

# Conservation and Development of Community-Based Agro-Ecotourism in Barangay Digkila-an, Iligan City

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## ABSTRACT

This paper assessed the agro-ecotourism potentials and prospects of Barangay Digkilaan by examining some of its environmental elements, agro-elements, market viability and community people's skills, capability, and social acceptability of the local community on their cooperation for income generating activities for agro-ecotourism and environmental protection. Environmental elements include physical landscape, existence of natural resources such as waterfalls, agro-forestry and indigenous farm products were also identified. Farm to market road, potential market of agro-ecotourism products and services were determined. Skills and capability of community residents were also assessed for the prospect of potential income generating activities for agro-ecotourism development of Barangay Digkilaan. Participatory Resource Appraisal was done in gathering necessary data. Transect walk was conducted as a technique in identifying the environmental elements and market viability of the research area. Also, Focus Group Discussion (FGD) with the Barangay officials and local residents were conducted to gather information about the proposed agro-ecotourism project as well as current issues. A total of 82 participants participated in the FGD. Results revealed that Barangay Digkilaan has a considerable degree of potential for agro-ecotourism development. Collaborative policy-making in enhancing community-based agro-ecotourism is also highlighted in this study to achieve sustainability: environmental sustainability, social sustainability and economic sustainability.

**Keywords:** *Agro-ecotourism, Community Based Ecotourism, Community Participation, Ecotourism Development, Sustainable Development*

## INTRODUCTION

Tourism industry is one among the fastest growing industry all over the world. It has also been a significant contributor to generate investments, foreign exchange earnings, employment and economic growth. It is already more than two decades now that the Philippines formulated guiding principles in tourism development. In 1991, the 20-year Philippine Tourism Master Plan (TMP) had been created as basis for tourism development. This blueprint on the development of the tourism industry aims to be sensitive, contribute to livelihood, minimize impact of negative factors, maximize and generate sustainable growth (Anasco and Lizada, 2014). One of the classifications of tourism industry is the agro-ecotourism. It is a combination of nature-based and farm-based tourism activities. The rural landscape, usually a combination of wild and agro-ecosystems, is the most important aspect for agro-ecotourism development. It is obvious that a diversified agricultural landscape, with semi-natural habitats, has a greater aesthetic and recreational potential over uniform, degraded and/or polluted agricultural areas (Sima, 2018). Agro-ecosystem involves human activity of agriculture and it is characterized to have simpler species composition and simpler energy and nutrient flows than "natural" ecosystem (Fliert & Braun, 1999). This is often associated with elevated nutrient input and most cases it exits the farm leading to eutrophication of connected ecosystems which are not directly engaged in agriculture (Peden, 1998).

Agro-ecotourism is anchored to the sustainable development goals as it fosters growth and economic development at all levels. It can also provide income through job creation and promote incentives to invest in education and environmental conservation. It can also play a leading role in fighting against environmental challenges such as climate change, and may ensure the empowerment of the community through active participation and collaboration of public and private actors in tourism activities (Responsible Tourism Institute, 2017). Since this form of industry is attached on natural resources and cultures, this is considered as the only real tourism assets that the poor communities have. Thus, this supports inclusive growth of the community as it has offers alternative livelihoods with educational and health benefits for the involved community members.

In 2013, the National Ecotourism Strategy and Action Plan 2013-2022 had been created, which aims to "establish an environmentally and socially responsible ecotourism development that safeguards the integrity and diversity of its natural resources, provides education and enjoyment to visitors and delivers larger and more widely distributed income and employment opportunities to the local communities and their constituents, especially the women, youth, indigenous peoples and other vulnerable groups".

Also, the Philippine Development Plan (PDP) 2017-2022 expands the development of sustainable resource-based industry including agro-ecotourism, agriculture, forestry, and fish, marine and genetic resource. The

plan also promotes development of ecotourism and cultural sites as well as mainstreaming ecosystem values through institutionalizing economic valuation and natural resource monitoring system (National Economic Development Authority, 2017). Aligned with the Ambisyon Natin 2040 Program and PDP 2017-2022, the National Tourism Development Plan (NTDP) 2016-2002 envisions in “developing a globally competitive, environmentally sustainable and socially responsible tourism industry that promotes inclusive growth through employment generation and equitable distribution of income thereby contributing to building a foundation for a high-trust society”. The NDP 2016-2022 adopted cluster approach as development strategy involving the implementation of programs such as transport networks, infrastructure projects, accommodation and recreational facilities, human resource development, and marketing plans, which all of these are directed to support the development of tourism destinations throughout the country (Department of Tourism, 2018). The Department of Tourism (DOT) along with its partnership on Department of Agriculture (DA), Department of Trade and Industry (DTI), Department of Public Works and Highways (DPWH), and Department of Interior and Local Government (DILG) undertake the development of agro-ecotourism by the creation of Farm Tourism Development Board, formulation of criteria for site selection and design action plan for development, involving programs for accreditation system based on standards, and creation of tour programs.

Moreover, in accordance with the 20-year Tourism Master plan of the country, Iligan City has also pursued its ecotourism agenda. The city has been declared as the City of Water Falls where the place has 23 majestic waterfalls. Two famous waterfalls of the city are the Maria Cristina Falls and Tinago Falls. Also, several ecoparks have been implemented in this city including Maria Cristina Eco Park, Iligan Paradise Resort at Barangay Buruun, Blue Lagoon, and Tinago Falls. Thus, this has caught the interest of finding out the potential of developing a community-based agro-ecotourism in Barangay Digkilaan, Iligan City, where Dodiongan Fall is also situated and has abundant source of agricultural products such as banana. Specifically, the study seeks: (1) to conduct a natural resource audit of Barangay Digkilaan in terms of: (a) Environmental elements and (b) Market Viability; (2) to determine the skills/capabilities and cooperation of the local people for an agro-ecotourism project; (3) to identify (a) relevant activities for agro-ecotourism development in Barangay Digkilaan and (b) current issues on the dumpsite located in the highland barangay of Sitio Bangko in Barangay Bonbonon that is located nearby Dodiongan Falls.

In Figure 1, the conceptual framework of this study highlights the integration of the three pillars of sustainability: economy, environment, and society to illustrate the important elements in developing community-based agro-ecotourism in Barangay Digkilaan, Iligan City. In the framework, the link of economic and environmental sustainability can be achieved by balancing the use of environmental resources for agro-ecotourism. Creation of livelihood and jobs from agro-ecotourism connects economic sustainability

and social acceptability. This means that if the local community accepts the proposed income generating activities agro-ecotourism and their cooperation and participation to conserve the environment with the intervention of local government or authorities, the sustainable community-based agro-ecotourism in Barangay Digkilaan would be possible. The community may improve their economic status. Also, the community can maintain the cleanliness in the potential tourist spots and help conserving the environment through their active participation and cooperation. The framework also highlights the political intervention in which the local government unit can formulate appropriate technical policy and give assistance through partnership on developing agro-ecotourism in Barangay Digkilaan towards sustainable community development.



**Figure 1.** Conceptual Framework on Development of Community-based Agro-ecotourism

## METHODOLOGY

This study aims to determine the potential of Barangay digkilaan, Iligan City towards community-based agro-ecotourism. Participatory Resource Appraisal (PRA) was done in gathering data on the environmental elements of the area and its market viability. Transect Walk, Key Informant Interviews, and Focus Group Discussion (FGD) are the tools used in collecting the data.

In conducting a natural resource audit of Barangay Digkilaan in terms of Environmental elements and Market Viability, a community mapping using transect walk was done. The researcher accompanied by some local people explored and observed the area to validate data on the environmental elements. The data collected were recorded accordingly.

Focus group discussion (FGD) accompanied with a structured questionnaire was done to determine the skills/capabilities and cooperation of the community in developing agro-ecotourism project in Barangay Digkilaan. Purposive sampling was also done in selecting the participants for the FGD. These participants are the Barangay Officials and local residents of the barangay. A total of 82 participants were involved in FGD of which 49 of them were men and 33 of them were women. The FGD was conducted once simultaneously. The participants were asked to identify feasible prospect economic ventures and tourism activities once the agro-ecotourism in the area will be develop. They were also asked about their skills and socio-economic status. They also determined the current environmental challenges and social issues that may hinder the development of agro-ecotourism in their community.

Also, Key Informant Interview was conducted for supplemental information. In selecting the informants, purposive sampling was done. The selected informants are the concerned officials of the Iligan City Mayor's Office. The informants were asked about the current issues and future plans for the Barangay Digkilaan and the tourism industry of Iligan City. Moreover, the information gathered from FGD and Key Informant Interview were recorded accordingly.

### **Research Ethics**

Entry protocol was done with the barangay officials by requesting a meeting with them for this purpose, involving the participation of the Department of environment and Natural Resources (DENR) and other concerned authorities. The researcher prepared necessary tools for data gathering such as recorded notebook and structured questionnaire for FGD and Key Informant Interview. The researcher also submitted letter of request to conduct transect walk to observe the research area and FGD to the barangay official and selected local residents. Consent letter were given to the respondents who voluntarily participated in this study. The researcher

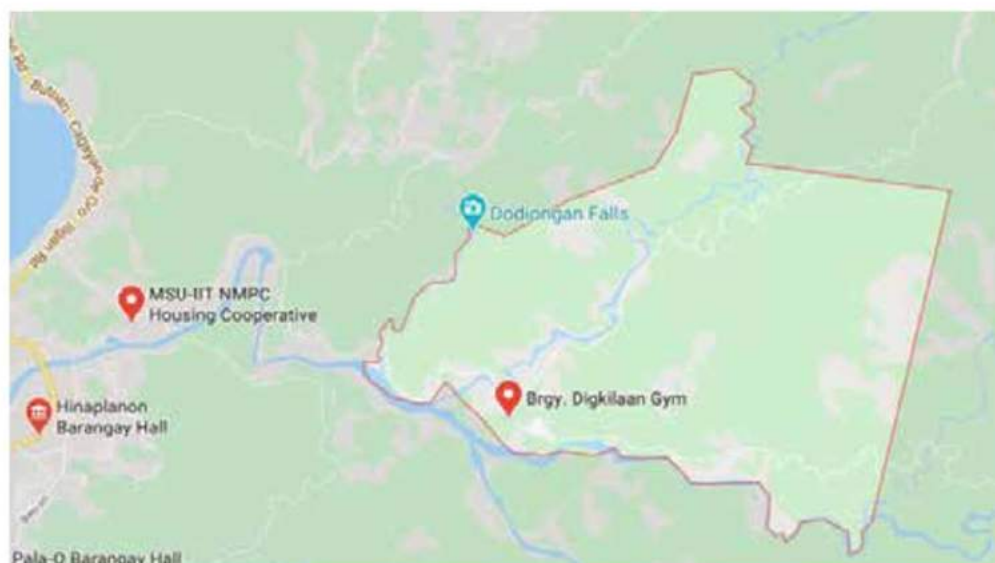
ensured the confidentiality of personal information given by the participants and interviewees. It was also ensured that the information gathered during data collection are reported honestly and accurately.

## **RESULTS AND DISCUSSION**

### **Brief Background of Barangay Digkilaan**

#### **Physical Environment**

Brgy. Digkilaan is situated at approximately 8.2486, 124.3466 in the interior part of Iligan City. It is bounded in North by Brgy. Rogongon, South by Brgy. Bonbonon, West by Brgy. Santa Felomina, and East by Mandulog River. The elevation at these coordinates is estimated at 108.5 meters or 356.0 feet above mean sea level. The general characteristic of the barangay is a rolling terrain with fractured plains. It has a distance of 17 kilometers away from the city proper and its main transportation and the easiest way of going to the place is through riding a motorcycle or commonly known as habal-habal. It has a distance of 17 kilometers. The barangay is composed of 26 puroks. Dodingan Falls is situated in this barangay as shown in Figure 2. However some parts of the falls also belong to Barangay Bonbonon and Barangay Kabacsanan. Its narrow plain along the Mandulog River serves as the agricultural production area of the barangay. Other areas being characterized by rolling, hilly and or steep slopes that are fairly good lands unsuitable for agricultural use. Therefore, cultivation on these areas requires careful management and conservation practices. However, this area could be utilized for pasture and forest production, mountain trekking, sightseeing and other ecotourism activities. As to its water quality, it can be gleaned even without undergoing tests that the surface waters in the barangay are slowly deteriorating due to the presence of the leachate from the nearby dumpsite. The presence of the dumpsite has created enormous impact to its physical environment and also to its immediate community.



**Figure 2.** Location Map of Brgy. Digkilaan

## **Environmental Elements**

### **Agriculture**

Barangay Digkilaan is one of the agricultural-based Barangay in Iligan City. Based on the information from Focus Group Discussion (FGD), the barangay has abundant source of banana and this has become one of the sources of income of the local community. Some of the respondents who were residents in Digkilaan claimed that they utilized these in making banana chips, which this can be a potential in establishing community-based livelihood for banana chips making or other agricultural food products. Also, this could be one of the prospect income generating agro-ecotourism related activities.

Aside from the abundance of banana, the barangay is also rich in coconut, bamboo, root crops and even ferns or commonly known as “pako”. If there is strategic management technique in implementing conservation practices, the place has potential towards development of forestry and agricultural production. Strategic management addressed the issues of conservation of the natural environment and development of environment-friendly materials (Khemesh, 2019).

During the community mapping, it was noted that the agricultural lands were not fully cultivated for possible vegetable, cereals and agro-forestry production. The poor agricultural development manifests the lack of knowledge of the farmers on the new technology. Practicing traditional agriculture and low price of agricultural products in the market discouraged the farmers to produce more. Agricultural technology has been a significant factor in increasing farm productivity (FAO, n.d.). In order to ensure that

agriculture produces adequate food without compromising the environment, farmers need the right incentives, knowledge, and technology (OECD, 2001). Thus, it is important to implement policy on educating local farmers about sustainable farming systems using agricultural technology. Some respondents from the FGD claimed that they are not business-conscious and they have limited knowledge in engaging business transactions although there are many visitors would like to purchase their food products and other items. Thus, this suggests that the local community who have interest in engaging entrepreneurial livelihood should be given entrepreneurship training by the concerned government unit or non-government organizations (NGOs). Syman (2017) in her research highlighted the importance of formal education, livelihood diversification and other formal employment in ecotourism areas.

### **Ecotourism**

Barangay Digkilaan has sites that can be developed into tourist attractions. One of them is the Dodiongan falls or also known as Abaga Falls and Angel-Winged Falls located along Dodiongan River. As shown in Figure 3, the waterfalls is 65.60 feet high, cascading down to a concrete-like boulder. Its tranquil, cool waters and lush vegetation make it a real haven for nature lovers. The lagoon at the foot of the falls is very ideal for swimming. It is 14.5 kilometers away from the city proper and a 15-minute trek to the foot of the falls. Though Dodiongan Falls is not that famous as Maria Cristina Falls, it is also visited by local tourists. This site is good for ecotourism development. Tourism related income generation activities such as recreational ventures, village or area tour, souvenir shopping and other activities serve as sources of livelihood enhancement opportunities (Manu & Kuuder, 2012) and can generate income to the host community (Ashley, et al., 2001).

Moreover, the wide plains of the barangay as observed during the transect walk could be converted into agricultural area. In this way, the community could generate income from communal organic garden for crops, vegetables, and flowers. They could also develop a garden of wild herbs for collection and drying. While the community would be doing these, they could at the same time build-up a compost pit, and then cover it with ornamental plants which later can be one of the tourist spots in the area. Agro-ecotourism in certain locations of the barangay could provide a strong economic incentive to small farmers. During the FGD, some of the respondents stated that in developing agro-ecotourism in the area there is a prospect for their local community to engage in business ventures specifically traditional food and beverage processing. Through introduction of these income generating activities, the growth of agro-ecotourism throughout the developing countries has served as an economic incentive for community to protect and preserve natural resources (Yamagiwa, 2003).





**Figure 3.** The angel-winged Falls (Dodiongan Falls)

### **Market Viability**

Based on the information gathered from the participants during the FGD, some of the visitors resided within and outside Iligan City used to visit Dodiongan Falls for recreational activities such as swimming, hiking, and bonding. FGD participants claimed that some of the local residents in the area used to be tour guides for those visitors who want to witness the attraction of Dodiongan Falls. These visitors used to pay tips on local tour guides. Also, some of the FGD respondents claimed that some of the visitors tend to purchase their local products like banana chips and other food products. These income generating activities of local residents in the area earned from tour guiding and selling agricultural food products could actually the community to improve their economic status. Local residents could gain economic if and when the area is open for tourists (Tuzon, et al., 2014). Ecotourism provides opportunities for income generation to local community from natural resources without destroying the environment (Colvin, 1996). It minimizes negative impact on the environment as well as represents the local cultures and actively contributing to the economic well-being of the involved host communities and stakeholders (Manu & Kuuder, 2012).

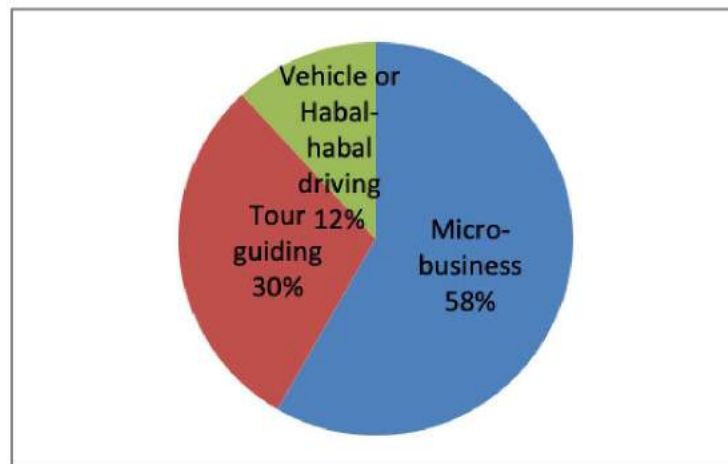
### **Skills/capabilities and cooperation of the local people for an agro-ecotourism project**

Based on the survey of Philippine Statistics Authority (PSA) in 2015, Barangay Digkilaan has a population of 5,208 which composes approximately 1,364 households. Most of the residents are into farming, with which farming (both crops and livestock) is the main source of living (CLUP, 2015). Based on the data gathered from FGD and Key Informant Interviews, some of the residents are engaged in animal husbandry and livelihood projects from the government. Few residents are engaged in scavenging, collecting recyclables in the dumpsite. According to the key informant, some of the local residents were hired as segregators. There are also few who are engaged in tour guiding.

In terms of the skills of local people, most of the participants during the FGD mentioned that were engaged into farming such as vegetable growing, buy and sell of agricultural products and animal-raising. Based on the information gathered from FGD, most of the residents in Digkilaan are farmers whose average estimated household income is P4,000.00 per month. This estimated monthly household income found to be below the poverty threshold which is P9,000 per month for a family of 5 or more. According to their responses from the FGD, most of them stayed in the place for an average of 23 years and majority of them had only attained high school in their educational attainment. Most of the respondents believed that their economic condition is the same as before which means status quo and only 75% of them were contented. Majority of them claimed that they want to change their livelihood from being farmers.

### **Social Acceptability on the proposed activities for agro-ecotourism development**

During the FGD, the respondents were asked to identify economic activities that they would venture if the Dodiongan Falls will be developed as agro-ecotourism. As shown in Figure 4, majority of them responded that they will engage in micro businesses like sari-sari store, selling of agricultural products and local souvenir items. Thirty percent of the residents claimed that they would like to engage in tour guiding. Others said that they will engage in vehicle driving or habal-habal driving to respond the needs of the tourists for transportation.



**Figure 4.** Social Acceptability of Local Residents on the proposed activities for agro-ecotourism

In Table 1, it summarizes the projected monthly income from the suggested entrance fee for Dodiongan Falls once it will be developed into an agro-ecotourism industry based on the average weekly tourist influx.

**Table 1. Projected Monthly Income from Entrance Fee for Dodiongan Falls**

<b>Proposed entrance fee (in pesos) for Dodiongan Falls</b>	<b>P 15.00</b>
<b>Average Tourist Influx per week</b>	80 visitors
<b>Estimated income of local community per week:</b>	<b>P 1,200.00</b>
<b>Estimated Monthly Income per month:</b>	<b>P 4,800.00</b>

Based on the information gathered from FGD, the residents and other stakeholders agreed to collect an entrance fee for the maintenance of the area specifically in Dodiongan Falls. As shown in Table 1, it is estimated that the average entrance fee to be collected from each potential tourist will cost P15.00. Recently, the average number of visitors per week is 80 based on the interview from one of the key informant in the barangay. It is estimated that the local community can earn an approximately P4,800 or more per month from the entrance fee as illustrated in Table 1.

Based on the FGD, it is evident that the local residents are willing to accept the agro-ecotourism development of Dodiongan Falls in Brgy. Digkilaan. They are also willing to engage in various income generating activities such as microbusiness, tour guiding, and vehicle driving with the support of the local barangay officials and local government unit. They also agreed to set a price for the entrance fee of the potential tourist spot as it will be used for the maintenance and conservation of the area. The results are aligned with the conceptual framework of this study as shown in Figure 1. In

order to link economic sustainability and environmental sustainability there is a need to balance and conserve the natural resources that will be utilized for agro-ecotourism. This can be achieved if there is a sense of social acceptability of the local community to render cooperation in conserving the environment especially the Dodiongan Falls and engage on income generating agro-ecotourism activities. Ecotourism activities using natural resource attractions in remote rural areas provide economic diversification and livelihood opportunities (Ashley et al., 2001) to engage in tourism related jobs through the conservation of local ecosystems and culture (Manu & Kuuder, 2012). These activities provide better linkages, inclusive growth, create local employments, and foster sustainable development (Khan, 1997; Belsky, 1999). Agro-ecotourism empowers the host community for them to meet their economic needs but also to arouse and maintain their sense of pride over their place that they can call their own. Moreover, appropriate political intervention is also important towards development of sustainable community-based ecotourism. The local government in partnership with the private sectors and NGOs support the infrastructural development and farm-to-market road that will be utilized for agro-ecotourism and also visitors could easily access the area. They can also formulate actions through implementation of relevant policies and management strategies. Governance is the basis of these collective actions that are often needed to promote the aims of sustainable tourism (Bramwell, 2011). The local government weighs the costs or risks and benefits and risks of the transformation plan (Tuzon, et al., 2014). According to the local community and some of the Barangay officials in Digkilaan, they viewed a positive outlook towards the proposed agro-ecotourism project. Also, they look forward for the job and livelihood opportunities that may improve their economic status.

### **Issues of the Dumpsite near the Dodiongan Falls**

Based on the information gathered from FGD, one of the issues in the community is the dumpsite and malfunctioned Central Materials Recovery Facility (CMRF) as illustrated in Figure 5. The dumpsite is located in Barangay Bonbonon situated nearby Dodiongan Falls. Most of the respondents claimed that their health is at risk because of the dumpsite leachate located above the waterfalls. Also, they stated that this issue negatively affects their livelihood and food security. They also claimed that the tourist influx in Dodiongan Falls decline due to this issue. Thus, they were requesting that the local government should take immediate action on this matter. On this

Another issue of the research area is the production of garbage consumed from the tourists. The respondents claimed that the presence of garbage from tourist influx negatively affect the image of the area. Most of them (69%) were aware that the waterfalls have a lot of garbage left by the tourists during visits. This is possibly because there is no management team that supervises the tourist influx and the place is not developed. By

developing the area in becoming a tourist spot, this may improve the tourist awareness of the need for conservation (Aweto & Fawole, 2016).

Most of the locals during the FGD with the locals claimed that they observed black and brown liquid with foul odor being carried off during rainy season along Dodiongan Falls and into the nearby rivers and streams located near the dumpsite. Based on the information gathered from the respondents of this study, there was an issue of water pollution in the area as the falls and other bodies of water situated nearby were contaminated with the waste from the landfill which is located 2 kilometers above the Dodiongan Falls. According to them, this issue was already raised to the Department of Environment and Natural Resources (DENR) and the National Media. Also, most of the respondents claimed that the cause of the leachate was the practice of open dumpsite at the landfill in Barangay Bonbonon. In order to address the problem of the dumpsite leachate, a functional wastewater treatment is advisable to kill offending bacteria and reduce odor emissions, oxidizing agents (Waste Advantage Magazine, 2018).



**Figure 5.** The dumpsite at Barangay Bonbonon



**Figure 6.** The leachate treatment facility of the dumpsite

### **Agro-ecotourism Activities for Barangay Digkilaan as Suggested by The Locals**

Community-based activities are presented here to develop agro-ecotourism destinations within the framework of the principles of ecotourism and agro-ecotourism development. Since the International Ecotourism Society (TIES) created the principles of ecotourism in 1990, ecotourism is about uniting conservation, communities and sustainable travel. To recall the principles highlighted by TIES: minimize physical, social, behavioral, and psychological impacts; build environmental and cultural awareness, and respect; provide positive experiences for both visitors and hosts; produce direct financial benefits for conservation; generate financial benefits for both local people and private industry; deliver memorable interpretative experiences to visitors that help raise sensitivity to host countries' political, environmental, and social climates; design, construct and operate low-impact facilities; and, recognize the rights and spiritual beliefs of the Indigenous People in your community and work in partnership with them to create empowerment. Agro-ecotourism means a combination of farm-based and nature-based tourism. Community-based activities focuses on the residents of the community to be developed – that the project springs out of their desire

and motivation, that they are the principal actors (planners and implementers) to realize the project, and the direct beneficiaries of the gains of the project.

In relation to the physical environment of Barangay Digkilaan, most of the residents during the FGD suggested the following to carry out their agro-ecotourism activities: (1) to build a display center of communal produce from their communal garden; and (2) to showcase an agro-fair activities such as: listing of economically important trees, listing of plant species with socio-cultural uses; listing of endemic species. Furthermore, most of the women in the local community suggested that the Department of Agriculture (DA) shall initiate a communal farming using the concept of One-Purok-One-Product (OPOP) scheme of Department of Trade and Industry (DTI), such that they would be trained as to what crops are possible to plant in their type of soil. In the development of agro-ecotourism in the area, most of the respondents from the FGD recommended to solve first the problem on the leachate from the dumpsite. They also suggested that there should be a bigger catch-basin at the bottom part of the landfill as the current catch-basin could catch all the leachate from the landfill that is why it drips down to the Dodiongan Falls. Also, the Barangay Officials of Digkilaan suggested that the endeavor in making Dodiongan Falls an agro-ecotourism site of Iligan City could be shared with Brgy. Bonbonon and Brgy. Kabacsanan as it is located within the boundaries of the 3 barangays. In terms of activities on people resource as support for the proposed agro-ecotourism project development for Barangay Digkilaan, the locals put forward their desire to have a capability building training in the following areas: appropriate farm management skills with basics of costing and budgeting; organize cooperative tourism training (for tourists education in preserving the natural asset of the place) and basic tour guiding design; utilize local people's indigenous knowledge acumen on herbal medicine and other ethnic tourism activities; and agri-business / mixed farming system with emphasis in marketing, financial and entrepreneurial activities such as handicraft production, family-run backyard hog and poultry. Also, most of the participants during the FGD claimed that they need agricultural and entrepreneurship training which could help them in making informed decisions of what to raise; when and where to sell based on up-to-date data on market prices and market trends; and formulating business plan.

In terms of the aspirations of the local community about the development of Barangay Digkilaan into agro-ecotourism, most of the respondents during the FGD responded that they are going to engage in micro r small scale business such as sari-sari store, fruit and vegetable vending. Also, some of them claimed that they are interested in tour guiding. Hence, they need capability building training for tour guiding. They also believed that tour guiding is as simple as accompanying the tourists to the waterfalls area. According to Ramona (2016), visiting an ecotourism destination is an experience every tourist that must be accompanied by

information. Without additional information provided by authorized persons, the purpose of the act will not be complete ecotourism.

### CONCLUSION AND RECOMMENDATIONS

Barangay Digkilaan has the following features:

A. Agriculture

The plains of Barangay Digkilaan are convertible to an agricultural area for its soil feature is good, and nearby rivers could be used to water the plants during dry seasons. With the use of productive but more sustainable management practices through crop rotation, crop diversity, reduction or elimination of tillage, integrating livestock and crops.

B. Ecotourism

It has a 65.60 feet high falls, with twin waterfalls and a lagoon ideal for swimming and boating, a mountainous terrain, rocky cliffs, forest and caves good for trekking, bird watching, photography, and scientific research on flora and fauna.

C. The Barangay has its market access to attract tourists and businessmen.

D. People's support – actual interview with the community residents and officials reveals the excitement and willingness of the village folks towards the project. Their skills and interests can be tapped for agro-ecotourism ventures.

E. On the issues of the dumpsite, given that fact that it is already there, the three affected barangays: Brgy. Digkilaan, Brgy. Bonbonon and Brgy. Kabacsanan, in cooperation with the Local Government Unit and other concerned agencies can join hands in improving its operation.

#### Recommendations to Carry Out Issues on the Dumpsite

Based on the current issues about the dumpsite situated near Dodiongan Falls and the prospects of developing a community-based agro-ecotourism in Barangay Digkilaan that will serve as basis for collaborative policy-making, this study recommends the following:

1. The concerned barangay officials in Barangay Digkilaan in coordination with the other officials in Barangay Bonbonon and Kabacsan can make a request to fix or purchase a functional Material Recovery Facility and to construct bigger catch-basin for leachate treatment facility of the dumpsite to the local government unit of Iligan City as soon as possible. The Local Government Unit and other concerned agencies like the City Planning Office (CPDO), the Department of Environment and Natural Resources (DENR), and the Department of Tourism (DOT) can also work in partnership to address the issues on the dumpsite.



2. Since most of the local residents in Barangay Digkilaan are willing to engage on income generating activities for agro-ecotourism, the local government unit of Iligan City should intervene to support these activities by giving them assistance and appropriate training for entrepreneurship, tour-guiding and other tourism activities. They could also establish partnership with the academe and/or NGOs to provide such trainings.
3. The local should community with the support of the Barangay Officials should create a clear management board to supervise the environmental conservation of the area, marketing and promotions of the tourist spot and their agricultural products, and other tourism related activities.
4. The Sustainable Development Studies Program of MSU-IIT can take lead in proposing projects on community-based agro-ecotourism for a better, greener and productive Brgy. Digkilaan.
5. For future researchers, they can conduct feasibility study for agro-ecotourism in Dodiongan Falls incorporating cost and benefit analysis. This would help the local community as well as the local government unit in determining market viability of the proposed agro-ecotourism project. Also, future researchers should conduct Environmental Impact Assessment (EIA) for the proposed agro-ecotourism project considering the status of Dodiongan Falls. They can also conduct water sampling to assess the physico-chemical parameters of the waterfalls and its water quality. This can assure the safety of the potential tourists and the local community.

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