Relevance of Philippine policies for muslim-friendly ecotourism management in adapting the climate change challenges

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Abstract. The impact of climate change on the natural environment has been a common case affecting the ecotourism management in Mindanao. There are many challenges and threats facing the ecotourism development, in particular, mitigating natural hazard and preserving a Muslim-friendly environment. The government needs policies for sustainable development, by improving an efficient use of natural resources and infrastructures for less greenhouse gas emissions (GHG), and provide permissible services and livelihood for poverty reduction to help the realizations of Millennium Development Goals (MDGs). Developing the Muslim-friendly ecotourism destinations, particularly in the Bangsamoro Autonomous Muslim Regions (BARMM) can overshadow the environmental risk and it will provide economic development and health protection to the local people and the tourists. The findings will show that aside from the Tourism Act 2009 and the climate Change Act (Republic Act 9729), the presence of well-formulated policies and guidelines on ecotourism in adapting the climate change will widen the possibilities for the people to further benefit from ecotourism development. In conclusion, it is of great importance that in facing the climate changes, the government must have strict environmental standards compounded by strict enforcement. However, for paradigm shift, it is necessary to be reminded that “we have to accept the evils of global development along with its blessings”.

1. Introduction
Mindanao is the second largest island among the thousands of islands scattered in the Philippine-Malay Archipelago. It is an island composed of many regions, including the newly established Bangsamoro Autonomous Regions of Muslim Mindanao (BARMM), with undisturbed and uncontaminated sceneries as well as a unique existing cultural way of life that has been turned into ecotourism destinations. The ecotourism becomes globally competitive for its ability to conserve the natural environments and cultural heritage of the Muslim minorities, the natives and other indigenous communities. Ecotourism attractions found in the provinces of Mindanao become a green investment for the government tourism programs.

Ecotourism is a kind of nature-based tourism niches suitable for Muslim locals and international tourists. Muslim-friendly ecotourism involves the visitation of the natural and greenish environment, the flora and fauna as well as understanding and appreciating the traditional culture of the Muslims.
and other indigenous people. Indeed, most of the ecotourism destinations that have been developed in Mindanao have rich marine biodiversity which helps to boost the growing tourism industry in the country. Muslim-friendly tourism has a wide scope, it is not only with a *halal* or permissible environment but also with *halal* services, foods, transportations and other tour supplies.

There are two assets that reinforce the prosperity of the Philippine Muslim-friendly tourism industry: the cultural life of the different Muslim tribes in the BARMM and the spatial location for having suitable ecotourism destinations. Climate change has a strong impact on the tourists’ decision, motivation and satisfaction, especially on high-risk tourist destinations that are exposed to high pollution growth, social inequality for the indigenous people, health problems, transportations, and infrastructure degradations. Therefore, there is a need for the government to address the importance of ecotourism policies that can overshadow the environmental risk in the region.

2. Research Method

The study opted to use the descriptive research method to determine the relevance of the government policies for Muslim-friendly ecotourism in adapting the climate change challenges. Since the nature of the study is to understand the existing legislations, it is therefore imperative that an intensive survey on current studies and literatures related to comprehensive policies and guidelines for ecotourism management have been consulted. In addition, the study maintains the importance of inter library resources for the collection of both primary and secondary data, multidisciplinary resources i.e, postgraduate published and unpublished thesis and research works, law books, annual reports, newspapers, and articles from scholarly journals. An additional type of sources, such as information from e-books, and other related sources that may enhance the understanding on the subject matter. Field works and projects conducted by the Department of Environment and Natural Resources (DENR) in the Autonomous Region of Muslim Mindanao (ARMM), particularly, the Lanao Del Sur ecotourism destinations have been highlighted and examined carefully. Other data were collected and analysed from the research done by some competent experts and authorities from the College of Forestry and Environmental Studies, and College of Natural Sciences and Mathematics of the Mindanao State University. Related development projects on climate change by the local government and other international organisations have been studied including the Capacity Development Project for the Bangsamoro Development Plan for the Bangsamoro” which was created by the Philippine Government with the Japanese International Cooperative Agency for reconstruction and disaster management. Other data have been collected on the on-going and previous projects under the Japan-Bangsamoro initiatives on rehabilitation and development in strengthening people resiliency on climate change. These projects are deemed flexible and relevant to the Philippine Government policies, guidelines and regulations for mitigating calamities and climate change.

3. Results and Discussions

3.1. On the impact of climate change

The sustainability of Muslim-friendly ecotourism depends on the continued well-being of the environments and natural resources. Mindanao has rich natural resources which could provide an essential ecosystem service to the people. The government was able to find out some of the existing impacts of climate change which will be an issue in the development of ecotourism such as; places where groundwater is contaminated, pollution from solid waste, and deterioration of land and water resources due to erosion, drought and unpredictable weather patterns. Pollution from waste disposal becomes the main problem by the people of Mindanao as it brings environmental degradation. Although, Philippines has its own solid waste management (SWM) under Republic Act 9003 (RA9003) or known as “Ecological Solid Waste Management Act of 2000” but it was not fully complied with by the local governments of the previous Autonomous Regions of Muslim Mindanao. The polluted environment has been ignored in spite of the warning issued by the Department of Environment and Natural Resources for possible legal action as mandated by Sec. 50 of RA 9003 that any agency that failed to comply can be charged administratively under Republic Act 7160 and other
enforceable local laws and regulations. In addition to that, climate change is bringing unstable weather patterns and larger storms, putting increased stress on Mindanao’s political and economic stability.

Another impact of climate change is the biodiversity in the BARMM that has been for many years considered at an alarming rate of losing a hundred kinds of species in its different geographical locations. Fauna and flora have been listed as part of the most threatened species in the island. The risks have been identified in declared national parks in the province of Lanao del Sur, particularly in Lake Dapao due to lack of protection and failure to improve wildlife conservations in the area. A research conducted by one of the students from Mindanao State University found out the existing threats and conservation status of bird species, and critical habitats in the lakeshore and riparian ecosystems of Lake Dapao [1]. Republic Act 4190 recognised the Lake Dapao as national park to be under the protection of the national government. The lake with its natural green beauty is surrounded by forest vegetation. In the eastern side of the Lake is the beautiful Mount Baya, the so-called “lifeless volcano” due to its inactive status based on the finding of the Philippine Institute of Volcano and Seismology. Government project management on Lake Dapao-Mt. Baya ecotourism was implemented through the PAMANA Program for National Greening Program (NGP). However, the project was mainly on physical development, such as the establishment of an information centre, comfort rooms, viewing shed and concrete pathways [2]. The formulation of local disaster risk reduction plan proposed in the PAMANA Program was not mentioned in the implementation report of the project.

In the southwestern Mindanao, people are facing threats brought by climate change and chemical pollutions, and if not addressed at once by the authority, it will affect the rich biodiversity and the communities [3]. It was found out that almost no forest left in the nine watersheds in Liguashan Marsh when the topsoil in uplands are washed by rains causing heavy pollution of the rivers and flooding the nearby communities. More than half of the Liguashan Marsh area has been used for farming plantation and it becomes ideal for local farmers’ habitation. It has been reported that the marshland contains natural gas and oil deposit worth hundreds of billions of dollars as confirmed by a local oil company. Aside from the presence of gas, marshland supports a great variety of rare species of birds, reptiles, and fishes. For climate resiliency, people urged the authority to preserve the rich natural resources and to develop their community into an ecotourism destinations. Several activities have been proposed and initiated to protect and improve the marshland resources from climate change, such as recycling the water hyacinths to avoid clogs on the rivers, making the rivers deep as a source of irrigation and to utilize the reforested areas as carbon sink in a combating climate change [3].

In the province of Tawi-Tawi, the natural resources have been put at risk due to environmental issues caused by man’s activities, ineffective policies and regulations as well as climate changes. Lack of environment management brings out the waste disposal from burning and throwing garbage in the rivers and the sea. The local government tried to cope up with these challenges through new development and reform projects to reduce both human and natural disasters risks. Eco-tourism project on marine species has been developed in Tawi-Tawi’s Turtle Island to protect and preserve one of the world’s major nesting sites of green sea turtles to help sustain community-based tourism enterprises in the country’s southernmost frontier. The island provinces of BARMM including Tawi-Tawi have promoted the greening program for mangrove rehabilitation to areas that have been identified for reforestation, particularly, those that are perennially flooded and were badly hit by recent typhoons and sites that are near critical coastal areas and river systems [4]. Having known the serious effect of the uncontrolled waste disposal to the environment, the local government and non-government organisations have actively formed a cleaned up drive in the surrounding areas to reduce the greenhouse gases that caused the global warming of the earth. This program is in accordance with the ecological solid waste management program under RA 9003.

Climate change is related not only to environmental factors but also to poverty, discrimination, and inequalities, including women’s lack of rights to exercise powers in the society. A long drought period can be the most important cause of poverty as people will suffer from hunger and impoverishment. Local people who relied on agricultural output will be affected as water is a key
input for most agricultural outputs [5]. The Cotabato province, the northeastern of BARMM, was seriously affected by the El Nino weather in 2016 when the rich farm fields and ponds became dry and the livestock, such as buffaloes, cows, and goats were dying for lack of foods. However, these farmlands have the market potential for having some unique tourist attractions that can be developed into natural agricultural-ecotourism destinations, if the government can properly address and assess the people in facing climate change. A study revealed that other countries proved that ecotourism helps to reduce the local people poverty. Miller, the writer, emphasized that the inclusion of local people in the success of ecotourism is important because one of the most significant indicators of the long-term sustainability of ecotourism is its ability to reduce poverty [6]. There will be a higher growth of rate of tourism if the government can introduce more development on Muslim-friendly ecotourism in Mindanao. In fact, there are many significant tourist destinations in the Muslim provinces that will influence the tourists’ decision and satisfaction. As halal tourism becomes globally famous, creating Muslim-friendly ecotourism can be a part of a development strategy to include local people for sustainable small-scale operation of an ecotourism industry. It will become sustainable in BARMM for its ability to provide additional livelihood to farmers and fishermen who used to depend on their day to day sustenance in farming a dried fields and fishing in the polluted rivers.

3.2. Government policies and guidelines on ecotourism management

Relevant policies and guidelines on ecotourism management and climate change are based on the mandate of the State to protect the people’s right to a balanced and healthful ecology. One of the best known Acts to deal with climate change issues was the Climate Change Act of 2009 (R.A. 9729) by adopting the specific goal of the United Nations Framework Convention on Climate Change (UNFCC) on the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. With this Act, the national government established the National Framework Strategy on Climate Change and the National Climate Change Action Plan to serve as the bases for climate change planning, research and development, and harmonisation of related policies and institutions [7]. In addition, the local authorities were recognised to formulate planning and the implementation of climate change action plans in their respective areas. In Davao, the local government imposed an action to confront any vital threat to the ecosystem. As an example, there is a new policy that strictly charges penalty for trekkers who do not follow the rules and regulations, particularly those who climbed Mt. Apo and left tons of garbage in their trail. Awareness on reducing the disaster risk as a result of climate change has been enhanced by the national authority through the passing of the “Philippine Disaster Risk Reduction and Management Act of 2010” (DRRM). DRRM has been included in the Medium-Term Philippine Development Plan, 2011-2016. While issues related to tourism can be reconciled with the Philippines’ Tourism Act 2009 (Republic Act 9593). This law impliedly gives power to the Department of Tourism to provide a halal integrated market program including the Muslim-friendly ecotourism management development to attract Muslim tourists and enhance the Philippine’s global status in the Muslim international community.

The Millennium Development Goals (MDGs) policy has been integrated in the Philippine local development planning and programme implementation. The aspiration to eradicate poverty has been adopted for ecotourism development. It has a significant and remarkable gain in Tawi-Tawi and Lanao del Sur (e.g. Lake Dapao-Mount Baya) as well as in Puerto Princesa, Palawan, the well-known ecotourism capital of the Philippines. The local people who used to kill dolphins and turtles and damaging the local coral reef for their own livelihood were able to realize after trained as ecotourism guides that it is more valuable to leave them for tourist attractions than as a source of life [8]. They turned to develop ecotourism as a path for resiliency and disaster mitigation. Ecotourism helps to alleviate poverty among the local and indigenous people. It becomes an instrument for them to understand the significance of preserving the life of marine species and the conservation of forest and environment. They are able to adopt and practice the sustainable green development concept. For poverty reduction, the Japan International Cooperation Agency (JICA) conducted a capacity building
program for farmers in Maguindanao and Lanao del Sur to learn the proper way of farm plantation and self-cultivation to develop their productivity and livelihood [9]. Aside from agricultural projects in the BARM MM, JICA helps to provide rehabilitation of the irrigation system and other means of combating disasters and climate change.

The government has been providing strong support in meeting the necessary assistance through strategic policies and planning to reduce the negative impact of climate change. But in spite of that, the overall development for climate change adaptation and mitigation, specially for ecotourism has not been fully attended. Some islands are still suffering from an annual basis of severe typhoons, flood, GHG, polluted water, and other bad weather events. These are the adverse effect of climate changes that potentially affect the tourists’ choice and decision for holiday destinations. It also stripped away the livelihood of the local people who are dependent to the tourism industry and the forest conservation. It was found out that the problem is not the government lack of preparation for climate-related risks but the failure to implement projects and other activities for climate change management. The government does not provide a strict policy for a low-carbon growth transformation in order to reduce the greenhouse gas emissions created by tourists’ long-distance transportations (aircraft, cruise ships, and cars), people over-reliance to fossil fuels and open burning of grasses and trees.

4. Conclusions
The study has analysed the importance of government policies affecting the Muslim-friendly ecotourism management in adapting the climate change in the BARM MM. To ensure the relevance of the government policies with regards to sustainable development, the best practices that have been adopted by other regions, which are consistent with the mandate of sustainable development, should be introduced in order to redress issues related to environmental risks, man-made and natural disasters, and poverty reduction caused by climate change. While having a well-crafted policies, the BARM MM needs to impose strict environmental standards compounded by strict enforcement to attain the aspirations for a sustainable development in the region. Therefore, convergence of ideas related to ecotourism and climate change must be embraced by which, Islamic principles on environment has something to offer for a meaningful change and development.

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