Advances in Social Science, Education and Humanities Research, volume 409
2nd Social and Humaniora Research Symposium (SoRes 2019)

Communication Model for Management Synergy of Nature Reserves

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***Abstract*—Management of the Kamojang nature reserve is currently experiencing many obstacles and causing problems. Problems and pressures that occur in the nature reserve area include three elements, namely; small economic elements, exploitation elements, and recreation elements. This research aims to find a communication model for the synergistic and integrated Kamojang nature reserve management area. Qualitative research methods are used to analyze data supplemented with in-depth interviews and focus group discussions as data collection techniques. Based on the results of the study, it can be concluded that in applying the appropriate communication model to be applied in the management of nature reserves, is to use a collaborative communication model between environmental actors including the Ministry of Environment and Forestry, The Natural Resources Conservation Agency as the manager of the Kamojang Nature Reserve, Pertamina Geothermal as a company that utilizes environmental services, environmental activists and the community, so that communication can be established effectively. The results also show that communication cohesiveness can be realized when the Ministry of Environment and Forestry opens space for dialogue with the community, forms collaborative work teams, conducts deliberations and provides access for the public to contribute to the conservation of conservation areas.**

Keywords: collaborative communication model, communication cohesiveness, deliberative communication, Kamojang nature reserve

I. INTRODUCTION

Sustainability of the conservation area ecosystem aims to provide direction for the management of forest resources by proportionally combining economic, ecological and social aspects to enhance the roles and responsibilities of sustainable area management [1,2]. Ecosystem sustainability is carried out inside and outside the forest area by considering the priority scale based on collaborative management [3,4]. A nature reserve is an area that has a function as a location for research and science development. Protection of nature reserves is needed as a buffer system for human life [5]. The condition and objective reality of the nature reserve area demand management efforts that are more directed and sustainable and more utilized with the potential of existing natural resources for the sake of education and ecological sustainability of the area [6-8].

However, various interventions and management interests in conservation areas have not been managed effectively so they have suffered massive damage. Some conservation issues include [9]:

- Limited funds to develop, maintain, and secure the potential of the area
- The socio-economic condition of the community in several buffer regions that is still relatively low, marked by the level of education and the dependence on the usage of existing forest resources, causing a low level of community awareness of conservation values.
- Weakness in common perception and interpretation of patterns of action in implementing conservation rules in the management of nature reserves among related parties due to differences in interests.

Management of conservation areas does not only require the responsibility of the government but also the support and involvement of the parties (stakeholders). Thus, cooperation, collaboration and partnership with other government and non-governmental institutions to support the preservation of nature reserves are based on the spirit of mutual respect, mutual trust, sharing roles, sharing responsibilities and sharing benefits based on applicable laws and regulations [10-12].

Multistakeholder collaboration is needed starting from the village, sub-district, district, NGO, private sector, and so on. The partners can be individuals, local champions, environmental activists, village associations, traditional

leaders, informal leaders, as well as religious institutions and other informal institutions. All local players are very important becoming the key stakeholders in the collaborative work of nature reserve management [13-15]. Considering the conditions in the field, it is demanded the integrated work of the parties to work together. Cross-border communication support is needed to achieve synergy in the management of conservation areas [16,17].

Previous studies conducted about collaboration in conservation areas have been carried out, including Yang [18], Walker and Hurley [19], Aas et al [20], Widiyanti et al [21]. Research on stakeholders in conservation areas has been carried out by Nurtjahjawilasa et al [22].

The research discussing collaborative management of conservation areas from a management and environmental science perspective has been carried out. Meanwhile the studies on communication models in conservation areas have combined environmental concepts, especially natural reserves and communication concepts have not done much so that it becomes a novelty in environmental communication and research interesting conservation communication for further study.

II. METHOD

The research method used is a qualitative method. The data collection technique consists of in-depth interviews, literature studies and focus group discussions. In this study, data analysis was performed using interactive model analysis techniques [23]. The process of analysing this interactive model is carried out through several stages, namely: data collection, data reduction, data presentation and ending with the preparation of conclusions. This study tries to build a comprehensive picture of the problems observed, so it needs diverse perspectives in identifying various factors related to situations and conditions, to gain an authentic understanding of the informant's experience and a new understanding of the communication models that can be applied in the conservation of conservation areas.

III. RESULTS AND DISCUSSION

The natural ecosystem in the Kamojang Nature Reserve is a source of economic potential for the community around Kamojang so that not a few people doing activities by encroachment in the Kamojang Nature Reserve are known as forest-dependent people [24]. These encroachers rely on nature reserves as a mean of living and also as their livelihood.

Another problem is the increasingly widespread hunting of wildlife, forest fires and damage to nature reserves due to geothermal exploration activities. The damage to the area is exacerbated by the existence of trail bike activities. As an ex-situ security measure, operations and patrols are carried out by the Kamojang Resort and joint patrols with Brimob task forces, forest rangers, TNI and environmental activists. The following figure is the condition of the soil in the nature reserve that is experiencing sedimentation due to the trail motor.

Fig. 1. Soil sedimentation by trail motor.

The plains that cover most of the lake come from erosion brought by rainwater in the paths caused by motor trail activity. In the last fifteen years, there have been at least fourteen trail pathways that have caused sedimentation of land carried by water currents that lead to Lake Ciharus.

Damage to Lake Ciharus is not merely sedimentation of the soil. Many springs around the lake have disappeared. The remaining springs have decreased in volume. Simple indicator, no longer the sound of gurgling sound from the many springs that flow into Ciharus. Various regional problems certainly require the support of communication and collaborative handling of various parties including the Ministry of Environment along with the directorate general of natural resource conservation of ecosystems (KSDAE) in charge of supervising the management of conservation areas, through the directorate general of forestry and environmental planning (PKTL), whose task is to coordinate management and stewardship of forest areas, the Directorate General of Information and Nature Conservation (PIKA) that is in charge of organizing, patterning, evaluating the suitability of functions, collaborating management, and managing data and management information systems for conservation areas, the Directorate of Law Enforcement (Vacuum) that is tasked with implementing policies in the field of reduction of disturbances, threats, and violations of environmental and forestry laws, and the natural resource conservation center (BKSDA) as a technical implementing unit that carries out area management. Carrying out the arduous task of protecting the nature reserve area certainly requires the collaborative work of the parties and surrounding communities. According to Gajda, collaboration is a process of "Collaborative effort as the primary method of ideal short and / long term goals that would not, otherwise, be attainable as entities working independently." Stakeholder involvement and communication cross-border between academics, community leaders, NGOs, the media and environmental activists through their respective roles are prerequisites for the realization of the conservation of conservation areas [25].

The results showed that collaboration communication and collaboration with the parties had not been carried out effectively, a common platform had not been found, and there was still a lack of mutual trust between the conservation center as a Technical Implementation Unit within the Directorate

General of Conservation and stakeholders. This can cause partners to work alone with their respective priorities. This results in a rapid response from the technical implementation unit of the conservation of natural resources in responding to real problems that arise. Communication cohesiveness can be realized when the Ministry of Environment and Forestry opens space for dialogue with the community, forms collaborative work teams, conducts deliberations and provides access for the public to contribute to the conservation of conservation areas. Collaborative communication is a form of multistakeholder participation in managing and conserving resources, including forests through collaborative work in interpersonal, group, and organizational communication activities. From observations of the Kamojang nature reserve, researchers see that collaborative communication has not been effective. Researchers see that there are still many obstacles in conducting communication, especially with technical implementing units at the site level as area managers, namely the natural resource conservation center and geothermal business operators, namely PT. Pertamina Geothermal as a company that utilizes environmental services.

The basic principles that should be used as a reference in communication collaboration and cooperation of the parties in supporting conservation of conservation areas include how to build mutual respect, mutual trust and mutual benefits among the collaborating parties. For this reason, a common platform must be built, or a joint agenda that will be implemented and evaluated together, so that the learning process is carried out with the parties. The communication that is built is cross-border communication that has a spirit of partnership and cooperation that need each other for the common good. It is this process of building collective awareness that needs to be continually developed as capital to drive a wave of change, a collective action that can drive change at the policy level as well as practical and concrete levels on the ground. And finally, it can build a society that is aware of the various implications of natural resource management, both for itself today and for its future generations. A community that is aware and intelligent and can take anticipatory actions against the possibility of damage so that prevention efforts can be made on target. Multistakeholder collaboration should indeed be directed to achieve long-term goals.

Based on the urgency of the communication problem, the following is a proposed collaborative model for communication between the parties in managing the Kamojang nature reserve area.

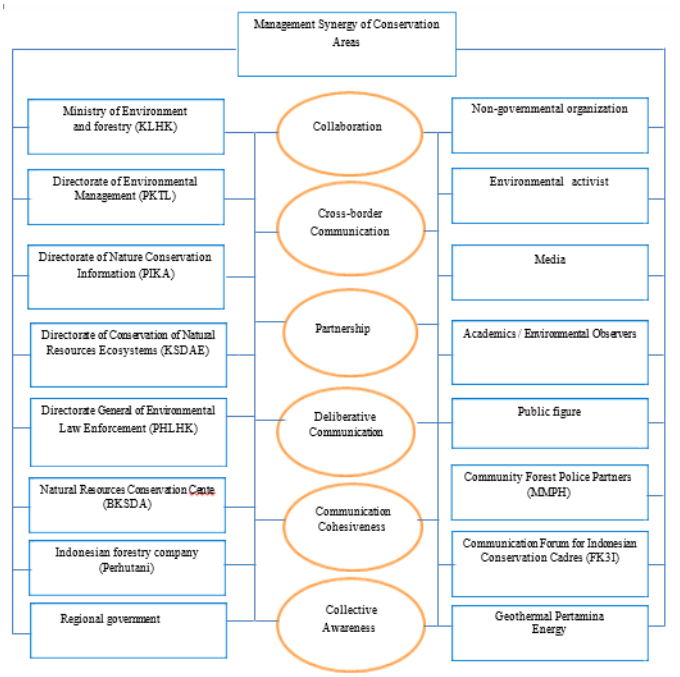

Fig. 2. Collaborative model with multi-way communication.

The picture above shows that a collaborative network with multi-directional communication in the Kamojang nature reserve area needs to be established by the Ministry of Environment and Forestry, which oversees several directorates that have different duties and authorities in the conservation area, including the Directorate of Environmental Management, Information Management and Nature Conservation (PIKA) who has the authority in the arrangement of the boundaries of the nature reserve area. The problem of zoning must be socialized and communicated to all parties. Likewise, the directorate of conservation of natural resources of ecosystems needs to build cross-border communication and work together with academics and environmental activists to work together to equalize views on the preservation of nature reserves. Law enforcement for violations in the nature reserve area needs to be consistently done and communicated by the directorate of environmental and forestry law enforcement in collaboration with the community. Pertamina Geothermal as a company that utilizes environmental services collaborates with the government and conservation center to carry out repairs and restoration. Local governments need to cross-border communication. Pertamina geothermal energy needs to do partnership with the community. Communities need to be involved in conservation partnership [26]. Media plays a role in campaigning nature reserves and contributing to the preservation of nature reserves by establishing partnership with stakeholders. The role of the community as forest police partners, communication forum for Indonesian conservation cadres as well as Indonesian forest companies can jointly build a common platform and collective awareness for the realization of mutual trust, so that cohesiveness of communication between stakeholders is formed.

IV. CONCLUSION

Efforts to conserve conservation areas are carried out by the Ministry of Environment and Forestry by opening space for dialogue with the community, forming collaborative work teams, holding consultations and providing access for the public to contribute to the sustainability of the region. Building multiparty communication start from building vision-mission-strategy-strong steps from the ministry of environment to the site level. The Strategic Plan of Conservation is arranged collaboratively to involve the parties and open space for communication and assertive dialogue with all parties. Building multistakeholder networks with universities, and environmental experts, mapping social culture, and building communication, collaboration and network strategies starting from small scale to test their processes and benefits by adhering to the principles of mutual respect, mutual trust, and mutual benefit building a learning organization or "learning organization" at the Balai (Besar) level, Regional Fields, up to the resort level is important to raise various issues and potential of the region to the public, to get responses and support. Resolve various regional issues by adopting a softer approach, analysing the history of the community's relationship with conservation areas, mapping key figures, building networks with law enforcement officials, local regional work unit as the initial stage of the process of biophysical consolidation of the region and socio-cultural potential communities in buffer zones or at the wider landscape.

ACKNOWLEDGMENT

The author would like to thank the informants and environmental activists, the ministry of environment and the communication forum for nature lovers of West Java who have helped the writer in the field.

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