District

### *3.5. The Dynamics of Local Communities in the face of outside Intervention*

The dynamics of modern life today, the color of life dominated by attitudes and behaviors that are the fruit of western cultural transformation as a direct influence of globalization. The western society considers that matter is the reality of life so that every activity must produce material even though the path taken is not in accordance with the values of humanity as adopted by the people of the eastern world. The life of the world is the responsibility of everyone is the executor of such responsibilities as well as in groups. In any activity utilizing nature, it should not be excessive or with no damage to the ecosystem or nature itself, environmental sustainability is maintained.

The inhibiting factor in the environmental conservation process in Blumbang Village is the same ie economic factor. They are already thinking about the profit they will receive from their actions. For example, in the recommendation to plant perennials on slope sites with a slope of 45-60 degrees they do not do. This is because if they plant these crops then the agricultural land for the cultivation of horticulture crops will be reduced. So that will directly reduce the income of these farmers. In addition, gotong royong in working on agricultural land has begun to disappear. In the past they worked on their fields helping each other. For example, in cultivating the land could have been done by 15 people who performed voluntarily. But the activity has begun to fade and disappear. For reasons of increasing demand and need of money to meet the needs of the main reason why the culture gotong royong now began to fade.

The environmental conservation factor in Girimulyo Village is the same as in Blumbang Village which is economic factor. People in Girimulyo Village have started to think of profit in every activity. For example, there are rules for planting sengon on the sidelines of the land of pertania. This is to keep the soil condition from avalanche. Initially people want and implement these recommendations. But lately they kapok and do not want anymore. This is because the large sengon trees will block the sunlight into the main plant. So that the main plant gets less light so that will affect its production. Planted shade of sengon trees also result in humid conditions that will be susceptible to disease.

The level of village accessibility will affect the mobility of the population. A good level of accessibility will support the vast mobility of its population. This condition makes the residents can relate to the outside world so that it will increase their knowledge and insight. Accessibility to a good village will also affect access to education and health for the community. Ease of access to health and education services is very influential from accessibility to the village. Accessibility level of Blumbang Village and Girimulyo Village is easy, this is because the road conditions are well paved. A good infrastructure will also facilitate the transportation of agricultural products to the market. The ease of transportation will have an impact on the smoothness of the agricultural marketing process. That way, the products from the agricultural products in both villages can compete in the market.

The location of Blumbang Village itself is quite strategic. Blumbang Village is on the main jalu of Central Java and East Java. Favorable conditions for the development of agriculture in the region. This is because the harvest can be sold to Central Java or East Java. In addition, the distance to the market is also not too far away. Close distance allows transportation costs to be reduced.

The location of Girimulyo Village itself lies the main route to the direction of the gentlemen. The location of Girimulyo Village is strategic for the route to the location of the tea garden destination. People use this geothermal condition to sell vegetables in polybags. Communities in Girimulyo Village through KWT with food self-sufficiency program have made vegetable planting program in polybag. This program requires each house to have vegetable plants of 20 polybags. Apparently this program is very beneficial to the community. This is because tourists who pass this village to the tourist attractions are interested in vegetable crops in the polybag and intend to buy. With the desire to buy plants in the polybags provide their own benefits to the community. For tomato planting sold for 15 thousand and strawberry sold 20 thousand per polybag. Apparently this program is very beneficial to the community. This is because tourists who pass this village to the tourist attractions are interested in vegetable crops in the polybag and intend to buy. With the desire to buy plants in the polybags provide their own benefits to the community. For tomato planting sells for 15 thousand and strawberry sold 20 thousand each polobag.

The supporting factor for conservation in Blumbang Village is the value of togetherness among the people who are still thick. This togetherness value becomes the main key for environmental conservation in Blumbang Village. The value of togetherness is reflected from the pleasure of their inter-relationship bersilatmimi. They are always active and come to RT meetings. RT meetings are the right forum for PPL to socialize programs that lead to environmental conservation. For example, the balancing in the use of manure with chemical fertilizers. With these rules that have been agreed with them simultaneously perform these recommendations. This is because these suggestions have been mutually agreed upon so that they have the obligation to do so as well. This is a joint decision.

Supporting factors for conservation in Girimulyo Village are mutual assistance and togetherness among the people who are still awake. People in Girimulyo Village still uphold the value of solidarity and mutual cooperation among the people. The value is still well preserved despite the oncoming globalization that is threatening. The good cooperation of the people in Girimulyo Village is evident from the community's participation in the work of devotion. In addition, if there are people who need to build a house then they will volunteer to help. They will work from starting to build the foundation until the house is erect. They work without being paid money.

The value of togetherness also awakened quite well in the community in Girimulyo Village. This is reflected in the unity of the community in sustainability existing culture. The culture is Tarian Sabuk Janur that describes the history of the fertile Girimulyo region. This dance consists of 50 dancers and

30 gamelan musicians. The high enthusiasm of the people who want to take part in the preservation of this culture illustrates the unity in society in Girimulyo Village.

#### 4. Conclusion

Community life at the foot of Mount Lawu always faced with nature, Efforts and behavior of farmers in managing water resources is closely related to the values of local culture that exist, one of the most entrenched and become the paetisipasi community to conserve the environment and social solidarity in overcoming disaster Nature and environment is the myth of the Sabuk Janur. Villagers in mountainous areas are predominantly farmers, who in their daily lives are guided by the experiences and knowledge they capture in managing the sustainability of water resources. Based on existing myths, there are various local wisdom of society that still survive in managing water resources in order to remain sustainable.

'Mamayu hayuning bawana' is a slogan that remains firmly held by most Javanese people, especially the people at the foot of Lawu Mountain. This is a guide in conducting activities that are closely related to the natural environment. "Memayu hayuning bawana" means protecting the safety and prosperity of the world. 'Nandur Kebecikan, ndheder kautaman. Nandur will be slogan ngunduh null '. It means to plant virtue, to train virtue or to plant good will be good. 'Dadio wong kang nandur wiji keli'. It means to be the one who planted the beans carried by the current (drift), ie berbatlah unconditionally; Beramalah for a long term. Life is not only in the world because after the life of the world there is life akherat. 'Alam parigane Gusti, mulo kito jogo alam iki'. The point is that man and nature are God's creations, so humans must nurture, utilize and preserve them well. 'Revenge son putu ben komanan'. That means that in utilizing natural resources always remember the content it contains for the next generation. Local cultural values proved to have a high role in managing conservation farming. Therefore, every process of planning of development program should be based on local culture.

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