

## **Bersik Kali Culture and Nature Conservation Based on Community Empowerment: Legal Perspective and Implementation of SDG 15**


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**ABSTRACT:** Ecosystem damage due to river pollution requires a approach to community-based ensure the sustainability of conservation efforts. cultural programme participatory The emerged as a community-based conservation strategy that prioritises local wisdom. This research uses a qualitative method with a case study approach, collecting Bersik Kali in Village Bejiharjo data through observation, in-depth interviews, and documentation analysis. The results showed that culture Bersik Kali is effective in increasing community awareness and participation in maintaining river cleanliness and sustainability. The main success factors are the culture of gotong royong, strengthening local institutions, and collaboration with the government and environmental organisations. Despite facing challenges such as the habit of littering and limited supporting facilities, the programme continues to run with an educative approach and the application of custom-based regulations. Furthermore, culture Bersik Kali contributes to the achievement of Sustainable Development Goals (SDGs) 15. With a community-based conservation model that integrates local wisdom, this programme can be a reference for other regions in developing sustainable environmental conservation strategies.

**Keywords:** *Bersik Kali Culture, Nature Conservation, Community Empowerment, Legal Perspective, Implementation of SDG 15*

## I. INTRODUCTION

Environmental conservation is indeed a critical global issue that requires a holistic and sustainable approach. The principles of environmental sustainability emphasise the importance of biodiversity conservation and resource efficiency, which are essential for minimising waste and environmental impacts (Freeman, 2015). Sustainable practices in conservation not only aim to protect biodiversity but also seek to balance the needs of human development with environmental preservation (Folke & Colding, 2001). These efforts include a variety of strategies, ranging from wise management of natural resources to raising public awareness of the importance of maintaining ecosystems for future generations. However, in many areas, public awareness of the importance of conservation is quite low, hence conservation efforts often face difficulties in implementation and follow-up. (Kapos et al., 2009; Nuno, 2015)

In the context of sustainable development, the Sustainable Development Goals (SDGs) were set by the United Nations in 2015, aiming for global progress by 2030. They have become the most important factor for countries to address environmental issues. SDGs, especially SDG 15, which encourages the protection, restoration and sustainable use of the environment, including in areas such as rivers. Achieving these goals requires collaboration between the government, private sector and civil society, so that each party can contribute to creating a better and more sustainable environment for all. Therefore, community-based initiatives in environmental conservation are crucial to achieving the SDGs (UN, 2015)

Community-based approaches are one of the most effective strategies to address environmental conservation issues, particularly in the context of river ecosystem conservation (Mulrennan et al., 2012). The active participation of communities in conservation activities can improve the sustainability of the programme as the public has a close relationship with the surrounding water resources (Chun et al., 2012; Rixon et al., 2007). This is referred to as a participatory approach that encourages local communities to participate in conservation programme implementation, decision development and planning. In many parts of the world, community-based conservation models have been implemented with positive results, such as the Community Based Natural Resource Management (CBNRM) programme in Africa and the Community Based Forest Management (CBFM) programme in Indonesia (Harada & Wiyono, 2014; Raik & Decker, 2007).

In the context of river ecosystem conservation in Indonesia, participatory approaches are becoming increasingly relevant in highlighting the sensitivity of ecosystems to human activities, such as tourism, agriculture and settlements. One of the most prominent community-based conservation models is Bersik Kali, which assists the general public in addressing environmental degradation and damage through local conservation practices. This is in line with the idea of ecological citizenship, which states that every person and community should have awareness and concern for the state of their environment (Giannoulis et al., 2014).

Gunungkidul, as a region with a unique karst ecosystem, faces great challenges in maintaining its balance. Cave Pindul and its underground river system have become increasingly popular tourist destinations, but also pose significant ecological threats due to increased human activity (Hermawan et al., 2023; Musadad & Nurlena, 2017). Without systematic and community-based conservation efforts, these ecosystems are at risk of degradation that could result in biodiversity loss and disruption of the ecological functions of the karst area (Parise et al., 2015; Shen et al., 2018)

In addition to being relevant to the SDGs, community-based conservation has strong links to local laws that protect the environment. Several laws have been implemented in Indonesia to protect the environment, such as Law No. 32/2009 on Environmental Protection and Management and Regional Regulations, which regulate environmental protection at the local level. However, in practice, these regulations often run into obstacles due to a lack of community participation and the complexity of monitoring mechanisms. This makes approaches such as the culture Bersik Kali, which encourages community participation, a solution that can strengthen formal policies with concrete actions on the ground.

Through the approach Bersik Kali, the community is encouraged to actively participate in keeping the river clean, managing domestic waste wisely, and implementing local wisdom-based conservation practices. This approach not only contributes to ecosystem conservation efforts, but also strengthens the social capital and ecological awareness of the community. Therefore, this research aims to analyse the culture Bersik Kali as a participatory approach in raising community-based conservation awareness and its impact on the sustainability of local ecosystems in Gunungkidul.

## II. METHOD

This research uses a qualitative approach with a case study method to deeply understand the implementation of Bersik Kali as a participatory approach in community-based environmental conservation. This method was chosen because it is able to explore social dynamics, participation patterns, and local wisdom that are the main factors in the success of the program (Miles, 1994; Miller et al., 2018)

The research location was purposively selected in Bejiharjo Village, Karangmojo District, Gunungkidul Regency. The selection of this location was based on the characteristics of the community that has a strong tradition of mutual cooperation and cultural closeness to the river ecosystem. In addition, Bejiharjo Village has implemented the Bersik Kali program as a unique community-based initiative in environmental conservation.

Data sources and informants in this research consist of primary and secondary data. Primary data was obtained through in-depth interviews with key informants, namely community leaders, program managers, residents involved in Bersik Kali, and the village government. Secondary data was collected from program documents, village reports, and relevant academic studies. Informants were selected using purposive sampling technique to ensure the representation of actors who play an important role in this program.

Data collection techniques were conducted through participatory observation, in-depth interviews, and documentation. Participatory observation was used to directly observe the implementation of Bersik Kali, social interactions, and changes in river ecosystem conditions before and after the program. In-depth interviews were conducted with community leaders, program managers, and residents to explore perspectives, motivations, and challenges in program implementation. Meanwhile, documentation in the form of photos, activity reports, and village archives were used to strengthen the findings from observations and interviews.

Data analysis used a thematic approach with the stages of reduction, presentation, and conclusion drawing (Miles, 1994). Data were categorized based on main themes such as participation patterns, cultural conservation strategies, and program challenges. Data

validity was checked through source and method triangulation and member checking to ensure the validity of the findings.

The research focus in this study is to explore how Bersik Kali as a participatory approach can increase community conservation awareness, how local wisdom practices play a role in the conservation strategy, as well as the supporting and inhibiting factors for program sustainability. With this approach, the research is expected to provide deeper insights into the effectiveness of community-based conservation and provide recommendations for the development of similar programs in other areas.

### III. RESULT AND DISCUSSION

#### RESULT

##### 1. Transformation of Public Awareness of the River

The river plays in the lives of the people of Villagea very important role , both in terms of ecological, socio-cultural and economic aspects. The river is the main source of life for the surrounding community, for bathing, washing, irrigating rice fields, and fetching water for cooking and daily needs. However, along with changes in lifestyle and the times, awareness of the importance of maintaining the cleanliness of the river environment began to fade. Bejiharjo

The Kali comes as an effort to restore collective community awareness, which educates Bersik approach the community that rivers are not only for waterways, but also an integral part of people's lives that must be preserved. An elder of village Karangmojo , Mr W (62 years old), said in an interview:

*"In the past, the river was well-maintained and clear because everyone was aware that it was a source of life. Nowadays, many people don't care and have forgotten, instead it has become a place to dump rubbish. Bersik Kali reminds people that if the river is damaged, we will lose."*

This statement illustrates how the level of public awareness of the importance of protecting the river changes with each generation. Before the programme Bersik Kali , which has been a culture since the ancestors were reinforced, people tended to view the river only as part of the surrounding environment, without considering the impact of people's behaviour if they polluted the river. The same thing was expressed by Mr S (47 years old), a local community leader:

*"When we socialised Bersik Kali at the neighbourhood meetings, many people thought it was just another program, just a cultural exercise. But after seeing the impact, especially during heavy rains, people now realise the importance of a clean river."*

With approach this , the community began to understand that river cleanliness not only affects environmental sustainability, but also impacts the quality of life of the surrounding community. This awareness encourages residents to be actively involved in keeping the river clean, such as organising regular clean-up activities and drafting local regulations that prohibit littering. participatory

## 2. Revitalising Gotong Royong Tradition in River Conservation

One of the most significant and visible impacts of Bersik Kali is the reintroduction of the gotong royong culture not only involving the elderly, but also starting to be followed by young people in keeping the river clean. The community began to revive the tradition of resik-resik kali collectively, which is an activity of cleaning the river environment periodically and is a culture that is maintained. .

Mrs SR (45 years old), a member of the tourism awareness group, stated:

*"In the past if there was a community service to ,clean the river, only old men would come. But now young people are also getting involved, both men and women. they feel that if the river is clean, it can become a tourist spot and there are economic benefits too."*

This awareness is growing when people feel that a well-maintained and clean river can be an attraction for ecology-based tourism. seeing this potential, some communities began to initiate river tracing programmes using used tyres combined with environmental education.

Meanwhile, Mr HR (34 years old), a young man who is active in activities Bersik Kali , added:

*"Now we have a regular schedule to clean the river. It's not just about clearing rubbish, but also maintaining the beauty of the surrounding environment to make it greener and more comfortable."*

This proves that the approach Bersik Kali does not stop at cleaning activities, but also becomes a tool to change the mindset of youth towards the river as a valuable potential. By involving the community in this activity, it creates a collective awareness of the importance of preserving the environment and utilising natural resources sustainably.

## 3. Integration of Local Wisdom with Sustainable Conservation

The success of the programme Bersik Kali also lies in how it integrates local wisdom with community-based conservation practices. This approach not only respects local traditions and knowledge, but also empowers communities to play an active role in maintaining their own ecosystems, thus creating a mutually beneficial synergy between humans and nature. In several discussions participatory conducted with the environmental community and academics, the community was given the understanding that protecting the river is not just about cleaning the river from rubbish, but also protecting the ecosystem in the river as a whole.

Mr MR (50 years old), one of the residents active in conservation activities, revealed:

*"We learnt from the experience that has happened. In the past, when it rained heavily, the water rose very quickly and carried dirt or mud. But now, after regular cleaning along the river, the water is clearer and rarely floods."*

This concept is in line with Berkes (2007), who asserts that effective conservation should be based on the integration of local knowledge and scientific approaches. In this context, the local community has begun to apply some natural methods to preserve the river

ecosystem, for example by managing waste so as not to pollute the river environment, and planting trees around the river to maintain soil stability and coolness. With these measures, it is hoped that the river ecosystem can recover and provide sustainable benefits for the community and the flora and fauna that depend on it.

Mr HR (52 years old), a farmer who has a field directly adjacent to the river, said:

*"In the past, the river water often brought faeces to my rice fields. After planting trees around the river, it is now rare. The river water also looks cleaner."*

This statement shows that with the right approach, the community can understand that maintaining the river ecosystem is not only the task of the government or certain institutions, but a shared responsibility.

Regulations on river conservation also play an important role in supporting the sustainability of the cultural programme Bersik Kali. Village Regulations in several areas of Gunungkidul have regulated river protection by prohibiting waste disposal into waterways. In addition, the Regency Regional Regulation Gunungkidul on environmental management also strengthens this policy. One community leader, Mr ST (55 years old), confirmed this in an interview:

*"Since there is a village regulation that prohibits throwing rubbish into the river, now the flowing river water is cleaner. If someone violates it, there are social sanctions that make people care more."*

This shows that the integration between local wisdom and formal regulations made by the community can strengthen conservation efforts and increase community awareness in maintaining river ecosystems.

#### 4. Challenges in the Implementation of Bersik Kali

Although the culture Bersik Kali has had many positive impacts, there are still challenges to be faced in its implementation. These include a lack of community awareness about the importance of their role in keeping the river clean, as well as the limited resources available to support maintenance and rehabilitation programmes environmental. One of the main challenges is changing the habits of people who are still accustomed to throwing garbage into the river. Mr MY (55 years old), a farmer whose house is near the river, stated:

*"It's much better now, but there are still people who often throw rubbish into the river. If they are reprimanded, sometimes they even say 'was before it okay, the river is safe'. So it takes time and support from others to really change."*

Another challenge is to ensure the sustainability of the programme long-term. Currently, the culture the Bersik Kali still relies heavily on the initiative of parents and community leaders.

Mr BD (44 years old), a community group leader, adds:



*"We need support from many parties, especially young people, so that the culture of bersik kali does not stop. There must be a system that keeps this programme going in the long run."*

Therefore, a more systematic strategy is needed, especially with young people, to ensure that these conservation efforts can continue through culture, both through village regulations, as well as collaboration with other parties such as academics and the private sector.

## Discussion

### 1. Effectiveness of Approaches Participatory in Environmental Conservation

Participatory approaches to environmental conservation emphasise the active involvement of communities in the planning, implementation and evaluation of conservation programmes (Mulrennan et al., 2012). Studies show that community participation can improve the effectiveness and sustainability of conservation programmes. Effective participation can improve the quality of decisions and sustainability in natural resource management (Krishnaswamy, 2012; Mutamba, 2004). The implementation of culture Bersik Kali in Village Bejiharjo reflects these principles of participation. The community is actively involved in every activity such as resik-resik kali and environmental education, which not only improves the condition of the river ecosystem but can also strengthen social cohesion and a sense of belonging to their environment. By involving the community directly in the programme, they feel a sense of responsibility towards the environment and are more motivated to maintain and preserve it for the benefit of future generations.

### 2. Integration of Local Wisdom and Regulation in River Conservation

Local wisdom plays an important role in environmental conservation, especially in the context of indigenous or traditional communities. Time-tested local knowledge and practices can be a strong basis for effective and sustainable conservation strategies Boillat et al., 2013; Mawardi, 2018). The importance of integrating knowledge traditional ecological in natural resource management is becoming increasingly relevant in the face of environmental degradation challenges.

The main foundation of culture Bersik Kali is the integration of local wisdom, such as gotong royong and respect for nature. Traditional practices not only support conservation efforts but also ensure that strategies are implemented in accordance with social norms and values (Folke & Colding, 2001; Gelves Gómez, 2015; Ngoufo et al., 2015). One of the most important aspects of local wisdom are laws and social norms that establish relationships between communities and the environment. Customs prohibiting pollution of rivers, illegal logging around streams, and over-exploitation of natural resources are all pervasive in the community. These rules are passed down through generations and enforced through social mechanisms such as village deliberations and customary sanctions.

In addition to customary law, village policies and local regulations are also key in preserving 's river ecosystemsGunungkidul. Several villages have enacted Village Regulations on environmental protection, which include prevention of air pollution, protection of household stairs, and regulation of tourist activities to prevent environmental damage. The legal basis for conservation efforts is also regulated in the Regency Regional RegulationGunungkidul , including the protection of space and the protection of karst areas, which are the main components of the river below the water surface in the area.

### 3. Challenges and Strategies in Changing Environmental Behaviour

Changing people's behaviour towards environmental awareness is a complex challenge and requires a multifaceted approach (Aunger & Curtis, 2014). factors such as social norms, identity, and individual values play a significant role in pro-environmental behaviour (Chatterjee & Dey, 2015; Young et al., 2015). In the implementation of Bersik Kali, challenges such as there are still people who have the habit of throwing garbage into the river environment are overcome through educative and approachesparticipatory . Involving community leaders and providing real examples of the benefits of keeping the river environment clean helped to gradually change people's perceptions and behaviour.

This approach is in line with Sustainable Development Goals (SDGs) 15, which emphasises the importance of community-based environmental management and waste reduction. Through education and active participation, communities are able to adopt more environmentally friendly practices, such as better waste management and air pollution prevention. Moreover, youth participation in conservation efforts contributes to the emergence of a rapidly growing environmental awareness, ensuring that the changes made are not only positive but also help the world's development agenda achieve its environmental goals.

### 5. Sustainability of Conservation Programmes through Strengthening Local Institutions

The sustainability of nature conservation programmes is strongly influenced by the strength and capacity of local institutions. The importance of local institutions in natural resource management cannot be ignored, as they have a deep understanding of the local social and environmental context (Mbido et al., 2021; , Tohinlo et al.2016). The formation and strengthening of youth groups and collaboration with the village government are key to ensuring the culture is Bersik Kali sustainable. This approach is in line with the Sustainable Development Goals (SDGs), particularly goals 13 (Addressing Climate Change) and 17 (Partnerships for the Goals), which emphasise the importance of collective action in protecting the environment and building collaboration between communities, governments and other stakeholders. By strengthening local institutions and engaging the younger generation as agents of change, culture Bersik Kali contributes to creating a sustainable conservation system based on active community participation.

Community leaders are often at the forefront of maintaining compliance with conservation norms. They not only act as law enforcers in the community, but also as mediators in resolving environmental conflicts and as educators for the younger generation on the importance of maintaining the balance of nature. By supporting local



policies and involving the younger generation in conservation activities, they are expected to become active agents of change who are committed to preserving the environment for a better future. Through a participatory approach that combines local wisdom, customary law, and formal policies, the culture Bersik Kali can be an effective model in building community-based conservation awareness.

#### IV. CONCLUSION

Bersik Kali as a participatory culture approach has proven to be effective in raising community-based conservation awareness, in line with the Sustainable Development Goals (SDGs), particularly goal 15 (Safeguarding Terrestrial Ecosystems). Through active participation in activities such as environmental research and education, communities not only contribute to the preservation of the natural environment but also strengthen social cohesion and environmental awareness. The integration of local wisdom, such as gotong royong and respect for nature, along with formal regulations such as Village Regulations and District Regulations, further strengthens environmental protection efforts. This combination of approaches ensures that conservation strategies are not only based on traditional ecological knowledge but also have a clear legal foundation that can be utilised in a variety of ways.

The continuation of the conservation initiative Bersik Kali greatly assists local institutions and the younger generation in preserving the environment, thus helping to achieve the SDGs. The challenge of changing people's behaviour towards the environment was overcome through the use of community as agents of change and participatory strategies. In addition, local environmental and conservation efforts that help communities engage ensure the success of these initiatives. Through the application of local, customary, and formal laws, Bersik Kali can be an effective model for fostering environmental awareness and concern at the forefront of society and contributing to the achievement of global development goals.

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