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**MASTER OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT**

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**RURAL-UPLAND REHABILITATION ECOTOURISM STRATEGIES (RURES)  
FRAMEWORK: A RATIONALIZED AUTHENTIC ECOTOURISM ACTIVITY  
PLANNING FRAMEWORK FOR DEGRADED UPLAND AREAS IN THE  
PHILIPPINES A CASE STUDY OF BRGY. SALDE, CULASI, ANTIQUE**

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15 February 2021

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### **RURAL-UPLAND REHABILITATION ECOTOURISM STRATEGIES (RURES) FRAMEWORK: A RATIONALIZED AUTHENTIC ECOTOURISM ACTIVITY PLANNING FRAMEWORK FOR DEGRADED UPLAND AREAS IN THE PHILIPPINES: A CASE STUDY OF BRGY. SALDE, CULASI, ANTIQUE**

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Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique

## DECLARATION

This is to certify that

- i. The special problem comprises only my original work towards the MENRM except where indicated in the Preface,
- ii. Due acknowledgement has been made in the text to all other material used,
- iii. The special problem is fewer than 25 000 words in length, exclusive of tables, maps, bibliographies, and appendices.

Christine E. Talidong

## **BIOGRAPHICAL SKETCH**

Christine Enrique Talidong is the daughter of Romulo Talidong and Leonida Enrique. Her father was born and raised in the Province of Antique. Her mother, on the other hand, was born in the Province of Oriental Mindoro and raised in the Province of Palawan in the Philippines. She has two brothers whom she loves dearly.

Having been raised in the provincial setting, rural life and the natural environment greatly influenced her aesthetic preferences and career path. She took her undergraduate degree at the University of the Philippines Diliman and continued to take a graduate course at the University of the Philippines Open University. She is a licensed Landscape Architect and Environmental Planner. She is currently one of the consultants of Land & Man Integrated Design, a local consultancy firm. She is passionate about her current work interests, including authentic ecotourism, landscape ecology, spontaneous vegetation in designed landscapes, and environmental design and management.

Christine is one of the blessed ones to have someone willing to go where she is heading and where she chooses to come with. She is shyly referring to her husband, the silent lodestar of her life, Angelo Paulo Mogul.

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I would like to offer this endeavor to the Great Designer and Planner of my life, the Holy Trinity, for the wisdom, the good health, the joy, the strength, and the good people I have been surrounded with.

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To my friends and colleagues, your presence has given me strength. To the endless support that my parents and brothers are giving me, thank you kindly. To my Ate Charo Fider, thank you for choosing to love me like your own. To funny one in my family, my Mogul, this research’s completion would not be possible without you. My gratitude will be expressed whenever I lopsidedly smile and laugh at your INTP jokes.

To you, dear reader, thank you for the honor of your time. I hope this will help you in your study, anyway it can.

## **Dedication**

This is dedicated to every ecotourism site in the Philippines which have been robbed of what authentic ecotourism should be. To communities who are forced to change their way of life and abandon traditions, all in the name of development. To landscape architects and allied professionals who are dedicating their intellectual capabilities and expertise, their time, and life in fighting for the dignity of land and man. And to future researchers who can use this in their study as a guide or reference.

## TABLE OF CONTENTS

Title Page	i
University Permission Page	ii
Acceptance Page	iii
Declaration	iv
Biographical Sketch	v
Acknowledgement	vi
Dedication	vii
Table of Contents	viii
List of Tables	xi
List of Figures	xii
Abstract	xiii
Introduction	1
Literature Review	4
Degradation and Other Issue in Rural Upland Sites	4
Sustainable Tourism & Ecotourism	14
Existing Related Policies/Legislations, Guidelines, and Strategies	32
Other Related Concepts and Theories	43
Theoretical Framework	55
Statement of the Study	57
Main Problem	57
Sub-problems	57
Objectives of the Study	59

Goal of the Study	59
Objectives of the Study	59
Rationale	61
Background of the Study	61
Significance of the Study	63
Scope and Limitations	66
Scope and Delimitations of the Study	66
Limitations of the Study	67
Description of the Study Area	69
Definition of Terms	71
Conceptual Framework	72
Methods	74
Results	78
The RURES Framework	79
Preconditions/Prerequisites of the Framework	83
PHASE 1	85
PHASE 2	91
PHASE 3	93
PHASE 4	96
Results and Discussion	98
Case Study	98
PHASE 1	98
PHASE 2	114
PHASE 3	119
PHASE 4	119

Recommendation and Conclusion	124
References	127

## LIST OF TABLES

Table 1. Rural-Upland Area for RURES Framework Application Basic Criteria	86
Table 2. Common Degradation Indicators Checklist and Assessment	87
Table 3. Additional Common Community Profile & Site Characteristics	89
Table 4. Degradation Rehabilitation through Ecotourism Strategies	92
Table 5. Community Profile Enhancement and Site Characteristics through Ecotourism Strategies	92
Table 6. Rural-Upland Area for RURES Framework Application Basic Criteria – Salde, Culasi	101
Table 7. Common Degradation Indicators Checklist and Assessment – Salde, Culasi	110
Table 8. Additional Common Community Profile & Site Characteristics – Salde, Culasi	112
Table 9. Degradation Rehabilitation through Ecotourism Strategies – Salde, Culasi	115
Table 10. Community Profile Enhancement & Site Characteristics through Ecotourism Strategies – Salde, Culasi	117

## LIST OF FIGURES

Figure 1. Theoretical Framework	56
Figure 2. Conceptual Framework	73
Figure 3. Rural-Upland Rehabilitation Ecotourism Strategies Framework (RURES Framework) Diagram	82
Figure 4. Precondition to Using the RURES Framework	84
Figure 5. RURES Framework PHASE 1	85
Figure 6. RURES Framework PHASE 2	91
Figure 7. RURES Framework PHASE 3	93
Figure 8. RURES Framework PHASE 4	96
Figure 9. 3D-Sattelite image of the extents of Brgy. Salde, Culasi, Antique, Philippines	99
Figure 10. Precondition to Using the RURES Framework – Salde, Culasi	100
Figure 11. Spot Settlement Cognitive Map of Brgy. Salde, Culasi, Antique	102
Figure 12. Site Cognitive Map of Brgy. Salde, Culasi, Antique	103
Figure 13. October 26, 2019 Date Photos	107
Figure 14. March, 10, 2020 Date Photos	108
Figure 15. March 11, 2020 Date Photos	108
Figure 16. Brgy. Salde Environmental Scanning Locator Map	120
Figure 17. Brgy. Salde Environmental Scanning Locator Map – October 26, 2019	121
Figure 18. Brgy. Salde Environmental Scanning Locator Map – March 10, 2020	121
Figure 19. Brgy. Salde Environmental Scanning Locator Map – March 11, 2020 (Route A)	122
Figure 20. Brgy. Salde Environmental Scanning Locator Map – March 11, 2019 (Route B)	122
Figure 21. Brgy. Salde Initial Plant List Identified during the Environmental Scanning – March 11, 2020	123

## ABSTRACT

### **Rural-Upland Rehabilitation Ecotourism Strategies (Rures) Framework: A Rationalized Authentic Ecotourism Activity Planning Framework for Degraded Upland Areas in the Philippines: A Case Study Of Brgy. Salde, Culasi, Antique.**

Tourism is economically important in the Philippines. Some of the natural destinations are in Protected Areas (PA) under established laws and managed by national government institutions. Some equally beautiful and unique natural areas are not part of PAs. Poor utilization, planning, and management of these areas cause their degradation. This is further exacerbated by climate change and disaster risks. Degradation affects the biophysical, economic, and socio-cultural aspects of the environment, which is detrimental to the survival of communities, especially those living in the rural-upland areas. Ecotourism unites conservation, community needs, and sustainable travel. It is seldom incorporated properly because its principles are sadly overlooked. Current planning methods of sustainable development and environmental rehabilitation typically follow either Top-Down or Bottom-Up Approach. There are disjuncts between involved parties and minimal integration of various theoretically related concepts leading to a more “patchwork” solution than an integrated one. This study formulates a new framework that will lay the groundwork for inventory and analysis of the potential of existing elements and requirements of the site and stakeholders while integrating key concepts such as Ecotourism and Landscape Architectural Approaches to planning. The process of gathering and synthesizing the data will be through a Middle-Out Approach that will incorporate inputs from all actors in all levels – Middle, Top, and Bottom – into a more cohesive ecotourism activity development strategy. A case study of the newly formulated framework was done in Brgy. Salde, Antique, Philippines to address the current issues

of environmental degradation, livelihood issues, disaster risk, and their desire to delve into tourism development. However, COVID-19 pandemic constraints caused the case study to halt. The environmental site scanning and focused group discussions stage was not completed. Even with the abrupt end of the data gathering, lack of data synthesis, and solution recommendations, the framework has created a guide for the data needed to be gathered, syntheses needed to be made, and plans that are needed to be formulated. When the researcher can continue the study, there will be no disjunct between the previously gathered data and the continued process of the Ecotourism Activity Planning.

Keywords: Authentic Ecotourism, Activity Planning Framework, Upland Degradation, Rehabilitation, Landscape Architecture

## I. INTRODUCTION

The year 2020 was declared by the World Tourism Organization (UNWTO, 2020) as the year of Tourism and Rural Development, highlighting the unique role of tourism in preserving and promoting natural and cultural heritage, creating employment opportunities for rural communities, and hoping to address urban migration. The world tourism industry trend has been growing steadily for ten consecutive years with an average growth of 5.2 %, and the average forecast for the Asia and the Pacific Region for the year 2020 was 5-6%. Despite the recent COVID-19 pandemic, UNWTO (2020) still emphasizes the relevance of tourism and rural development. However, poorly planned tourism in the Philippines, along with other ASEAN countries, such as in Singapore, Malaysia, and Thailand, has led to environmental and cultural degradation (Cruz, 2003).

In general, tourism indeed puts a direct pressure in the natural, economic, cultural, and social environments, leading to their eventual damage if not properly managed. Nevertheless, there are many factors that lead to degradation even without the impacts of tourism. The main direct drivers are anthropogenic in nature that directly affect the local communities living in these degraded environments, which are usually in rural forest communities. Communities in areas such as these mainly depend on the productivity of their land for subsistence. Adding unsustainable tourism development and other inappropriate land rehabilitation interventions to address problems of degradation is not a solution and would require a more integrative, in-depth research and investigation.

***Sustainable Tourism.*** Sustainable Tourism is defined by the United Nations

Environment Programme & World Tourism Organization as a criterion of “tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities,” (UNEP & WTO, 2005) manifested in economic, social, and environmental pillars of sustainable development. Sustainable tourism use resources at their optimum level. This also includes maintaining essential ecological processes, biodiversity, and life support systems, managing all resources in fulfilling their aesthetic needs (Brundtland Commission, Tourism Canada (1990); as cited in Cruz, 2003), considering the socio-cultural impact to the host community in terms of their local culture and traditions, and integrating these in the economic viability plans and strategies to sustain it for future generations. Authentic sustainability shows the balance between environmental or biophysical, economic, and socio-cultural aspects of tourism development while providing and encouraging the enhancement and utilization of local skills, craftsmanship, and indigenous, traditional knowledge in sustainable tourism development.

***Ecotourism.*** Alampay and Libosada (2003) noted that in ecotourism, conflicts of definitions are varied on the individual's or group's preferences, which leads to losing some of the marketing lusters of the label and the authenticity of ecotourism.

***Definition of Ecotourism.*** For this study, authentic ecotourism refers to comprehensive, simple, and precise definitions for ecotourism of The International Ecotourism Society which stated that, only projects and developments that are participating and implementing ecotourism principles are to be called authentic ecotourism areas (TIES, 2015). Ecotourism is defined as responsible travel to natural areas that conserves the environment, sustains the well-being of the local people, and

involves education and interpretation (TIES & Mehta, 2016). Ecotourism combines conservation, communities, and sustainable travel.

***Recent Circumstance of Tourism.*** The international growth of tourism is relatively strongest in developing countries (UNEP & WTO, 2005), and that the demand of travelers for new experience around nature, local culture, local products, and community engagement (UNWTO, 2020) provides a great opportunity for rural areas to properly curate sustainable tourism, or in this case, ecotourism practices, for economic revitalization. However, due to the CoVID-19 pandemic, the world tourist arrivals from January to May 2020 dropped to -56% from the 2019 record of 1.5 billion and at -60% from the 2019 record of 361 million in Asia and the Pacific Region. This massive drop will have an overwhelming impact on livelihoods and businesses, especially on economies reliant on tourism. (WTO, 2020a). The recovery is hoped to be gradual in which borders are to open and travel restrictions are to be gradually lifted. When the world is finally freed from the constraints and fear of travel, opportunities for recovery from economic and social impacts can be aided by ecotourism. There is an opportunity to attract and retain visitors, especially because travelers are looking for more open-air and less dense landscapes due to the COVID-19 pandemic (UNWTO, 2020). For the time being, despite the constraints, studies in this realm are not recommended to be halted.

## II. REVIEW OF LITERATURE

This section will discuss four main topics: (1) Degradation and Other Issues in Rural Upland Sites, including Disaster Risks & Impacts of Climate Change, (2) Sustainable Tourism and Ecotourism, (3) Existing Related Policies and Legislations, Guidelines, Strategies, Concepts, and Theories, and (4) the Theoretical Framework of the study.

### **Degradation and Other Issues in Rural Upland Sites**

IFAD (International Fund for Agricultural Development) and UN DESA (United Nations Department of Economic and Social Affairs) projected that by 2050, 68% of the world population would live in urban areas. Consequently, urban areas and cities will produce 85% of global economic output in which costs and consequences are usually suffered by people who are living in rural communities and their natural environment. People in rural areas comprise 80% of the total population categorized under the 'extreme poverty' spectrum. (UNWTO, 2020)

***Common Issues faced by Rural Communities.*** Rural areas are experiencing the following issues, as discussed by UNWTO (2020) – increasing decline of traditional economic activities, increasing aging population, lower income levels, lack of employment opportunities, increasing depopulation due to emigration, a drain in human capital because young people who are better educated, more skilled, and highly motivated, and cannot find local employment leave rural areas for better opportunities in cities or abroad, rural town and villages face threats of dying out, along

with their heritage, customs, and traditions, lack of infrastructure (e.g., transport and communication) and other services, and a divide in digital technology.

***Issue of Degradation.*** Land degradation refers to the reduction of the ability of the soil to be productive. The depletion of nutrients and the compaction of the soil changes the chemical properties of the soil affecting productivity. Moreover, soil erosion can readily reduce crop productivity by 15-30 percent for 'good' soils and 30-70 percent for 'poor' soils. (Parayno, 1997) People who are living in areas in which large concentrations of IPs and many of the world's poorest communities are projected to experience significant negative effects from global changes in climate, biodiversity, ecosystem functions, and nature's contributions (IPBES, 2019a).

***Types & Forms of Degradation.*** The scale of the impacts of degradation to rural upland areas and communities encompasses the biophysical, economic, and socio-cultural aspects of the environment. These types or forms of degradation are – (a) biophysical degradation such as land abandonment caused by economic and political conditions, and land quality unsuitable for cropping, presence of invasive exotic species, pest and disease outbreaks, forest degradation, biodiversity degradation, habitat deterioration or fragmentation, rangeland degradation, soil degradation, siltation from soil erosion, freshwater degradation impairing water security and increasing incidence of drought, and higher frequency of hot spells, among others (IPBES, 2018; IPBES, 2019a; Parayno, 1997); (b) economic degradation such as reduced productivity or the reduced quality and quantity agricultural and forest resource products and reduced income from reduced productivity (Ibid); (c) socio-cultural degradation such as pronounced loss of cultural identity of indigenous peoples (e.g., abandonment of sacred places and rituals), loss

of sense of place and of spiritual connection of indigenous peoples to their land (Ibid), loss in interest of younger generations in the traditional livelihood and cultural practices, and eroding indigenous knowledge systems.

***Common Indicators of Rural Upland Land Degradation.*** In connection to the previously enumerated types of degradation and drivers of degradation, the following are common examples of indicators of rural upland degradation manifested through:

- continued loss of vegetative cover, especially in the remaining patches of forest,
- reduced reliability, quantity, and quality of water in rivers, lakes, and aquifers,
- loss of wetland habitats,
- loss of beneficial hydrological functions such as flood attenuation,
- easily eroded soils, reduced nutrient quality, depleted soil organic matter, surface sealing, compaction, increased salinity, increased acidity, presence of metal or organic toxicity, etc.,
- reduced biomass and persistent loss of vegetation productivity,
- reduced number of plants that provide food for herbivores,
- a decrease in crop yield,
- a decrease in the yield of forest products,
- continued reduced income from farming or fishing leading to emigration, and
- little to no job opportunities leading to emigration, etc.

(IPBES, 2018).

***Relationship between Indigenous Culture & Environmental Degradation.***

In November 2000, WWF released a report and a map showing the world's most

biodiverse areas, mostly located in tropical forests, with findings that these areas are inhabited by high concentrations of native culture. The report underlined the consequence of the loss of traditional languages and knowledge that furthers environmental degradation because ecological knowledge and their history of managing the environment is accumulated and embodied in languages. This is why language extinction precedes the loss of traditional ecological knowledge that is passed orally throughout generations. (Business World, 2000) Evidence gathered by IPBES, Leahy (2019) argued, shows that the environment managed by indigenous peoples and local communities is in generally better health than nature managed by national or corporate institutions. The deep knowledge of indigenous peoples or communities native to these sites should be valued and considered in policies and decisions by the government.

***Impacts of Climate Change in Connection with Degradation.*** Traditional livelihood and social systems in rural areas are under threat from climate change, which affects IPs living in PAs and local communities in non-PA areas whose primary livelihood comes from the utilization of natural resources like farming and fishing. Degraded lands have higher vulnerability facing higher risks from the impacts of climate change and natural disasters.

***Addressing Degradation.*** Efforts in preventing irreversible land degradation and accelerating the implementation of restoration measures are needed, i.e., by integrating the necessary protection measures, sustainable management, and in the case of the community's agricultural livelihood, the development of agricultural and natural production systems that combine suitable nature-based actions and high yields. However, it should be noted that preventing land degradation or restoring

degraded land usually, but not always, helps in climate change mitigation and adaptation. (IPBES, 2018) Appropriate design of policies, institutions, and governance systems at all scales can contribute to land-related adaptation and mitigation while facilitating the pursuit of climate-adaptive development pathways (IPCC, 2020).

Understanding nature and its needs should be the foundation for development. The focus on economic growth alone needs to be changed if sustainability is the goal. Thus, shifting to nature-based planning can help provide a better quality of life with far less impact. (Leahy, 2019)

***Indigenous Knowledge Systems.*** Agricultural practices that include indigenous and local knowledge, commonly referred to as Indigenous Knowledge Systems (IKS), fight the challenges of climate change, food security, biodiversity conservation, and degradation (IPCC, 2020). The study by the WWF proposes that indigenous and traditional people should have the right to participate in projects affecting them and to incorporate customary, sustainable resource use in terms of conservation and development (Business World, 2000).

The applicability of IKS varies according to the current needs and wants of the locals. It should be noted that not all indigenous knowledge is equally useful in a development project. (Canalog, Reyes, & Eugenio, 2012) The types of indigenous knowledge are enumerated as follows:

- *Information* (such as which trees and plants grow well together or which tree species are best suited for mulching),
- *Practices and Technologies* (e.g., food preparations and preservations, ways of seed storage, rice threshing devices, terracing, use of medicinal plants, various

soil and water conservation practices, etc.),

- *Beliefs* (e.g., rituals that regulate the access and pattern of water distribution, religious beliefs, construction traditional beliefs and considerations (months, locations, sacrifices, etc.), social constructs passed on by the elders (months/days to celebrate, months/days to avoid, etc.), and farming techniques and beliefs/norms prior to planting, during planting, and harvesting),
- *Tools* (e.g., agricultural tools devised for harvesting and planting, fodder grass carriers),
- *Experimentation* (i.e., integration of new local culture into existing tourism activities),
- *Human resources* (i.e., the council of elders, kinship groups, family skills),
- *Biological* (e.g., local animal breeds, crops, tree species, etc.), and
- *Materials* (e.g., stone walls in building houses, local construction materials, irrigation canals, local design) (Canalog, Reyes, & Eugenio, 2012).

***Equality in Power Distribution.*** Empowering women can bring synergies and co-benefits to household food security and sustainable land management. Women are often excluded in land management and tenure roles (IPCC, 2020). Preservation and restoration of traditional activities in rural areas and promoting social inclusion, and empowering local communities and traditionally disadvantaged groups such as women, youth, and IPs can indirectly serve as a source of job opportunities for the locals (UNWTO, 2020).

***Restoration or Rehabilitation Responses.*** Restoration is defined as any intentional activity that initiates or accelerates the recovery of an ecosystem from a degraded state, while rehabilitation refers to restoration activities that may not fully

Rural-upland Rehabilitation Ecotourism Strategies (RURES) Framework: A 9  
Rationalized Authentic Ecotourism Activity Planning Framework For Degraded  
Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique

restore the environment in its state prior to degradation. Degraded ecosystems can be rehabilitated towards a less degraded state, which corresponds to the expectations of intentionally modifying the landscape. However, inappropriate restoration or rehabilitation techniques can further aggravate land degradation. If implemented appropriately, restoration can rehabilitate many ecosystem functions and services. (IPBES, 2018) Although restoration or rehabilitation responses is expensive, it is typically more cost-effective than suffering the impacts of permanent loss of the ecological functions and services derived from nature. (IPBES, 2018)

***Unsuccessful Restoration or Rehabilitation Methods.*** Activities aimed at restoration, climate mitigation, and aimed to offset the previously enumerated rural upland degradation indicators, when not appropriately implemented, can directly or indirectly exacerbate risks of degradation. These activities include:

- monoculture plantation and afforestation, where trees are planted in non-forest habitats, can have similar impacts as deforestation,
- indiscriminately planting of inappropriate species and invasive species,
- continued and increasing use of herbicides and pesticides,
- expansion of bioenergy crops into lands that were previously naturally vegetated,
- the net displacement of croplands into natural vegetation due to the increasing demand for land between food and bioenergy crops, and
- excessive fire protection in landscapes with an evolutionary history of fire

(IPBES, 2018).

- Additionally, tourism enterprises that displace local communities and IPs,
- implementation of livelihood programs without community consultation and

participation in planning, etc.,

- indiscriminate land-use conversion and improper planning
- employing unsuitable consultants to lead rehabilitation methods, and
- profit-driven rehabilitation methods that carelessly ignore the main causes of degradation to be addressed.

The inadequacy of the current state of farmlands in lowlands contributes to the pressure to cultivate marginal areas. Since these lands are on steep slopes and are therefore prone to erosion, labor productivity and income also decline. Furthermore, drivers of degradation, particularly the removal of forest cover through logging, grazing, the expansion for cultivation due to increase in population, monoculture agroforestry, and shifting cultivation, worsens erosion and flooding incidence. The increase or decrease in income from croplands also depends on its level of productivity. Thus, the farmers experiencing a continued lower income levels lead them to emigrate from their rural homes to urban areas resulting in the increase in the labor force of urban areas, adding pressure to the already increasing unemployment levels in the cities. (Parayno, 1997)

### ***The COVID-19 Pandemic in the Context of Degradation and Restoration.***

The underlying causes of pandemics are the same global environmental changes that drive biodiversity loss and climate change. The risk of a pandemic is driven by exponentially increasing anthropogenic changes. Without strategies to prevent the emergence of pandemics, it will spread more rapidly, increase death toll, and affect the global economy with a more devastating impact than ever before. Current pandemic strategies rely on responding to diseases after their emergence with public health measures and technological solutions. (IPBES, 2020)

Ecological restoration, which is critical for conservation, climate adaptation, and provision of ecosystem services, should integrate health considerations to avoid potential increased disease risk resulting from increased human-livestock-wildlife contact. (Ibid) Anthropogenic activities cause impacts on the environment. Wildlife should not be blamed for the emergence of diseases because emergence is caused by human activities. In this light, there is wisdom in valuing the indigenous knowledge of IPs and in engaging the local communities with regard to pandemic education and prevention programs.

***Sustainable Land Use and Land Management Practices.*** Success in sustainable land use and land management depends on the collective and cooperative action of community members. Examples of sustainable practices that were known to be effective in avoiding, reducing, and reversing land degradation in both rural and urban settings are as follows:

- landscape planning across scales, land-use zoning and spatial planning, integrating water resource management and landscape planning through increased protection and connectivity of freshwater ecosystems, improving transboundary water cooperation and management, addressing the impacts of fragmentation caused by dams and diversions, incorporating regional analyses of the water cycle, multifunctional landscape planning which provide food security, livelihood opportunities, and maintenance of species and ecological functions, guiding and limiting the expansion of unsustainable mining and agriculture practices, environmental farm planning standards and certification for sustainable production,
- sustainable food production and reduced food waste, improved crop management

(e.g., rice paddy management, appropriate crop varieties), better grazing land management,

- improved manure management, measures that enhance soil carbon storage in managed landscapes (reduced or no-till farming practices, cover crops, green manures, or intercropping), integrated animal and crop production systems that promote soil organic matter accumulation and nutrient cycling, soil conservation techniques,
- restoration of degraded forests, rangelands, and wetlands, slowing and reversing the de-vegetation of catchments, sustainable forest management, measures for conservation of tropical forests for biodiversity and for the survival of the cultural diversity represented by the local traditional peoples, agroforestry, and agroecology,
- locally developed water conservation techniques and river-channel restoration, integrated water resource management, minimize the negative impact of dams, mainstreaming practices that reduce erosion, sedimentation, and pollution run-off, increasing water storage by facilitating groundwater recharge, protecting wetland biodiversity areas, wetland restoration, alternative storage techniques, and restrictions on groundwater extraction,
- sector-specific interventions such as improved water-use efficiency techniques, decentralized rainwater collection (e.g., in households), integrated management of surface and groundwater (e.g., conjunctive use of surface and groundwater), and water pricing and incentive programs, and policies promoting investment in water projects with clear sustainability criteria, policies, regulations, and incentives (e.g., payment for ecosystem services),

- investing in the necessary/appropriate protective & conservation measures, and
- providing a suitable long-term livelihood for communities, creating employment opportunities (requires proper connectivity, cooperation, investment, preservation of local natural and cultural resource, advancing digital improvement, developing skills and products, and decent and fair jobs) (IPBES, 2018; IPBES, 2019; IPBES, 2019a; IPCC, 2020; UNWTO, 2020).

If these sustainable land use and land management practices are planned and implemented properly, they can also contribute to the community's revenue and provide an incentive to be used in rehabilitating degraded lands and in adapting and mitigating impacts of climate change. Institutional, policy, and governance responses to degradation and impacts of climate change are viewed to be inadequate because of their failure to respond to the ultimate causes and that the attempted solutions are often incremental and reactive rather than focusing on proactive solutions that as much as possible avoid degradation from initializing (IPBES, 2018).

## **Sustainable Tourism & Ecotourism**

Fennel & Dowling (2003) defines sustainable tourism as an approach or a process that drives tourism, while ecotourism is a type of sustainable tourism that fosters its principles, especially concerning locality development, environmentally sensitive resource management, and growth that is towards improvement.

Environmental projects that minimize environmental impacts have been marketed under the name of sustainability, ecotourism, and other green initiatives.

This generally includes (1) control over environmental impacts of travel and activities which usually are focused on energy and water resource saving programs, and (2) investments in environmental protection and rehabilitation of already degraded environment which requires higher financial input, environmental awareness, information, and coordination, long-term planning, and future benefits. (Mihalič, 1999)

***Destination Expectations.*** According to UNWTO (2020), there is a rising demand for more authentic experiences that are closely tied to the local communities, local culture, local products, and a greener approach in all stages of the tourism experience. Despite this, these visitors are still expecting rural destinations to have access to the technology they are enjoying in urban areas. In line with this need, the local community should agree as to what extent technology be present in their program and services without compromising the principles of sustainable tourism or ecotourism. Some of these technological considerations are access to reliable and fast internet, options for cashless payments, option for digital menus and services (especially in consideration for the recent pandemic crisis), paperless information dissemination, etc. A comprehensive tourism development approach will help in making rural areas more accessible for both locals and visitors of different generations and different access needs, thus providing a better quality of life and experience for all.

***Impacts of Climate Change in Connection with Tourism Development.***

The growth of tourism carries with it the increasing challenges and threats to the host community and to the destination's environment. Climate change is a global issue is one of the threats to ecotourism. It is a major issue for the long-term sustainability of tourism in (1) climate change having consequences for tourism, and (2) tourism as a

contributor to climate change (UNEP & WTO, 2005). An example is the changes in the intensity of temperature and rainfall due to climate change will affect tourism activities, and unsustainable tourism activities exacerbate problems of climate change.

***Tourism Development as a Planning Strategy for Sustainability.*** The Recommendations for Action and Guidelines to Restart Tourism by the UNWTO (2020) is an action plan, having tourism development as an important strategy for rural communities in achieving a sustainable and resilient future, particularly in the context of the COVID-19 pandemic crisis. Tourism can support the revitalization of rural communities in terms of short-term recovery (impacts of COVID-19) and long-term growth (sustainability). Sustainable tourism is described as a tourism development that leads the management of all resources so that economic, social, and aesthetic needs can be achieved while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems (Brundtland Commission, 1990; cited Cruz, 2003). The recommendations of UNWTO (2020) are – placing tourism as a strategic pillar in policies for rural development; tourism for the benefit and well-being of rural communities, i.e., building a fair, inclusive, resilient, and sustainable sector; new opportunities for tourism and rural development innovation, technology, and digitalization; product development and value chain integration to attain a sustainable and enhanced travel experience; and promoting sustainable policies and practices in rural destinations.

***Principles of Sustainable Tourism.*** The core elements called “pillars of sustainable tourism” are economic, social, and environmental. This is discussed in the publication of UNEP & WTO (2005) titled, ‘Making Tourism More Sustainable: A Guide for Policy Makers’, which were taken from Agenda 21 plan of action from the UN

Conference on Environment and Development at Rio in 1992, and the plan of implementation from the World Summit on Sustainable Development at Johannesburg in 2002. Cruz (2003), likewise, added another pillar of sustainability – institutional sustainability.

- *Economic sustainability* refers to maintaining growth rates and capacities or source supply while avoiding consumer dissatisfaction. It is about the viability of enterprises and activities and their ability to be maintained in the long term. The people in the community must have an equitable share in the economic benefits of tourism.
- *Social sustainability* refers to the ability of the host society to absorb increasing visitors without harming their indigenous culture. It means equal opportunities for all sectors in the society, focusing on poverty alleviation, emphasizing, maintaining, and strengthening the life support systems of local communities, respecting different cultures, and avoiding any form of exploitation. It recognizes the wishes of the host communities, the contribution of the local people, their customs, and lifestyles in the tourism experience.
- *Environmental sustainability* refers to the capacity of the natural and built environment to handle tourism without incurring damage. It means conserving and managing resources especially important life support systems, by minimizing pollution of air, land, and water and by conserving biological diversity and natural heritage. It operates within natural capacities for the regeneration and future productivity of natural resources.
- *Institutional sustainability* refers to the country's commitment to sustainable development through incorporating sustainable principles, laws, partnerships, and

monitoring and coordinating bodies, into development planning, and the use of indicators for monitoring sustainability.

In conjunction with the pillars of sustainability, UNEP & WTO (2005) added the twelve aims in the agenda for sustainable tourism to address the economic, social, and environmental impacts that have implications in policymaking. These are (1) economic viability, (2) local prosperity, (3) employment quality, (4) social equity, (5) visitor fulfillment, (6) local control, (7) community well-being, (8) cultural richness, (9) physical integrity, (10) biological diversity, (11) resource efficiency, (12) environmental purity, in which each is equally important.

In the Philippine context, following the Principles of Philippine Agenda 21 (DOT, DILG, DENR, and DAP, 2017; as cited by Calanog, Reyes, & Eugenio, 2011), sustainable tourism should be:

- *Economically viable.* Tourism provides a self-sustaining and long-term livelihood for the community.
- *Environmentally sound.* Tourism enriches the natural resource base, reduces negative impacts, promotes the value of biodiversity and non-living resources.
- *Culturally appropriate.* Tourism promotes native culture, local knowledge, and indigenous knowledge systems (IKS), and respects local traditions.
- *Socially just, humane, and gender-equitable.* Tourism upholds the rights and dignity of people, including persons with disabilities, women, and children.

**Issues of Ecotourism.** The varying definitions for ecotourism depend on the individual's or group's preference. As Alampay and Libosada (2003) noted that the conflicts of definitions of ecotourism turned the label of ecotourism into just a marketing

publicity. The lack of understanding of the underlying principles of ecotourism and the superficial and minor cost-saving modifications that do not reflect ecotourism principles are the main causes of greenwashing (Wood, 2002; Honey, 2008). Most of the time, only the traveler can truly know if the ecotourism site is a "greenwashed" site, an ecotourism lite destination, or if it is an authentic ecotourism/ecotourism proper development (Honey, 2008). "Greenwashing" is a term used to describe practices of organizations, establishments, or developments that use "green" and the notion of sustainability as a marketing scheme to attract a growing number of environmentally and socially conscious travelers in which guidebooks, brochures, press reports are sometimes, just marketing ploys (Wood, 2002).

Thus, the definition of ecotourism (also, authentic ecotourism) as used in this study is the revised definition of TIES (2015), described as responsible travel to natural areas that conserves the environment, sustains the wellbeing of the local people, and involves education and interpretation (TIES, 2015; Mehta, 2016), where ecotourism development unites conservation, communities, and sustainable travel (TIES, 2015).

***Common Characteristics of Ecotourism.*** Authentic ecotourism sites are usually characterized by the following features:

- travel to fragile, pristine, and usually protected areas that strive to be low impact and are often small-scale (Honey, 2008), requires lowest possible consumption of non-renewable resources, is delivered primarily to small group by small-scale business, involves responsible action on the part of the tourists and the industry (Wood, 2002),
- provides the opportunity to present and protect natural areas, can create new and

- exciting tourism experiences, promote excellence in tourism, promotes an identity that is unique, and encourage commercially successful and environmentally sound tourism operations (Page and Dowling, 2002; as cited by Fennel & Dowling, 2003), contributes funds for the conservation of biodiversity (Honey, 2008; Wood, 2002),
- directly benefits economic development (Honey, 2008; Page and Dowling, 2002; as cited by Fennel & Dowling, 2003), and
  - helps in educating travelers, empowers local communities, and fosters respect for different cultures and for human rights (Honey, 2008), includes an interpretation/learning experience, stresses local participation, ownership, and business opportunities, particularly for rural people (Wood, 2002).

***The Revised Principles of Ecotourism.*** In 2015, Hitesh Mehta, Judy Kepher-Gona, and Dr. Kelly Bricker of TIES led the initiative to revise the 1990 definition of ecotourism and the principles of ecotourism, to provide more clarity and reduce the greenwashing and misinterpretation of ecotourism. Tourism projects that participate and implement the following revised ecotourism principles are labeled as authentic ecotourism areas:

- “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” (TIES, 2015).

In ecotourism development, old habits that contribute to environmental degradation are progressively changed. It also builds a stronger economy in terms of homestay, restaurants, souvenir shops, transportation, and other services. Appreciation of local culture and resources boost local pride through education and direct participation. Opportunities also accommodate the active role of women, children, elderly, and PWDs to develop their confidence, for personal growth and self-worth, obtain financial independence, etc., through becoming service providers, leaders, innovators, or keepers of indigenous knowledge systems (IKS), among others. (Canalog, Reyes, & Eugenio, 2012)

Ecotourism should be planned and managed properly to successfully achieve its key socio-cultural, economic, and environmental objectives. Some successful authentic ecotourism destinations may serve as a learning material in terms of their site-scale challenges and site-scale solutions. In Ghana, the creation of a network of community-based tourism projects became a tool for the country's sustainable development and poverty alleviation programs (UNEP & WTO, 2005). In Costa Rica, their tourism principles include using locally sourced and renewable building materials, employing locals, and assisting with education programs, in a long-term plan (Blue & Green Tomorrow, 2012). In Kenya, the concept of authentic culture in the form of community lodges wherein the local community is the main stakeholder within the conservation areas, in which part of the profit goes directly to the community (Ibid).

***Issues, Impacts, and Challenges of Tourism Development.*** Tourism, in general, places direct pressure on fragile ecosystems, causing degradation of the physical environment and disruption to wildlife, compete for the use of scarce resources such as land and water, be a significant contributor to local and global pollution, be a vulnerable and an unstable source of income, exert considerable pressure on host communities, and may lead to the displacement of traditional societies (UNEP & WTO, 2005). Additional common impacts of tourism development are environmental problems e.g., damage to coastlines, aquatic ecosystems, islands, mountain regions, countryside, unique scenic spots, and historical sites and monuments, water and air pollution, groundwater contamination, foot trampling in picnic and camping areas, excessive foot traffic that can lead to severe wind erosion in beach dune areas, and compaction of soils that can kill trees and other plants (Gunn, 1988); Crowding may affect accessibility and space for the locals versus the visitors (Canalog, Reyes, & Eugenio, 2012); increase in plastic pollution generated by tourism (IPBES, 2019a); visual blight is commonly observed, where structures, signages, and other built tourism facilities are indiscriminately and improperly designed and planned, obstructing the landscape views and the natural beauty of tourism destination; a 40% rise in tourism carbon footprint from 2009 to 2013 and 8% of total greenhouse gas emissions are from tourism related transport and food consumption (IPBES, 2019a); problems in infrastructure and services i.e., as the number of visitors increase, expansion of water supply, waste disposal, electrical power, and fuel systems and supplies also increases, and there is also an increase in police and fire protection, medical services, maintenance and repair of roads and other public services (Gunn, 1988); economic instability in terms of inflation as demand for local supply rises irregularly, too much dependence on ecotourism as a form of main livelihood may

create instability and there is a risk of uneven distribution of benefits among community members (Canalog, Reyes, & Eugenio, 2012); and other socio-cultural problems such as acculturation, growth in crime rate and prostitution, conflicts in values, loss of local culture, growth of frustration, resentment, and hostility, cultural dislocation, introduction of conflicting ideologies, and the promise of unattainable goals (Ibid). In the Philippines, the most cited problems by tourists are garbage, crime, heavy traffic, lack of information, and poverty (DOT in Cruz, 2000; as cited by Cruz, 2003). Other concerns are peace and order, quality of beaches, frequent occurrence of natural calamities, protection of indigenous people's rights to ancestral domains, weak institutional mechanisms for sustainable development. (Cruz, 2003)

Hurdles and challenges in sustainable development are –managing dynamic growth by careful planning of the location and types of new development, improved environmental management practices, influencing consumption patterns (UNEP & WTO, 2005), tourism master plans or the planning of local tourism had no local participation (Thavarasukha, 2002; as cited by Cruz, 2003); support for conservation by providing additional or alternative form of livelihood for the host communities that is dependent on well-maintained natural resources (UNEP & WTO, 2005); unorganized ecotourism or sustainable tourism information (Thavarasukha, 2002; as cited by Cruz, 2003); lack of consultation with the affected communities can lead to a non-ownership of the plan (Cruz, 2003), the amount of control given to the local communities or indigenous peoples (Wood, 2002); poverty alleviation by finding better ways to equitable remuneration and opportunities for advancement of the local community members (UNEP & WTO, 2005); the efficiency and social fairness of current concepts for long term conservation of biological and cultural diversity,

specifically in protected areas, and the risk that unregulated tourists contribute to the lowering of genetic capital and traditional knowledge (Wood, 2002); poor coordination among government agencies, with each agency only relating to each levels of the vertical chain, lack of enforcement machinery and low, ineffective penalties for violating environmental laws, no follow-up to be used in adjusting the strategies, and no assurance to comply with the reward systems and accreditation programs of tourism for sustainable environmental practices (Thavarasukha, 2002; as cited by Cruz, 2003); the balancing of the needs of investors outside the local community without compromising the local expectations and efforts for community-based tourism (Wood, 2002); variables in monitoring sustainability in tourism are either too many, too broad, or too technical to be useful and that the National Tourism Organizations (NTOs) do not use and have not yet identified indicators for sustainable tourism development (Cruz, 2003); climate change in the form of changes in temperature, rainfall and unpredictable weather conditions can be felt in upland environments (UNEP & WTO, 2005); fears over terrorism, health crises, and natural disasters, the spread of tropical diseases and the availability of water (Ibid); increasing responsibilities, enhancement of local organizations, and finding enough funding for the locally proposed tourism development plans and programs (Javier and Elazigue, 2011); and willingness of tourism managers to incorporate environmental measures into their management strategies and methods as they usually prefer the option if it will result in lower cost and/or higher profits (Stabler & Goodal, 1997; cited Mihalič, 1999), among others.

***Ecotourism in the Philippines.*** Ecotourism was introduced in the Philippines in the late 1980s, and it has become the fastest-growing tourism niche in

the country (Alampay & Libosada, 2003). In 1992, the concept of ecotourism was formally introduced during the National Tourism Congress. In 1999, Executive Order 111, a National Ecotourism Strategy and Program for the promotion and development of ecotourism in the Philippines, was issued and created the National Ecotourism Development Council.

The National Ecotourism Development Council (NEDC, 2000) of the National Ecotourism Strategy (NES) and Action Plan 2013-2022 defined ecotourism as "a form of sustainable tourism within a natural and cultural heritage area where community participation, protection and management of natural resources, culture and indigenous knowledge and practices, environmental education and ethics as well as economic benefits are fostered and pursued for the enrichment of host communities and satisfaction of visitors." The problem with the official Philippine definition of Ecotourism by the NEDC (2000), as pointed out by Alampay & Libosada (2003), implied the limitation that ecotourism programs are to take place only within a natural and cultural heritage area.

For areas that are not within a natural and cultural heritage area, the LGUs can initiate tourism-related development projects through the Provincial or Municipal Tourism Offices. The LGUs Tourism Office primarily functions as a tourism promotion unit that coordinates and have direct involvement in tourism initiatives. The provincial or municipality tourism councils are private entities that are usually comprised of 60% private entities and 40% government representatives. The barangay Tourism Councils, like the Municipal and Provincial Tourism Councils, are responsible for helping organize the local tourism industry into a cohesive organization, focusing on the tourism concerns of the destinations in their locality within their jurisdiction and that

public and private partnerships should be promoted. (Javier and Elazigue, 2011) In relation to the current ecotourism set-up, questions are raised whether ecotourism in the Philippines truly adheres to the principles of sustainability, environmental and cultural integrity, and socio-economic sustainability for the local communities (Alampay & Libosada, 2003). Cruz (2003) pointed out in his study that the national tourism organizations in the Philippines have incorporated sustainable tourism principles into its master plans, just like in Malaysia, Singapore, and Thailand. However, the concept of sustainable tourism's diffusion from the national level to the local level has been a challenge. Moreover, the concepts of ecotourism, community-based tourism, and sustainable tourism has been interchanged in practice, which makes it confusing to carefully plan and implement programs if they are to be labeled appropriately. Other constraints in ecotourism growth are - lack of integrated planning, especially in rural areas, lack of understanding of the market and its needs, transportation, especially in remote areas, restrictions and regulations, inaccessible road networks, and access to capital for investment and marketing, among others. It should also be noted that excessive development defeats the ecotourism project being a sustainable endeavor (Canalog, Reyes, & Eugenio, 2012).

It may be that these problems are effects of lack of proper planning, management, and issues of inadequate national support through lack of funding. However, in terms of funding, the LGUs need to come up with their own strategies in improving their capability for income generation, such as equitably considering environmental costs through fees, charges, or donations to be used in the maintenance and conservation programs, while ensuring that the local community members and local natural resource sustainability efforts are the primary beneficiaries.

Strategies and models to be adopted by localities must be appropriate for the local settings and situations. Moreover, it was also argued by Alampay & Libosada (2003) that there is an opportunity for environmentally oriented NGOs or COs to take the lead in establishing a certification system and standards for ecotourism projects in the Philippines because currently, there is a lack of LGU capability and weakness of the private sector in establishing an authentic ecotourism destination. The Environmental Compliance Certificate/Environmental Impact Assessment (ECC/EIA) system of the Department of Environment and Natural Resources (DENR) and the Department of Tourism (DOT) is perceived to be insufficient to cover the principles of evaluating an authentic ecotourism development.

***The COVID-19 Pandemic in the Context of Ecotourism.*** In the developing world, tourism is considered a lifeline. According to UNWTO (2020), communities in rural areas are usually less prepared to deal with the impacts of COVID-19 compared to those in urban areas. Due to travel restrictions when the COVID-19 pandemic struck, jobs have been lost, and small businesses are also at risk, affecting rural communities around the world, notably for communities that are dependent on tourism revenues (UNWTO, 2020). Reduced environmental impacts such as reduced oil consumption and pollution from the economic slowdown are likely temporary and insignificant in the long term, and pandemic control programs, such as culling of wildlife reservoirs and increase use of insecticides can have significant negative implications for biodiversity (IPBES, 2020). The current crisis has emphasized the importance of building resilience among tourism-driven communities in rural areas (UNWTO, 2020).

Notwithstanding this pandemic, tourism is even more relevant in rural  
Rural-upland Rehabilitation Ecotourism Strategies (RURES) Framework: A 27  
Rationalized Authentic Ecotourism Activity Planning Framework For Degraded  
Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique

development. Tourists now have the impetus to look for less populated destinations and open-air activities in their search for new experiences based around natural and rural areas. The COVID-19 pandemic is an opportunity to invest in and build back better tourism development models that focus on empowering and engaging local communities and on preserving local natural and cultural resources. This crisis makes people realize the necessity of building resilience and sustainability among communities where tourism is one of the main economic activities through product and market diversification, reprogramming seasonality, social protection, and building added value to experiences. Despite the massive drop of around -60% of international tourist arrivals in Asia and the Pacific Region, UNWTO foresees that domestic tourism will return before international tourism, and if managed well, this could very well benefit local rural communities as it will boost local economies and protect livelihoods. (Ibid)

***Ecotourism Strategies.*** In the study by Alampay & Libosada (2003), the proposed classification framework for ecotourism programs used the elements of active-passive activities and larger-smaller scale destinations in the planning of ecotourism programs of the destination. It raises planning questions that are helpful in developing an ecotourism program that highlights trade-offs between economic benefits and environmental threats. The questions are as follows:

- Does the program have an explicit educational objective? What is the strategy for educating ecotourists?
- Are there going to be caps on visitor volume? How is visitor volume going to be controlled?
- What facilities and infrastructure do the locals intend to introduce to the area?

In addition, the following activities or strategies serve as sample indicators of the previously discussed principles of sustainable tourism and or principles of ecotourism:

- *Ecolodges*. These are accommodation facilities (mid-range in pricing) within the ecotourism site that adheres to ecolodge principles, which also reflects authentic ecotourism definition. The ecolodge principles are water conservation, preservation of flora and fauna, sensitive and aesthetic design that creates a small footprint, and various local interpretive programs that both educate employees and tourists about the ecotourism site's natural and cultural characteristics. (Mehta, Baez, & O'Loughlin, 2002) The value of ecolodges also lies in its setting or where it is sited, wherein its location is protected and does not have resource destruction and over-development issues.
- *Farm Tourism*. Farm tourism provides for an inclusive and sustainable agricultural and rural development. Dr. Gil Saguiguit of SEARCA said that farm tourism opens possibilities for diversification of income for small-scale farmers and an effective means to showcase agriculture as a productive business endeavor while encouraging sustainable agricultural practices and community involvement and participation and as an exciting field of study among young people. (Business Mirror, 2017)
- *Site Development Plan, Design, and Management*. Manipulating tourism infrastructure as to where do visitors go and what they do, such as in campsite and trail design and management (Fennel and Dowling, 2003), adopting and implementing a comprehensive, inclusive planning strategy based on a multi-disciplinary, multi-action, and multi-stakeholder participatory approach, creating a

long-term development plan and strategy such as promoting new and authentic experiences that are unique to rural areas in contact with nature and local culture that can be sustainable and economically feasible, and enabling a more productive and efficient usage of land, a continued preservation of natural resources, and other non-natural resources that will attract visitors to the destination (UNWTO, 2020).

- *Local empowerment.* Empowering people to enhance their sense of ownership and responsibility, for them to provide quality services and for them to properly do their role in the ecotourism development (Canalog, Reyes, & Eugenio, 2012), and ensuring that the local communities are fully engaged in co-leading the consultation and decision-making process in planning, developing, and managing destinations to complement the economic, social, cultural, and environmental wellbeing in local policies (UNWTO, 2020).

- *Innovation.* Technological innovation and digitalization should not depersonalize services and should not disregard the authenticity and cultural integrity of a destination. It should be geared toward sustainable practices that are linked with local gastronomy, agriculture, manufacturing, wellness, nature, among others (UNWTO, 2020). Giving importance to indigenous ways of relating to people and the environment, advocating protection and conservation of IKS, which should complement modern techniques and technologies with proper research and dialogue with the locals, and nurturing IKS and cultural heritage through cultural events such as festivals and fiestas celebrating these traditions as part of the locality's ecotourism activities and services (UNWTO, 2020; Canalog, Reyes, & Eugenio, 2012), using local building materials, renewable energy sources, recycling, safe waste disposal, and culturally and environmentally sensitive

architectural design (Honey, 2008).

- *Education and Interpretation.* Enhancing local life appreciation by informing the local's on why visitors come and visit the area (Canalog, Reyes, & Eugenio, 2012), providing reading materials about the country, the local people, and the environment, including codes of conduct, and educating school children and the surrounding communities (Fennel and Dowling, 2003; Honey, 2008), training locals to become skilled, multi-lingual, and trained local guides to convey an effective interpretation and ethical principles of ecotourism, enhancing visitor participation in many ecotourism activities, e.g., hands-on handicraft-making, tree/rice planting (Canalog, Reyes, & Eugenio, 2012).
- *Direct benefits.* Enhancing economic opportunities through creating new products and learning new skills (Canalog, Reyes, & Eugenio, 2012), providing direct financial benefits for conservation and helps raise funds for environmental protection, research, and education, and providing direct financial benefits to the local community, wherein it should empower them by being involved (Honey, 2008).
- *Local Policies and Ordinances.* Decentralization in which the regulation of most tourism enterprises has been delegated to local government units (Cruz, 2003), strengthening the marketing and promotion of tourism in rural areas, and it should also be linked with tourism and travel in cities or urban areas that are close to urban tourism destination (UNWTO, 2020), regulating numbers, regulating group size of visitors, and regulating the length of stay, providing enforcement of regulations, and incorporating voluntary strategies such as Codes of Conduct, accreditation, and Best Practice (Fennel and Dowling, 2003), conducting regular and periodic

assessment and evaluation of ecotourism projects (Canalog, Reyes, & Eugenio, 2012)

- *Governance Model*. Ensuring the economic viability of ecotourism programs by ensuring that management of funds is handled well and that self-sufficiency is the goal (Ibid), including flexibility because it allows for a more collaborative management structure, support for regional diversity, and the encouragement of citizen engagement at many scales (Fennel & Dowling, 2003; cited Fennel, 2002). In addition, transparency as to where economic benefits go, what site-scale projects that are part of the ecotourism plan are to be funded and prioritized, what socio-cultural training and capacity development programs are next to be funded, etc., is important so that inefficiency, corruption, and the failings in the bureaucracy are avoided.

### **Existing Related Policies/Legislation, Guidelines, and Strategies**

The following will assist the researcher in understanding existing national and international tourism and ecotourism standards and will aid in developing the proposed design framework that is based on the local situation and characteristics within the site-scale of tourism development.

***ASEAN Tourism Standards (from the Tourism Guidebook for LGUs (2017); cited ASEAN, 2007)***. The Philippines is required to meet the ASEAN Tourism Standards in tourism and development and in standardizing tourism services so that ASEAN becomes a "Quality Single Destination". The six standards are – green hotel, local food and beverage services, public restrooms, homestay, ecotourism, and

properly protected, conserved, and sustainably managed tourism heritage site.

***RA 10121 (Philippine Disaster Risk Reduction Management (DRRM) Act of 2010) as discussed in the Tourism Guidebook for Local Government Units (2017).*** Disaster Risk Reduction is defined as a systematic effort to analyze and manage the causes of disasters by reducing vulnerabilities and enhancing capacities to lessen the adverse impacts of hazards and probability of disaster; the capacity or the capability of coping and recovering from the damaging effects of a disaster such as in terms of wise use of resources, robust infrastructure, and strong and good governance. Disaster Risk is defined as the exposure of vulnerable communities to a hazard and the probability of harmful consequences resulting from hazards. A hazard includes natural calamities (typhoons, floods, droughts, earthquakes, tsunami, etc.) and human-induced hazards (fire, wars, epidemics, terrorism). Elements of DRRM Programs in relation to Tourism that the LGU are recommended to plan and execute are only limited in the following general activities:

- **Prevention/Mitigation.** Assessment of physical infrastructure used in tourism that are near hazardous areas before and after a disaster occurs and assess if relocation is needed.
- **Preparedness.** Securing a calamity fund and further assessment of hazards and the vulnerabilities and capacity of the industry to respond to disasters in forms of community drills, early warning systems on tourism sites, evacuation and relocation sites, relief plans, search and rescue, an alternative energy source in case of a power outage, securing contacts of foreign embassies in case emergencies involving foreign tourists, and access to psychologists and first-aid counseling for trauma cases.

- Response. Relief goods that carry the basic needs, a safe evacuation place, and provision of transportation and communication for tourists.
- Rehabilitation. Evaluating the need of the tourism industry to rehabilitate buildings and ecosystems after a disaster, provision of livelihood assistance for tourism workers, provision of financial aids to affected tourism-related businesses.

**RA 9593 (Tourism Act of 2009).** LGUs are encouraged to prepare and implement a tourism development plan, enforce standards, and collect statistical data for tourism purposes. Local tourism development plans should integrate zoning, land use, infrastructure development, the national system of standards for tourism enterprises, heritage and environmental protection imperatives in a manner that encourages sustainable tourism development. The plans should also take into account gender considerations as well as disaster risk reduction and climate change adaptation principles.

The Tourism Act of 2009 defines sustainable tourism development as the management of all resources that meet the needs of tourists and host destinations while protecting future opportunities through meeting economic, social, and aesthetic needs while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems.

**National Tourism Plan 2004-2010.** The National Tourism Action Plan 2004-2010 formulated in 1990 was also included in their discussion of related policies, in which environmental and cultural resource conservation, protection of ecological resources, research and development, and capacity building for tourism stakeholders are included. The plan emphasizes sustainable tourism development in the areas of

environment and culture at the local level.

The Philippine Tourism Master by the Department of Tourism plan outlines policies in support to sustainable tourism development:

- promoting sustainable tourism products,
- maximizing the use of local resources (financial, human, and material),
- maximizing local ownership, livelihood opportunities, individual initiative, and self-reliance,
- encouraging domestic tourism to improve the people's quality of life, conserve and promote national heritage, and heighten people's sense of national identity and unity,
- promotion of environmental conservation through guidelines, carrying capacities, and integrated approach in planning, taking into consideration the country's natural, historical, and architectural heritage, and supporting the conservation activities,
- establishment of tourism industry training and standards for tourism educators and professionals (Cruz, 2003)

***Executive Order No.111 (Guidelines for Ecotourism Development in the Philippines) and the National Ecotourism Strategy (NES).*** EO 111 was issued in 1999, establishing the guidelines for ecotourism development in the country, from which created a National Ecotourism Development Council that makes policies and reviews and approves ecotourism projects. Thus, came the establishment of the National Ecotourism Strategy (NES) in 2002, which aimed to promote an integrated approach for the protection of natural resources while creating economic opportunities

for the local communities. This was prepared through a series of Bottom-Up Approach and Top-Down Approach during the regional stakeholders' consultations and workshops. The policy statement declares that the State shall develop and promote sustainable tourism while enjoining the participation of Filipino people in enhancing the growth and competitiveness of the Philippine economy. It also articulated that “the State shall ensure the sustainable use, development, management, protection, and conservation of the country's environment and natural resources and cultural heritage for the enjoyment of the present and future generations”. From EO 111 came the formulation of the National Ecotourism Strategy (NES).

The Philippine National Ecotourism Strategy of 2002 is a guide for all stakeholders involved in sustainable tourism development. It specifically aims to promote and mobilize support for ecotourism from all sectors, develop a culture of local tourism, institutionalize community participation in the planning, development, implementation, and monitoring of ecotourism projects, promote environmental education and ethics, develop the capability of LGUs and local entrepreneurs, facilitate domestic and foreign investment, develop globally competitive ecotourism products for quality visitor experience, and ensure benefits to be received by the community.

Because NES is largely a national program led by DOT and DENR, it negates the spirit of independence in terms of tourism development as mandated by the Local Government Code of 1991. Furthermore, it does not really focus on contributing to the implementation of the LGU tourism programs. Ecotourism projects have become largely a community-based intervention that involves multiple stakeholders with different motivations in a collaborative effort to solve problems and formulate plans. Having the LGU, the communities, and the private sectors being the ones responsible

for these ecotourism initiatives are also consistent with the NES Network Approach in terms of public, private, and civil multi-actor roles.

According to NES, as cited by Canalog, Reyes, & Eugenio (2012), if an ecotourism site is outside the boundaries of a PA, the following criteria to consider in determining the suitability of ecotourism are – the presence of unique natural and/or cultural features, availability of ecotourism products/services, level of social and political support, accessibility, current market demand, availability of facilities and services, local benefits, and peace and order, security, and safety.

**RA 7160 (Local Government Code of 1991).** As mandated by law, tourism development and promotion are one of the functions of the Local Government Units (LGUs). It was stated that the LGU is responsible for the basic services and facilities for tourism development, promotional programs, facilities and attractions, concessions, and security of the said facilities. The LGU can also have corporate powers and becomes a corporate entity with full autonomy in managing and owning their tourism enterprise, so long as the limitations are in compliance with other laws and policies, takes precedence. The LGUs should consult with involved national agencies, NGOs, professionals, and experts or various related fields, and other concerned sectors in crafting their ecotourism development plans.

**Tourism guidebook for local government units: revised edition by DOT, DILG, DENR, and DAP (2017).** Local and national plans for tourism development should be coordinated between DOT, DILG, and LGUs. In formulating the Local Tourism Development Plan, LGUs need to ensure its alignment with other local plans such as Provincial Development and Physical Framework Plan (PDPFP),

Comprehensive Development Plan (CDP), Comprehensive Land Use Plan (CLUP), and the LGU Business Plan. Because of these linkages between the Local Tourism Development Plan and others, it will help mainstream two major development concerns such as Disaster Risk Reduction and Climate Change Adaptation (DRR/CCA). DRR/CCA significantly impacts tourism development.

The National Tourism Development Plan (NTDP) advocates environmental sustainability by increasing green areas, improving landscapes, controlling land use, and expanding the capacity of the garbage disposal and wastewater treatment facilities. Following the polluter-pays principle of nature conservation, the Plan recommended the collection of park fees and limiting the number of visitors in national parks. It also called for the training of rangers as tour guides, collaborating with the private sector and local communities in the upkeep of protected areas and national parks, and in observing carrying capacities. Part of the National Development Plan (NTDP) 2011-2016 is the identification of concepts for destination development framework. One of these is the concept of Tourism Sites (TSs). TSs are described as specific places that tourists come to see and experience. These sites may be an existing natural attraction, an area of natural scenic beauty, a man-made attraction, or an area for potential development or enhancement for tourism.

The guidebook was published as part of the support to LGUs tourism development plans. The component strategies in formulating Ecotourism Management Plan are – zoning for visitor use, visitor site planning and design, sustainable infrastructure design, visitor management, revenue generation, heritage conservation, protecting the rights of women, children, IPs, PWDs, etc., promoting local culture, e.g., food, dance, songs, crafts, respecting local norms and traditions,

e.g., festivals, religious fiestas, dress codes, and engaging in continued research on local culture, (Fennel and Dowling, 2003) and environmental awareness through the introduction of environmental education in schools, capacity building for communities/stakeholders, education of the public through media, and explanation through visitors, including orientation/lectures/guided tours, etc. (Lanting & Palaypayan, 2002).

The LGU can control the tourism development and standards based on the LGU-s vision-mission of tourism development, land-use, thrusts of tourism, and theme for tourism development. Accreditation of tourism sites is a function of the Department of Tourism (DOT), but the LGU is responsible for implementing the ordinance on tourism standards under the leadership of the mayor. Those involved in crafting the LTDP are responsible for providing tourism services to the highest standards that the LGU can adopt.

A section of the guide discusses the preparation for a Disaster Risk Reduction and Management Plan for Tourist and for Tourism which involves securing a copy of a multi-hazard map, simply listing the hazards identifies in the LGU and noting the possible hazard in the tourism site, identifying which attractions are located within the range of these hazard areas and the number of the population vulnerable to these hazards, and then plotting the locations of tourist attractions in the multi-hazard map. This will aid in the future planning of tourism development.

The guidebook refers to green architecture principles in making trails in national parks and other tourist attractions but did not include the more comprehensive guide in planning and design of external spaces that the landscape architecture

profession specializes in.

***A Manual on Computing Carrying Capacity of Ecotourism Sites in Protected Areas (Canalog, 2015).*** The concept of carrying capacity in tourism, according to Woods (2002), is defined as the level of human activity an area can accommodate without adverse effects on the natural environment, resident community, or on the quality of visitor experience. Carrying capacity is a planning tool or technique that helps avoid environmental damage and achieve a sustainable operation of ecotourism sites. It refers to the maximum number of individuals or visitors that can be accommodated in an ecotourism site without affecting the state of the environment, the level of satisfaction of the visitors, and the socio-cultural norms of the local community. Different species of organisms have different carrying capacities, even if they are living in the same ecosystem. As per the definition in this publication, carrying capacity refers to the maximum number of individuals or visitors that can be accommodated in an ecotourism site without affecting the state of the environment, the level of satisfaction of the visitors, and the socio-cultural norms of the local community. The carrying capacity of an activity per area depends on three main factors: the number of resources available, the number of users, and the number of resources each individual consumes. Other factors affecting carrying capacity are social, psychological, economic, environmental, among others. (Canalog, 2015)

Degradation can be minimized by instituting measures to avoid overcrowding and overexploitation of tourists. While carrying capacity is usually used to manage impacts, it can also aid in spatial planning in tourism development and can be used in establishing standards for sustainable tourism.

***The DENR-DAO 2013-19 (Guidelines in Ecotourism Planning and Management in Protected Areas)***. This guideline provides direction to the ecotourism planning and management of ecotourism in protected areas, pursuant to the NIPAS Act of 1992 (RA 7586). The ecotourism principles used in this document are – conservation and sustainable use of biodiversity, ownership by local communities and opportunities to sustain their well-being, gender responsiveness and adherence to inclusive growth that considers women, children, IPs, and informal sector activities, promotion of learning experience and awareness, responsible action on the part of tourists and the tourism industry; and delivery to appropriate participants and business that observe and follow ecotourism and conservation concepts, ensuring appropriate development and visitor control.

This document enumerates the Ecotourism Planning and Management Process from start to end. It provides, in Annex B, a sample of how to carry out the planning and management process. It is divided into four phases:

- Phase 1: Site Assessment
  - Preliminary Site Evaluation (PSE).
  - Full Site Assessment (i.e., review of existing data, fieldwork, interviews, questionnaires, surveys, consultative and workshops, and preparing the full site assessment report); factors to be considered are access, zoning considerations, built-up tourism areas, development limitations, ecotourism products, ecotourism operation, community participation, skills and training of local communities, market and marketing, site management, visitor management, and partnership)

- Phase 2: Ecotourism Planning

Rural-upland Rehabilitation Ecotourism Strategies (RURES) Framework: A Rationalized Authentic Ecotourism Activity Planning Framework For Degraded Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique 41

- Major Elements of the Ecotourism Management Plan (i.e., site profile, tourism situation, issue and concerns to developing and sustaining ecotourism, ecotourism planning for the site, vision, goals, and objectives, component strategies, zoning for visitor use
- Visitor Site Planning
- Sustainable Infrastructure Design
- Visitor Management
- Revenue Generation
- Phase 3: Implementation of Ecotourism Management Plan
- Phase 4: Monitoring and Evaluation

The Business Planning Process is illustrated in Annex C. This document is relevant to the researcher as Phase 1 and parts of its Phase 2 Processes can serve as a guide in the formulation of a checklist.

***House Bill 7229 (Proposed Philippine Sustainable Tourism Act) and House Bill 6093 (Creating TRCP).*** House Committee on Tourism Chairman Lucy Torres-Gomez said that the government must first protect these destinations from environmental issues. Such measures are the House Bill 7229 or the proposed "Philippine Sustainable Tourism Act", which will address environmental degradation, public health, tourism business growth, and other issues. Under this bill, the responsibility of achieving and maintaining 'sustainable tourism' shall be given to qualified representatives of all relevant stakeholders in the ecotourism industry. (Business Mirror, 2018) Another measure endorsed by the Committee on Tourism is the HB 6093, which seeks to create the Tourism Resiliency Certification Program (TRCP), aiming "to prevent, mitigate, and control possible damages arising from risks

or threats to the tourism industry, such as violence, terrorism, and environmental degradation and climate change” through identifying risks in the tourism industry, prescribing compliance measures, establishing an appropriate metric system to determine acceptable levels of compliance, and mandates compliance of prescribed measures. (Business Mirror, 2018).

### **Other Related Concepts and Theories**

The following concepts and theories will additionally aid the researcher in developing the intended design framework keeping in mind their applicability at the site-scale level of ecotourism development.

***Ecological Planning Framework (Van Riet and Cooks, 1990).*** Maintaining a productive state of natural resource utilization requires an understanding of the resource and the activities done with, to, or in them through zoning. The proposed Ecological Planning Model of Van Riet and Cooks (1990) was implied as less sophisticated, less expensive, and a relatively simple approach that can be applied in developing countries. It studies the values of natural resources while ensuring the sustainability of the resources. In the process of ecological planning, the data gathered should be raw and should not be subject to any interpretation until reaching the end of the planning process. The steps are:

- 1) Identifying Objectives
- 2) Assigning Perceived Values to Natural Resources
- 3) Ecological Approach to Landscape Analysis

a) Classification of natural resource categories. A step-by-step or sequential approach in understanding aspects of ecology in ecological planning is necessary for landscape architects and other specialists in the multidisciplinary team.

i) Boundaries (municipal, provincial, country; ecotones)

ii) Geomorphological regions (tectonic events)

iii) Climate (past and present, including temperature and moisture conditions)

iv) Geology

v) Hydrology

vi) Cover (soil and vegetation)

vii) Animal life (the last variable to be studied in ecosystem analysis; dependent on the previous areas; will affect vegetation)

viii) Existing structure (facilities and activities)

ix) Visual character (landscape shape, color, and texture)

b) Determination of landscape facets.

4) Evaluation procedure

5) Planning Proposals

6) Comparative Analysis

7) Zoning Plan Production

8) Implementation of Zoning Proposals in a Specific Area

9) Monitoring

10) Adaptation

11) New Planning Proposals

12) Evaluation of New Proposals

### 13) Final Zoning Plan

Ecological planning model questions and realizes the difference between social values and individual values, which will become useful in solving many different planning problems. Giving importance to social values of the natural resources is necessary because the society is dependent on the social value of the environment that, when neglected, will destroy these values, leading to not only environmental destruction but socio-cultural destruction as well.

***Community-Based Ecotourism (CBE).*** The local community comes together to establish a cooperative or a small company with the community shareholders. The rotation of homestays is a typical accommodation system. Young community members work together with their elders in their teaching of tourists about the traditional uses of natural resources and traditional lifestyles of farming, fishing, or hunting. Traditional craft-making that has been slowly forgotten has been slowly reviving in the ecotourism enterprise, giving women a means of having an income of their own. Any ecotourism concerns are discussed within the community, and solutions are formulated by the community shareholders as well. Naturally, there are challenges like the inconsistent quality of services, but they can be addressed through proper training and policies that enforce strict guidelines and standards. (Wood, 2002) Accommodation is usually a homestay type or in a simple community guest house, much like the typical houses of the area. Local guided hikes while learning about the local biodiversity, environment, and traditional customs are one of the main activities. Local cooking, crafts, and other activities that center on the sharing of worldviews and cultural pride forge a lasting bond between visitors and hosts. (Ibid)

Community-Based Ecotourism Enterprise (CBEE) is an enterprise controlled and managed by concerned local people and stakeholders in a community whose main product is to "sell" ecotourism services, aims to provide meaningful satisfaction to visitors and equitable distribution of income and benefits to the community, and encourages people empowerment, especially in gender roles in ecotourism. (Canalog, Reyes, & Eugenio, 2012)

The community-based ecotourism concept implies that the community has substantial control and involvement in the ecotourism project and that most benefits remain in the community. There are three types of CBE, according to Wood (2002).

- *The community solely owns and manages local ecotourism enterprise* (i.e., the community usually forms a system in which the community members are employed by the ecotourism endeavor via rotation and that profits are allocated to community projects),
- *Family or group initiatives within communities,*
- *A joint venture between a community or family and an outside business partner* (i.e., management responsibilities and profits are divided between community members and the partner private operator or organization).

CBEE creates more employment opportunities and contributes to poverty alleviation and welfare of the community, supports protection and restoration of the natural environment, supports historic preservation and cultural revitalization, and strengthen community unity (Canalog, Reyes, & Eugenio, 2012).

If CBEE is grounded on holistic science, ecotourism sustainability can be further enhanced, argued Canalog, Reyes, & Eugenio (2012). In line with this, the

indicators of success are – the willingness of stakeholders to use applicable ecotourism principles on varying situations (flexibility), local people take an active role in the activities and decision-making that they may benefit from the project (participatory), all stakeholders', especially the local people's firsthand knowledge is considered during when planning, monitoring, and evaluating the ecotourism project, seeing to it that the local are also able to learn and take part in the problem-solving process, avoiding spoon-fed solutions as much as possible (experiential), stakeholders should focus on the long-term goals and objectives of the project, being fully aware and prepared for the future success and failures of the project because the endeavor should constantly adapt to change and always be prepared to the inevitable impacts to the community (proactive).

Ecological ***Landscape Masterplanning Framework (ELMF) of Antique, Philippines (Mogul & Aquino-Ong, 2016)***. The Ecological Landscape Masterplanning Framework (ELMF) emphasizes the importance of ecologically important areas as starting points of sustainable developments. This framework used two Key Biodiversity Areas (KBAs) that is already existing in the province of Antique as the focus of the study for the framework, using the Drivers-Pressures-State-Impacts-response (DPSIR) method in generating recommendations for items to be addressed by the EMLF for future developments. The EMLF serves as a basis for a holistic and integrated planning approach as well as the guide for policy formulation for social and economic development alongside the protection of the existing environment, guiding the planner in doing the masterplanning of the subject area and allows future managers to establish policies and regulations to prevent over-development, misplacing of resources, and socio-cultural and environmental

degradation.

In the context of this study, ELMF comes after the application and establishment of the proposed ecotourism design framework for a rural community development site of this study. In this case, the case study site is in the municipality of Culasi, province of Antique. Barangay Salde may not be within one of the two KBA sites in Antique - the Northwest Panay Peninsula Natural Park (NWPPNP) and the Central Panay Mountain Range (CPMR) - it is still located at the foot and near the CPMR.

ELMF's primary goals is a sustainable and ecologically holistic development of the Antique province as biodiversity, ecotourism, and academic research hotspot that will boost the province's economic capability while maintaining its natural beauty and ecological balance; the proposed community ecotourism framework of this study can be the starting point to be applied in all applicable local upland community sites. EMLF will act as the overall masterplanning framework for regions with integrated development projects, while this study focuses the detail on the realm of the local upland community ecotourism development projects. This study allows to be reframed at a site scale according to each need and characteristics of the project site, the local community, and the local government unit.

***System Theories in Relation to Environmental Damage.*** One of the theories implying the causes of environmental damage is system theory. Fennel & Dowling (2003) discussed the system theories connected to environmental damage and laid out site scale applicable interventions or instruments of system theories to employ in ecotourism planning. In terms of market or economic theories, the three

system theories discussed are: theory of externalities, public goods, and property rights. It was pointed out that environmental damage is accelerated by an inefficient allocation of environmental resources due to failure of the market and failure of the state. Therefore, optimal allocation of environmental goods can be achieved by the proper functions of the market and by state interventions,

The authors further explained, through the theory of externalities, that the environment must be given a price, or it should become an economic good so that users will not exploit the resource and therefore, the resource use or use of the environment will not lead to degradation. In the theory of public goods, environmental goods (or pure public goods such as clean air, clean water, diverse species, healthy forests, etc.) and common property (or impure public goods like rivers, local parks, and beaches) are common goods that everyone has access to. Everyone has a right to these resources, and that scarcity value is ignored. The theory of property rights is applied where environmental goods appear as relatively scarce goods that a market or economic-oriented approach becomes a solution to the environmental problem. This theory has two variants. First, the polluter has a right to pollute; therefore, the cost of non-pollution is a burden on the affected party. Second, the affected party has a right to non-pollution; therefore, the costs of pollution are paid by the polluter.

The authors elaborate further by discussing the instruments of these system theories. Given the understanding of the three system theories, implementing costs of environmental protection is considered as an instrument in reducing and preventing environmental damage. These costs include environmental tax and subsidies, negotiations, concessions, public investments, fees and contributions, prohibitions, licenses, and environmental standards, among others. In terms of regulating tourism

growth, the instruments listed are pollution certificates, tourist certificates, certificates for the use of the environment for tourism purposes, Carrying Capacity and Environmental Impact Assessment (EIA) techniques (also instruments in preventing environmental damage), and instruments for making tourist traffic less seasonal so that tourism activities are more regular and have constant distribution demand all throughout the year.

As mentioned in the Tourism Guidebook for Local Government Units (2017), the requirement of EIA is being determined by the DENR DAO No. 25 for projects such as mining and those inside Protected Areas (PAs). Restrictions include anti-pollution control devices, non-operation of smoke-belching vehicles, sanitation in restaurants, and ensuring that virgin forests and centennial trees are protected.

***Behavioral Theories in Relation to Environmental Damage.*** One set of theories explaining the existence of environmental damage, according to Fennel & Dowling (2003), is the Behavioral Theories - the absence of environmental social ethics and environmental ignorance. The first behavioral theory is said to be the main reason for environmental degradation and damage. This theory assumes that humans inherently possess environmental ethics and awareness that if given appropriate environmental information and knowledge, they will be able to react in an environmentally friendly way. The second behavioral theory states that insufficient environmental research, education, understanding, and information are the real reasons why environmental disasters arise. However, this theory ignored the fact that this is not the only condition needed to be met to prevent damage. Preventing damage must also consider the first behavioral theory mentioned.

The authors further identified instruments that could influence human behavior with regard to environmental protection. These are eco-labeled tourism products, environmental quality labels, and quasi eco-labels. Quasi eco-labels are sometimes problematic due to credibility issues because the labels are not based on pre-determined expert criteria.

***The Role of Landscape Architects in Nature-Based Solutions.*** Landscape architecture is a regulated profession in the Philippines under Republic Act 9053 or the Philippine Landscape Architecture Act of 2000. Landscape architects plan, design, and manage land resources to secure the best possible outcomes for people, the environment, and the economy by working on strategies and policies with other professionals and agencies (Landscape Institute, 2013). As a designer, understanding the biophysical characteristics of the site to inform design decisions for the ecotourism development and understanding the cultural, physical, and spiritual utilization of the indigenous or local community on the ecotourism site, is necessary (Mehta, Baez, & O'Loughlin, 2002). Landscape architects are a valuable member of the ecotourism planning development team as they understand the natural and cultural factors that define a site's special character and can integrate these into practical and resilient deliverable design and policy proposals. Moreover, proper landscape design done by a duly landscape architect ensures the optimum use of spaces and optimum use of available resources to provide for the needs of the users and of the existing land when development and economic benefits are one of the main goals.

***The Middle-out Approach.*** The problem with the top-down approach is that the needs of the local community might be overlooked because the outlook is more general and not site-specific or problem-specific. Community involvement in this

system is very minimal as they are rarely involved during the planning, implementation, and monitoring stage. This system also provides little opportunity for the marginalized sector to have a voice. There is also a risk that the top-decision makers who do not have firsthand experiences of the daily experiences in the community will misinterpret problems and will eventually push inappropriate and inapplicable developmental plans and solutions at the grassroots level. Sometimes, these decision-makers in this system do not employ appropriate consultants and experts to back-up development projects for implementation. The result is that such projects remain unsuccessful and a waste of resources.

Bottom-Up approach emphasizes the participation of the local community in development initiatives, making them formulate their own goals and means of achieving those goals. The local community is also given a sense of ownership and accountability. However, this system is only visibly successful in small-scale local community projects, but it is a great challenge for bigger local community projects in terms of development, such as ecotourism development, which should require a more complex and integrated system approach. That is why the participation of other stakeholders such as the various NGOs and COs is necessary.

Landscape Architect Kongjian Yu, in his talk, titled *Sponge City and Nature-Based Solutions*, at the North Carolina State University (2020), discussed how he was inspired by the traditional local community involvement in the traditional nature-based principles he employs in the ecological design of transforming landscapes. He pointed out that China has a strict top-down system, but he believes that the consultants, researchers, experts in the field, and designers like himself has the responsibility or an active role in convincing the mayors and decision-makers in the government to try

out concepts and approaches that are deemed more appropriate and more sustainable and ecologically sound even if it does not align to the existing practices, rather than wait for the government to tap the experts for consultations.

Dr. Kongjian Yu (2020) also reiterated that landscape thinking and green infrastructure thinking must be integrated at the start of the decision-making process, especially traditional or indigenous approaches. The desired outcome is for the people at the community-level to love these types of projects and the benefits for them to enjoy. Therefore, it is also important to explain and convince the local community members as to how these indigenous practices are to be applied in the environmental solutions in community projects. Training them and making them equipped to make informed decisions are important. He emphasizes the importance of the active role of landscape architects in green infrastructure and nature-based solutions for public development projects.

A combination of the two approaches might be best examined. Dr. Kongjian Yu (2020) further explained that starting with the grassroots, especially in development projects involving nature, might become counterproductive. The experts in various fields should lead the practice because of their respective professional knowledge. He then emphasized that, certainly, community involvement is necessary, but practitioners should be leading the way, should convince the top-decision makers of the government, should convince the public to accept the importance of traditional knowledge and their application with modern techniques. Development initiatives that involve environmental design, nature-based solutions, and ecological design initiatives, landscape architects are the professionals who are equipped to do all because of the scope of the profession. The design process for any of these

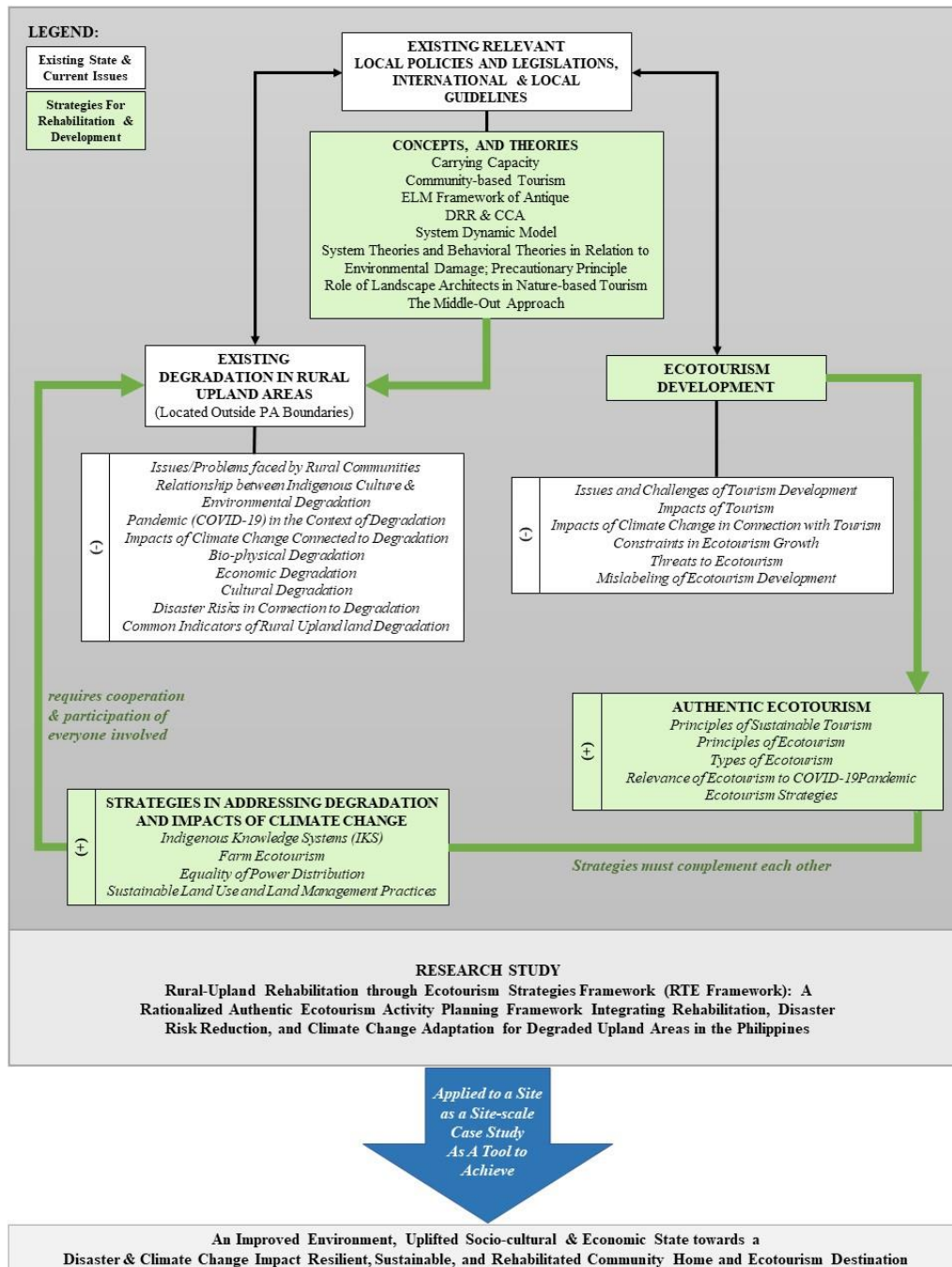
development initiatives begins with the design professional, he added. Go out to the locality/site, communicate with the locals, understand the problem, understand the needs of the community and the environment, then formulate frameworks on how to approach the issues and present findings and formulated approach and design solutions to both the Top decision-makers (municipal LGU and representatives) and the Bottom local community decision-makers (barangay LGU and other representatives), make them know and understand all about it. It is indeed a heavy task but, in this way, both the Top and the Bottom get to understand the science and logic behind every proposed approach, agree to it, support it, and get to be equipped and informed before making the final decision.

The Middle-out Approach is a combination of the Bottom-Up Approach and the Top-Down Approach, but a middle component is added. This middle component both leads and coordinates information, planning, and decision-making processes simultaneously and or in turns. The middle level is where the digestion and interpretation happen. This is where a pool of planning professionals and other relevant experts convene and study all information and data received from both the top and bottom ends of the system. This approach is not entirely new. This system can be readily applied and will not conflict with the already common bottom-up approach that is mainly used in community ecotourism planning. The concerned professionals (mostly stakeholders from the group of NGO's and COs) in the middle-level are given the opportunity to have a more active role in the ecotourism development of rural communities such as those not included in this study.

## **Theoretical Framework**

The following figure (Figure 2) illustrates how the reviewed related literature supports the theories that govern this study. It shows how issues in rural upland areas, i.e., economic, environmental, and socio-cultural issues, are mostly due to degradation that is anthropogenic driven. Other issues include unsustainable tourism practices, threats from tourism development, pandemic, natural disasters, etc. There are existing policies, legislations, and guidelines that aim to be sustainable and prevent/mitigate impacts to the environment and the community. Thus, the reviewed literature will be synthesized into a Rural-Upland Rehabilitation Ecotourism Strategies Framework, to be applied to a site as a case study at a site-scale.

Figure 1. Theoretical Framework.



### III. STATEMENT OF THE STUDY

#### **Main Problem**

In cases where the community and the local government of a rural, non-PA, upland area are planning for an ecotourism development, communities of degraded sites lack activity planning methods that primarily integrate rehabilitation activities, disaster risk management and climate change adaptation programs, and authentic ecotourism plans into their future local ecotourism development plan.

#### **Sub-Problems**

How to evaluate what type and level of degradation a potential ecotourism site has? How to identify the site and the community's issues and problems in terms of ecological/biophysical, socio-economic, and cultural factors? How to identify disaster and climate change impacts that the community has experienced?

How to evaluate the site's ecotourism potentials in terms of its landscape features (ecological, biophysical, landscape features, flora and fauna, visual character, etc.) and its cultural features (local/indigenous technologies, indigenous art, and traditions, etc.)? How to do a holistic landscape analysis using appropriate select existing frameworks, concepts, theories, and strategies in authentic ecotourism development planning?

How to formulate a Rationalized Authentic Ecotourism Activity Planning Framework for degraded upland areas located outside PAs in the country, using Rural-upland Rehabilitation Ecotourism Strategies (RURES) Framework: A Rationalized Authentic Ecotourism Activity Planning Framework For Degraded Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique

authentic ecotourism activities that integrated rehabilitation strategies and disaster risk and climate change adaptation and mitigation activities as part of the community's ecotourism developments strategy programs? What existing local policies and legislations, international and local guidelines, strategies, concepts, and theories concerning degradation and authentic ecotourism can be integrated into the framework? What are the prerequisites of the framework?

How to apply the formulated framework in an existing rural upland community site in the Philippines?

## **IV. OBJECTIVES OF THE STUDY**

### **Goal of the Study**

Degraded upland sites outside the boundary of Protected Areas will be developed through authentic ecotourism strategies with considerations not only for environmental improvement but also for socio-cultural and economic upliftment to achieve a disaster and climate change impact resilient, sustainable, and a rehabilitated community home and ecotourism destination.

### **Objectives of the Study**

To outline indicators for identifying the type and level of degradation for a rural upland site wherein the area's ecological/biophysical, socio-economic, and cultural issues are to be analyzed and evaluated, including the disasters and effects of climate change that the community has experienced.

To outline and identify the ecotourism potentials of the site in terms of its landscape features (ecological, biophysical, landscape features, flora and fauna, visual character, etc.) and its cultural features (local/indigenous technologies, indigenous art, and traditions, etc.), and to formulate an evaluation system that describes how and when ecotourism strategies are deemed authentic.

To formulate a Rationalized Authentic Ecotourism Activity Planning Framework for degraded upland areas located outside PAs in the country (after

meeting the prerequisites of the framework), using authentic ecotourism activities that integrate rehabilitation strategies and disaster risk and climate change adaptation and mitigation activities as part of the community's ecotourism development strategy programs, that also integrates existing local policies and legislations, international and local guidelines, strategies, concepts, and theories concerning the planning and management response to degradation and authentic ecotourism.

To apply the formulated framework in an existing rural upland community site in the Philippines through a case study and explore its applicability to any rural upland site that is located outside the boundaries of a Protected Area.

## V. RATIONALE

### Background of the Study

***Upland Degradation.*** The Department of Natural Resources (DENR) defines upland areas as hilly to mountainous landscapes that are greater than 18% in topography. Upland areas play an important role as a component of a rural system because they contain the tropical forest ecosystems that serve as the life support system of the lowland and aquatic areas. Furthermore, these marginal upland areas, where there is still an increasing number of marginalized communities living in them, are sub-classified into cultivated or open areas, forests, grassland, cultivated mixed grassland, eroded areas, and other barren areas. (IIRR, n.d.) The Philippines, primarily an agricultural country, has more than one-half of its topography that is classified as uplands; and if these areas become degraded, soil erosion will affect croplands (Parayno, 1997). Soil erosion mostly happens in grassland, pastureland, and upland agricultural areas where human activity is the biggest contributor to the degradation of soil resources reducing the rate of productivity of the land. In the country's upland areas, degradation is primarily manifested in the form of soil erosion. In the primary forests and secondary forests of these upland areas, logging was initially the cause of degradation because it opened these forested areas to uncontrolled human activities such as shifting cultivation and intensive agriculture. (Briones, 2010) Manifestations of agricultural land degradation can be observed in the forms of few patches of forest, barren denuded hills that are mainly vegetated with cogon and brush, eroded gullies, and barren soil, among others (IIRR, n.d.).

***Effects of Upland Degradation.*** The scale of the effects of upland

degradation encompasses the physical, economic, and socio-cultural aspects of the environment. Some of these effects are loss of forest cover, soil erosion, loss of nutrients in the soil due shortened fallow periods, decrease in agricultural productivity or crop yields, intensification of flood and drought, a shift in climatic patterns, a decline in biodiversity, loss of wildlife habitat, lowered water table, increased sedimentation/siltation, increased level of carbon dioxide in the atmosphere, degradation of coral reefs due to sedimentation from upland area erosion (IIRR, n.d). Degradation also causes biodiversity loss and reduction of nature's ecosystem services, erodes cultural identity, and has negative impacts on the mental health and spiritual well-being of indigenous peoples and local communities, and, in some cases, leads to loss of the knowledge and practices that could help reverse or stop land degradation (IPBES, 2018).

***Climate Change and Disaster Risk.*** Climate change can aggravate the current degradation process as these upland areas experience an increase in rainfall intensity, flooding, frequency and severity of drought, heat stress, dry spells, wind, etc. (IPCC, 2020), resulting in affected food, financial, and livelihood security which are already felt by indigenous people and local communities living in these areas. These effects of degradation, worsened by impacts of climate change, can lead to disasters of severe proportions that can pose as a hazard to the affected communities. Additionally, hazard and disaster events can also be natural calamities such as typhoons, floods, droughts, earthquakes, tsunamis, and human-induced hazards such as fire, wars, epidemics, and terrorism. In the Philippines, a response to such events is called Disaster Risk Reduction (DRR). DRR is defined by the Philippine Disaster Risk Reduction and Management Act of 2010 (Republic Act 10121) as a systematic

effort to analyze and manage the causes of disasters by reducing vulnerabilities and enhancing capacities to lessen the adverse impacts of hazards and probability of disaster. In the upland community context, DRR is the capacity or the capability of an area or community to cope and recover from the damaging effects of a disaster. Such can be achieved through wise use of resources, robust infrastructure, and strong and good governance. However, this type of response does not essentially address the problem of degradation as one of the main causes is the lack of the supposed environmental protective service and adaptive qualities provided by a healthy and undegraded environment, when such disasters and hazards occur, as experienced by the affected local communities.

The issues of degradation, disaster risk, and climate change have significant implications for tourism development, specifically in rural upland areas, because these implications affect the natural, economic, and socio-cultural characteristics of the destination and the community, leading to their eventual loss of value as a tourism site, particularly as an ecotourism product.

### **Significance of the Study**

1. *The local community or the people living in rural upland areas that are not within the boundaries of a PA, nor in an ancestral domain, who wished to plan an ecotourism development for their proposed local destination site.* These are the main beneficiaries of the authentic ecotourism development project where the RURES Framework is to be applied.
2. *Local Government Units (LGUs) at the barangay and municipal level of rural upland areas that are not within the boundaries of a PA, nor in an ancestral domain.* The

LGUs, both at the municipal and the barangay level, in the country that wishes to develop public lands into an ecotourism destination, even if they are not listed as a key ecotourism site by the National Government as governed by the laws and legislations of PAs and ancestral lands.

3. *Policymakers*. Those involved in formulating legislation, policies, guidelines, rules and regulations, revision or amending policies that are related to ecotourism.
4. *Non-Government Organizations (NGOs)*. Those who are interested in taking part in the activities of assessing, planning, implementing, and monitoring ecotourism activities in the Philippines.
5. *Researchers*. Those who can use this study for information in their own research with related topics concerning rural upland areas, ecotourism and ecotourism design framework, degradation, rehabilitation, addressing disaster risks and climate change impacts, alternative livelihood strategies connected to authentic ecotourism development.
6. *The academe*. Those who may assist in education, training, workshops, information, and other activities where they are suitably needed.
7. *Licensed Landscape Architects in the Country*. They are the main facilitators and architects of this framework because, without their expertise, the Phases of the framework will not be properly executed. It will be a good avenue for their education and skills to be properly utilized in the planning realm and not being stuck in the label of being “landscapers” or “garden designers”.
8. *Professionals/experts in their respective fields*. These may include professionals in the field of sciences (geology, botany, zoology, etc.), the fields of design, planning, and management (landscape architects, architects, structural engineers, civil engineers, environmental planners, economists, etc.), the field of social

development and political science, and/or people who have vast knowledge and experience who wish to provide their expertise in this kind of endeavor.

9. *Local private entrepreneurs, local private corporations, funding agencies, or those that are willing to invest in this kind of enterprise.* These can be both national and international agencies that have the capacity to assist in the technical activities of the local community.

## VI. SCOPE AND LIMITATIONS

### Scope and Delimitations of the Study

The formulated framework will not include the ecotourism development plan and implementation process of the specified site because the scope of the study covers the initial planning stages prior to the usual and standard LGU's Local Tourism Development Plan (LTDP) process, wherein the study covers what specific areas and site characteristics along their proposed ecotourism strategies/activities are to be considered in the drafting of the LTDP.

Because the framework uses the principles of a Middle-Out Approach, the decision-making of the Top and Bottom Actors in whether to implement the outputs of the framework or not is not part of the scope of the study. The reason being is that, in using the framework, the resulting outputs, which guarantee the characteristics of an authentic ecotourism destination, are recommendations from the Middle Actor, which resulted from the inputs of both the Top and Bottom Actors. For instance, during the LTDP planning process, the Top and Bottom Actors can determine whether the chosen site can be labeled as an ecotourism destination or not, i.e., if the output ecotourism strategies can be accommodated in the municipality/barangay LGU's LTDP.

Because the final output resulted in applying the framework is generally to recommend strategies or activities to create an authentic ecotourism site, the final decision for implementation actions of the Top and Bottom Actors are not included in

the study.

The formulated framework includes Monitoring and Evaluation in the process that is to be done once the LTDP has been set into motion and has already started its implementation phase. In addition, this study will detail and tackle the criteria and indicators of M&E due to the study's current limitations.

### **Limitations of the Study**

The case study for this paper will only choose one rural upland site that is not covered by the list of Protected Areas under the National Integrated Protected Areas Systems Act of 1992 (RA 7586), and the Guidelines on Ecotourism Planning and Management in Protected Areas (DENR-DAO 2013-19) due to time and resource constraints.

Due to time and resource constraints, the full inventory of resources of the chosen case study site will not be discussed in this paper. Data gathering for the project site will include resource inventory from actual environmental scanning by the researcher, LGU provided maps and information, and community-representative group discussions and key informant interviews (KII), which covers the first half of the Rationalized Authentic Ecotourism Activity Planning Framework in the Case Study application.

The level of communication and information gathering is expected to be limited due to the constraints caused by the COVID-19 pandemic. Limitations include travel restrictions, the absence of communication lines, especially if the site for the case

study is in areas that lack wireless networks and telecommunication satellite signal, and the understandable busy or extremely limited schedules of key informants due to their “frontliner” duties and activities during this pandemic. Furthermore, travel restrictions and other pandemic constraints also affected the researcher’s ability to finish the Case Study application of the Rationalized Authentic Ecotourism Activity Planning Framework. Nonetheless, the framework is still complete, and the researcher still intends to finish the last half of the Case Study once the pandemic is over. Thus, the latter half of the application of the framework in the Case Study will not be reflected in this paper.

## VII. DESCRIPTION OF THE STUDY AREA

Communities living in economically poor areas are dependent on the ecosystem services for disaster risk reduction that are lost through land degradation and recover more slowly following natural disasters (IPBES, 2018). Land related responses that can contribute to climate change adaptation (CCA) and mitigation has the potential to combat land degradation, enhance food security, strengthen the adaptive capacities of communities and regions, bearing in mind that adaptation is dynamic, site-specific, and is made known through the interconnection between biophysical changes, social conditions, and institutional circumstances (IPCC, 2020).

***Rural Poverty and Land Degradation.*** There are clear interactions between rural poverty and land degradation. For daily subsistence, people living in rural areas mainly depend on agricultural activities. In connection to this, intensified cultivation, especially in the marginal uplands that occurs in steep slopes, has led to faster soil erosion and reduction in soil fertility, resulting in the decrease of food production or lower productivity and lower income for the farmers. (Parayno, 1997) Furthermore, they have fewer financial resources to invest in technologies to mitigate impacts of degradation to agriculture or sanitation. For example, they rely more on ecosystem-derived fuels such as wood and charcoal to meet their energy needs. In addition, land degradation affects the availability of buffer wild-harvestable goods in times of hardship. (IPBES, 2018) Consequently, emigration from rural areas has been an issue because people are searching for opportunities with economic stability, and their rural environment just cannot provide them. Rural-upland communities in the Philippines are not exempt from this.

***Environmental Conservation and Ecotourism.*** Environmental conservation is one of the sustainable ways in addressing degradation, disaster risk, and impacts of climate change in upland rural areas. Tourism activities can help in boosting the unique charm and vitality of rural areas, reducing outmigration, mitigating the abovementioned issues, and promoting the community's local resources and traditions while safeguarding the essence of traditional and authentic rural life (UNWTO, 2020). This is where ecotourism can play a unique and important role. Ecotourism is a sustainable development tool that brings cultures together, brings about a deeper understanding and education of the importance of the natural environment and reasons for conservation through the first-hand experience of authentic ecotourism sites (Wood, 2002).

***Mislabeling of Ecotourism Development.*** Ecotourism developments promoted by the government that does not apply the principles of ecotourism by disregarding the needs of the local communities and the needs of the environment are not genuine ecotourism but are mislabeled and mishandled developments (Ibid). This kind of disregard is experienced by Indigenous Peoples (IPs) in Protected Area (PA) ecotourism developments when the government implements tourism programs labeled as "ecotourism", without doing proper consultation with the IP community about their needs as afforded to them by the basic principles of authentic ecotourism development and by their basic rights as IPs. Such government-led developments provide ecotourism guidelines that either too broad, lacking, or site-inappropriate.

***Ecotourism Sites in the Philippines.*** PA key ecotourism site initiatives are led by DENR with its conservation partners and the Protected Areas Management Bureau (PAMB), which provides policy and management inputs. On the other hand,

ecotourism development sites in rural areas that are not within a PA are often led and managed by the LGUs in cooperation with concerned government agencies (Javier and Elazigue, 2011). In line with this, there seems to be a lack of legislation or policies in the country that are specific and consistent with the principles of authentic ecotourism development in upland rural areas that are not governed by the ecotourism policy and guidelines for key ecotourism sites within PAs.

## **Definition of Terms**

*Authentic ecotourism activity planning framework.* A basis to help the local communities identify, assess, and evaluate the current natural resource and the current livelihood and traditions in their daily life, including the problems and issues that they have experienced, in terms of natural disasters, financial and occupational difficulties, social strains, cultural erosion, etc.

*Authentic ecotourism activities.* Activities that strictly apply the principles of ecotourism as per TIES (2015). These activities are to be derived from the existing activities and natural way of life of the locals to be modified in a way that it will be enhanced, protected, and respectfully shared to visitors while seeking to reach a level of rehabilitating the existing degraded environment, culture, and livelihood.

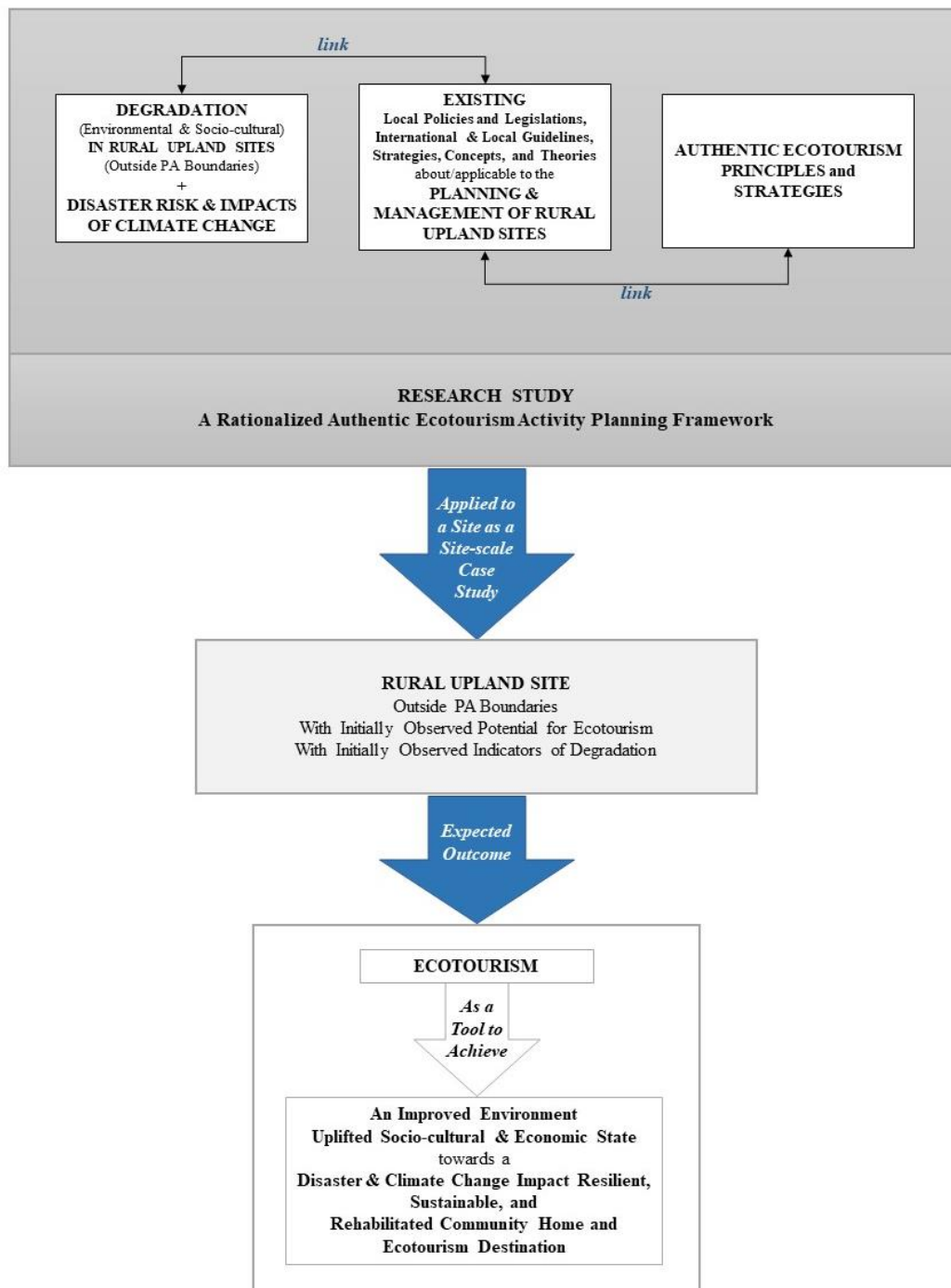
## **Conceptual Framework**

The following figure (Figure 1) illustrates the significant variables considered

for the study. The researcher started from finding data and information about rural  
Rural-upland Rehabilitation Ecotourism Strategies (RURES) Framework: A 71  
Rationalized Authentic Ecotourism Activity Planning Framework For Degraded  
Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique

upland area degradation and about ecotourism with existing related policies, guidelines, concepts, and theories, forming a Rationalized Authentic Ecotourism Activity Planning Framework. Also, showing the researcher's goal of achieving an improved state in the quality of the environment and socio-cultural characteristics of the community through a case study at a site-scale.

Figure 2. Conceptual Framework.



## VIII. METHODOLOGY

The subsequent steps were followed in undertaking the study:

1. At the beginning of the study, a Conceptual Framework was formulated to aid the researcher in further research of related literature.
2. Data Gathering through related Literature, mostly retrieved from the internet. The topics are categorized into three:
  - a. *Degradation and Other Issues in Rural Upland Sites, including Disaster Risks & Impacts of Climate Change.* These are topics about degradation, rural upland area problems and issues, disaster risks and climate change, rural development, rehabilitation, strategies in rehabilitation, and cases and studies including those set in the Philippines, etc.
  - b. *Sustainable Tourism and Ecotourism.* These are topics about tourism, sustainable tourism, ecotourism, ecotourism in rural development, ecotourism and degradation, and cases and studies including those in the Philippines, etc.
  - c. *Existing Related Policies and Legislations, Guidelines, Strategies, Concepts, and Theories.* These are topics about existing local and international policies, legislation, guidelines, strategies, and other related concepts and theories concerning categories (a) and (b) that were previously encountered by experience and were deemed useful in this study, etc.
3. Show reviewed literature in a way that the researcher's thoughts are clearly conveyed:
  - a. *Understanding the Site by exploring Degradation and Other Issues in Rural Upland Sites such as disasters and Impacts of Climate Change.* It investigates the drivers, impacts, and indicators of degradation and what management and Rural-upland Rehabilitation Ecotourism Strategies (RURES) Framework: A Rationalized Authentic Ecotourism Activity Planning Framework For Degraded Upland Areas in the Philippines A Case Study of Brgy. Salde, Culasi, Antique 74

planning responses and strategies are made in addressing these issues. This will aid the researcher in what to search for and what to note when reviewing site gathered data for the case study application of the framework.

- b. *Understanding the Tourism by delving into Sustainable Tourism and Ecotourism Concepts.* It explores issues, impacts, characteristics, opportunities, and principles of sustainable tourism, particularly ecotourism; on what ways are ecotourism developments authentic or greenwashed through exploring ecotourism strategies present in the literatures
- c. *Integrating Relevant and Current International and Local Policies, Legislations, Guidelines, and Strategies* that are related to (a) and (b)
- d. *Integrating Related Concepts and Theories and other existing Frameworks* that may be used in shaping the proposed framework; some concepts considered are related to the researcher's current professional work that may be useful; these said concepts are the Role of Landscape Architects in Nature-Based Solutions, and the Middle-Out Approach.

These are then collated, and the connections and relationships between the topics are illustrated in a Theoretical Framework. This conveys how the researcher arrived at formulating the Research Study, which is the ***Rural-Upland Rehabilitation Ecotourism Strategies Framework (RURES Framework): A Rationalized Authentic Ecotourism Activity Planning Framework Integrating Rehabilitation, Disaster Risk Reduction, and Climate Change Adaptation for Degraded Upland Areas in the Philippines***. It should be noted that the body of the study is intended to be a pre-activity before the LGU and other concerned stakeholders conduct their Local Tourism Development Plan. The RURES framework will be formulated after synthesizing all the gathered information.

4. In the said synthesis of the study, the researcher used a Qualitative Research Design which employs several methods and concepts to prepare this study.
5. *Case Study*. The formulated framework is to be applied in an existing rural upland community site in the Philippines. This will explore the applicability of the framework to any rural site that is not within the boundaries of a PA.
  - a. *Site Selection*. Due to the recent constraints brought about by the COVID-19 pandemic, the researcher chose a site that is already familiar and that data and initial information of the site that is relatively current (2018, 2019, and pre-lockdown 2020) is already at hand.
  - b. Data Gathering for the Case Study through:
    - i. Key Informant Interview (KII) of LGU Municipal Tourism Officer and DRRM Municipal Chairman (face-to-face & text and call communications)
    - ii. Focus Group Discussion with Barangay LGU and Key Community Personnel (face-to-face)
    - iii. Site Visits conducting and Initial Site Walk or Environmental Scanning
    - iv. (5a), (5b), and (5c) are all done prior to the COVID-19 pandemic situation, but when the pandemic hit, it has become extremely difficult to reconnect and communicate with them because:
      1. (5b.i) has a very tight schedule all throughout 2020 and currently still because of being the “front” of the frontliners
      2. (5b.ii) cannot go down to the town to catch a good reception/ mobile phone signal due to travel and quarantine restrictions; there are only limited areas where they can catch an intermittent mobile phone service at the site

other pandemic constraints

- c. Consequently, the application of the framework in the case study was only until the first half of the framework. Although the researcher intends to finish the case study but not after the safety protocols of the pandemic have been lifted.
6. The last parts of the study which are, Summary & Conclusions, and Recommendations, will reflect the researcher's evaluation of the framework, its applicability, limitations, and opportunities for future research.

## IX. RESULTS

Rural-upland communities in the Philippines suffer the most when disasters strike and when income from their main livelihood, which is mainly farming and extracting forest goods or water resource goods, consistently drops. The current laws pertaining to disasters and degradation in the country mostly contain measures that are reactive and do not address the underlying causes, such as in Disaster Risk Reduction and Management. In addition, the current guidelines for tourism and ecotourism development in the country do not include an in-depth investigation of the state of the site. Guidelines are more on the making of the Ecotourism Management Plans and that Ecotourism Planning Guidelines do not discuss the array of possible activities that can be associated with the current local conditions of the community. It means that in the perspective of planning and designing of ecotourism sites, should be the whole process of Site Inventory and Analysis in conjunction with Analysis of Appropriate Activities that not only provides enjoyment to the visitors and income to the locals but also to address the degradation of the site prior to ecotourism interventions. Another observed common trait that needs to be properly addressed is that people in rural communities are so used to their environment that they do not see the other values of it other than the productive-extractive value of resource goods that they can take and utilize. Their natural landscape, cultural beauty, and other ecosystem services are viewed as mundane and therefore, have no intrinsic value. This is where landscape architects are important because they are trained to see connections and evaluate appropriateness between each site characteristics and its corresponding proposed activity or utilization. Site characteristics refer to the whole attributes of the site, i.e., physical environment, socio-economic state, culture and

traditions, way of life, etc., while noting the “good” and the “bad” among those attributes.

This framework, therefore, intends for ecotourism to enhance current (or even eroding) culture and traditional activities of the local community. What is deemed degraded is to be rehabilitated, and activities for rehabilitation are to be integrated into ecotourism strategies but will not completely alter the “normal” of the community. On the other hand, what is deemed a “normal way of life” of the community will be enhanced by respectfully sharing these through ecotourism activities. This approach is in congruence as to what authentic ecotourism is.

Although there are government and NGO interventions such as the alternative livelihood programs that are well-meaning and gender-inclusive, people in rural-upland communities are slowly losing trust with these programs as they do not feel the sense of ownership to these ventures. Moreover, national policies and guidelines in terms of environmental and socio-economic intervention may not be applicable to most communities or, worse, may exacerbate their current conditions. In addressing this concern, the framework intends to work with the locals in the community and the municipal LGU all throughout the process.

### **Rural-Upland Rehabilitation Ecotourism Strategies Framework (RURES Framework)**

The following figure illustrates how the study will be conducted and be applied at a site scale. There RURES Framework starts with the chosen site. The theories

literatures reviews about degradation are to be integrated in relation to degradation characteristics of the site. This same integration is also applied on the topics around rural area issues and characteristics.

In using the Middle-out Approach, information about degradation and additional community profile and site characteristics are gathered and synthesized among the actors. The governing approach for this framework is the Middle-Out Approach, in which the middle-level is the instigator of the study. The Middle-out Approach serves as the synthesizer of information from degradation indicators, community profile and site characteristics, and ecotourism concepts and principles. The RURES Framework is composed of the following main actors:

- Top-Level Actors (municipal LGU, local municipal tourism officer, municipal disaster risk reduction and management chairman, and other interested sectors of the government). This is where reviewed policies, legislations, guidelines are applied.
- Middle-Level Actors (e.g., researchers, interested individuals and professionals, NGOs, etc.). This is where the other concepts and theories behind this framework are applied, and
- Bottom-Level Actors (barangay LGU, local community representative, local organizations, inhabitants, and business owners). Just like the Top-level Actors, the reviewed policies, legislations, guidelines are applied here.

The other concepts and models behind the RURES Framework are as follows:

- Concept of Ecological Planning Model (Van Riet and Cooks, 1990) wherein the social values of the natural resource/environment are considered. It means that

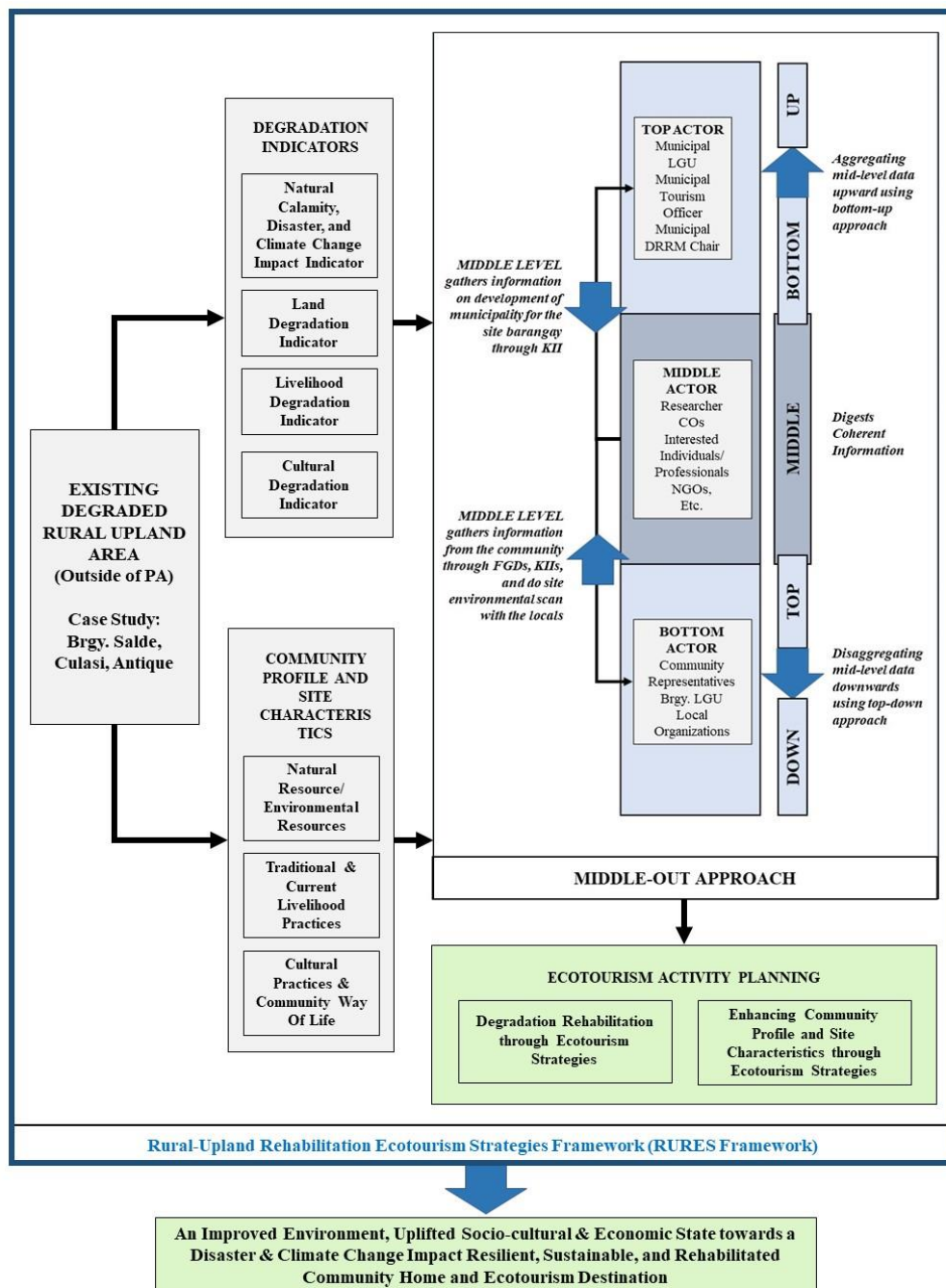
people are a part of nature; therefore, nature is valuable to humans. It gives importance to human activities in nature and how these activities must be planned properly to limit the impacts and sustain the value of the natural environment.

- Concept of Community-based Ecotourism (CBE) wherein the community should have control and involvement in the ecotourism project and that it is planned for them and the benefits should be directly and indirectly enjoyed by them.
- Concept of Ecological Landscape Masterplanning Framework (ELMF) by Mogul & Aquino-Ong (2016) wherein it implicitly accentuates the need for a framework or model to focus on a single site-scale or at the barangay-level of an upland community sustainability projects. Wherein ELMF and the Rationalized Authentic Ecotourism Activity Planning Framework complements each other, as ELMF focuses on the overall ecological landscape masterplanning of the whole provincial region. In this case, RURES Framework will come first before ELMF.
- Behavioral Theories in Relation to Environmental Damage (Fennel & Dowling, 2003) which are the absence of environmental ethics (if humans are given the appropriate environmental knowledge, they will react in an environmentally friendly way) and environmental ignorance (environmental disasters arise due to insufficient environmental research, education, understanding, and information).  
And
- The role of Landscape Architects as previously discussed.

The synthesized information is then integrated into the Ecotourism Activity Planning wherein rehabilitation and enhancement of community and site characteristics are planned as ecotourism activity strategies that will yield the goal of the site being: An Improved Environment, Uplifted Socio-cultural & Economic State

towards a Disaster & Climate Change Impact Resilient, Sustainable, and Rehabilitated Community Home and Ecotourism Destination.

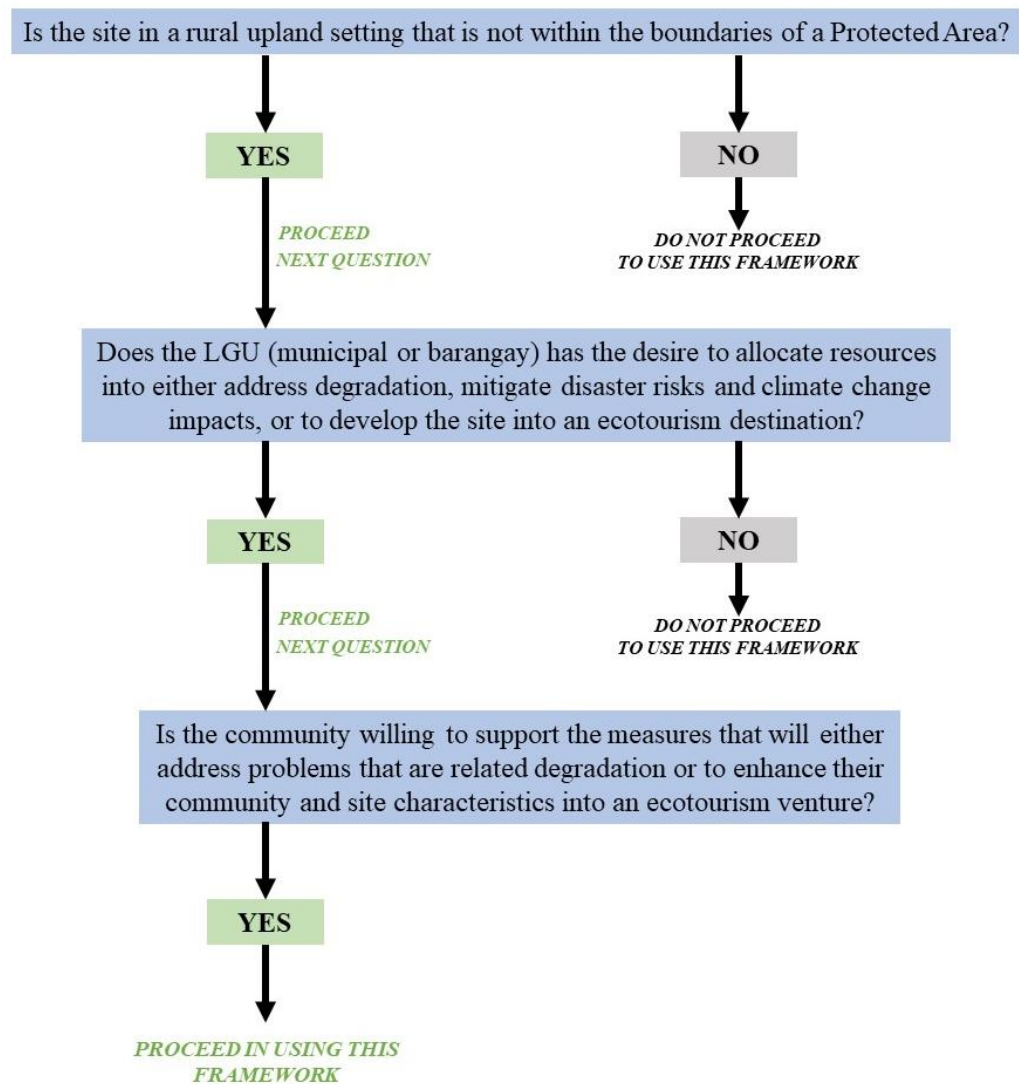
Figure 3. Rural-Upland Rehabilitation Ecotourism Strategies Framework (RURES Framework) Diagram.



***Preconditions/Prerequisites of the Framework When Applying at a Site-scale.*** There are three circumstances and conditions to consider prior to initiating plans using the RURES Framework – (1) the site must be in a rural upland setting that is not within the boundaries of a Protected Area, (2 & 3) Both the municipal LGU and the local community has a desire to develop an ecotourism plan for the rural upland site, or the municipal LGU/the local community has a desire to respond to the issues of degradation manifested in forms of disaster risk and climate change adaptation, alternative livelihood, environmental protection, and conservation programs, etc.

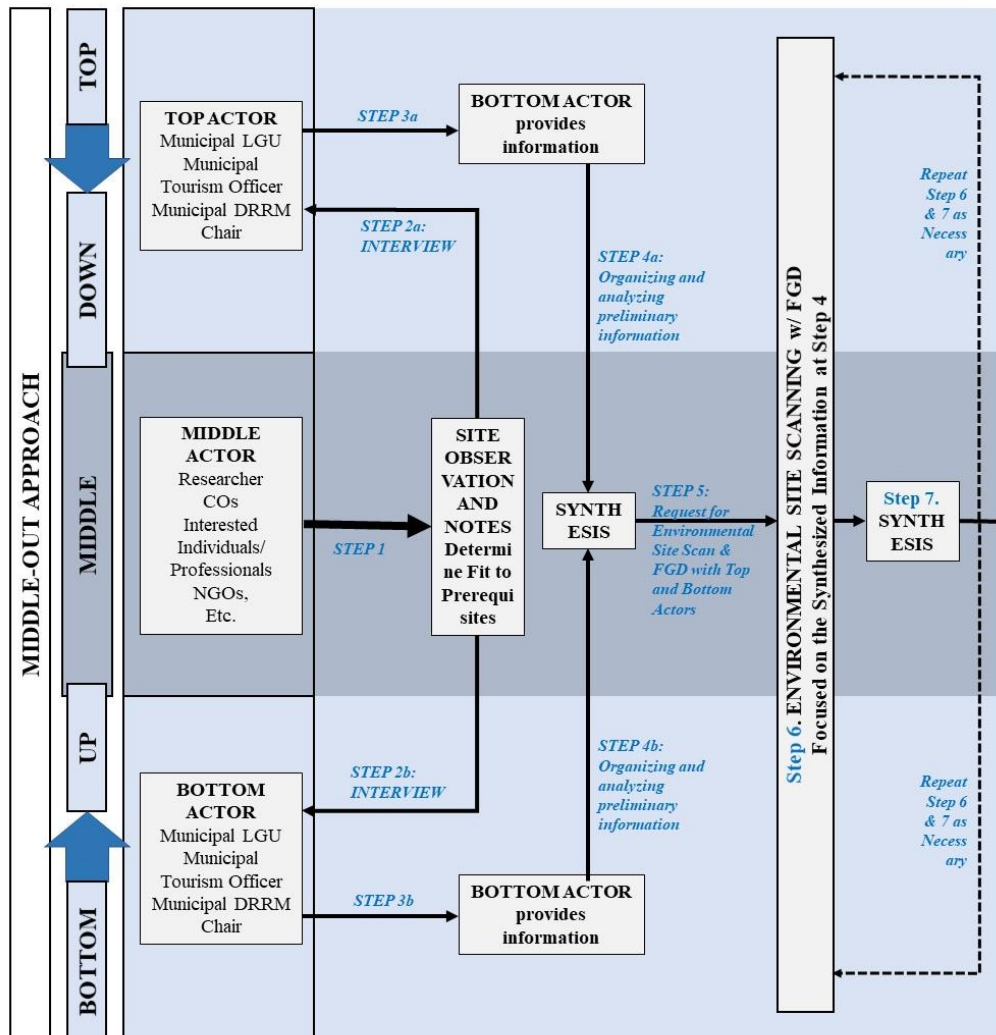
A licensed landscape architect is highly recommended to be part of the Middle-level Actor to produce two of the main expected outputs of the framework – (1) Site Inventory and Analysis Plan (2) Schematic Site Development Plan and Final Site Development Plan in conjunction with the RURES Framework. In addition, depending on what the site needs, other experts from other fields are also recommended to be part of the Middle-level Actors for more cohesive and integrative results.

Figure 4. Precondition to Using the RURES Framework.



## PHASE 1: Initial Site Investigation (Steps 1-5) and Environmental Scanning and Evaluation (Step 6-7)

Figure 5. RURES Framework PHASE 1.



### PHASE 1: Initial Site Investigation (Steps 1-5) and Environmental Scanning and Evaluation (Step 6-7)

**Step 1.** At the start of the study, the Middle Actor will conduct the initial observation of the site through online research or studies. Notes are taken.

**Step 2.** Middle Actor interviews the Top Actor and the Bottom Actor to ask and gather basic information from them.

**Step 3.** Aside from the usual basic profile of the site to be gathered and provided by the Top and Bottom Actors, the Middle Actor will determine if the site fits the first two Prerequisites of the Framework.

The following table (Table 1) shows basic information to gather as a supplement to the previous questions about preconditions for a target site to satisfy to apply the RURES Framework. It should be emphasized that involving a landscape architect at the beginning of the process is highly recommended.

**Table 1**

*Rural-Upland Area for RURES Framework Application Basic Criteria*

<b>LOCATION CRITERIA</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Is the community located outside the city?			
Is the community located outside the municipality's población?			
Does the community live in hilly, mountainous area or does the barangay have a hilly, mountainous area?			
<b>INITIAL OBSERVATIONS</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Do you notice signs or indicators of degradation?			
Do you see local features in terms of their landscape, flora and fauna, other natural features that struck you?			
Do you notice traditions, customs, local fashion, livelihood, local way of life that you find interesting?			
<b>INITIAL QUESTIONS FOR THE TOP &amp; BOTTOM ACTORS</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Does the Municipal LGU has future development plans for the site?			
Do the Brgy. LGU and the local community wanted their barangay to be enhanced, protected, rehabilitated, improved, developed, etc.?			

**Step 4.** The gathered basic information about the site and the community as provided by both the Top and Bottom Actors are then Synthesized by the Middle Actor.

**Step 5.** The Middle Actor requests for an Environmental Site Scanning together with the Top and Bottom Actors

**Step 6.** An Environmental Site Scan and a Focused Group Discussion (FGD) with the three Actors are conducted, focusing on the synthesized information at Step 4.

Information is gathered through Site Environmental Scanning and FGDs to be conducted with the Bottom and Top Actors. The following tables are not a survey questionnaire but a guide checklist (Table 2) of common degradation indicators and (Table 3) additional information to be added to the site community’s profile that the three Actors will note and discuss during the Site Environmental Scanning and FGDs activities (at Step 6). Tables 2 and 3 can still be modified by the future user depending on the situation and the needs of the Actors and the Site.

**Table 2**

*Common Degradation Indicators Checklist and Assessment*

<b>NATURAL CALAMITY, DISASTER, &amp; CLIMATE CHANGE IMPACT INDICATORS</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Increasing intensity of rainfall			
Flooding			
Landslides			
Loss of Lives due to natural calamities			
Loss of properties due to natural			

calamities			
Increasing incidence drought			
Increasing incidence of bushfire			
<b>LAND DEGRADATION INDICATOR</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Continued loss of vegetative cover, especially in the remaining patches of forest			
Loss of notable flora and fauna			
Presence of invasive exotic species			
Pest and disease outbreaks			
Reduced reliability, quantity, quality of water in rivers, lakes, and aquifers			
Loss of wetland habitats			
Loss of flood reduction environmental function			
Easily eroded soils			
Increased soil salinity, increased acidity, presence of metal or organic toxicity			
Depleted soil organic matter, surface sealing, compaction			
<b>LIVELIHOOD DEGRADATION INDICATOR</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Reduced biomass and persistent loss of vegetation productivity			
Reduced number of plants that provide food for herbivores			
Decreased crop yield			
Decreased yield in forest products			
Continued reduced income from farming			
Continued reduced income from fishing			
<b>CULTURAL DEGRADATION INDICATOR</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Reduced income leading to emigration			
Little to no job opportunities			
Erosion of traditional practices			
Reduced practice of traditional customs in planting and harvest			
Only the elders know traditional cooking and food preservation techniques			
Young people are not engaged in traditional livelihood			
Some of the young do not have the			

motivation to enjoy rural life			
loss in interest of younger generations in the traditional livelihood and cultural practices			
Cultural and traditional pastime games are replaced by digitalization			
Pronounced loss of cultural identity/traditional knowledge			
Drain in human capital			
<b>Additional Notes from the Community:</b>			
<b>Notes from the Researcher:</b>			

Additional concerns and problems that the community has experienced are to be written in the Additional Notes during the discussion; the researcher will also note some observations that are helpful for the study.

**Table 3**

*Additional Common Community Profile & Site Characteristics*

<b>NATURAL RESOURCE/ENVIRONMENT</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Water bodies (rivers, waterfalls, lakes, etc.)			
Land formation (hills, mountains, plains, etc.)			
Flora and Fauna (native)			
Renewable energy source			
<b>TRADITIONAL &amp; CURRENT LIVELIHOOD PRACTICES</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Agricultural practices			
Agroforestry			
Copra			
Piggery			

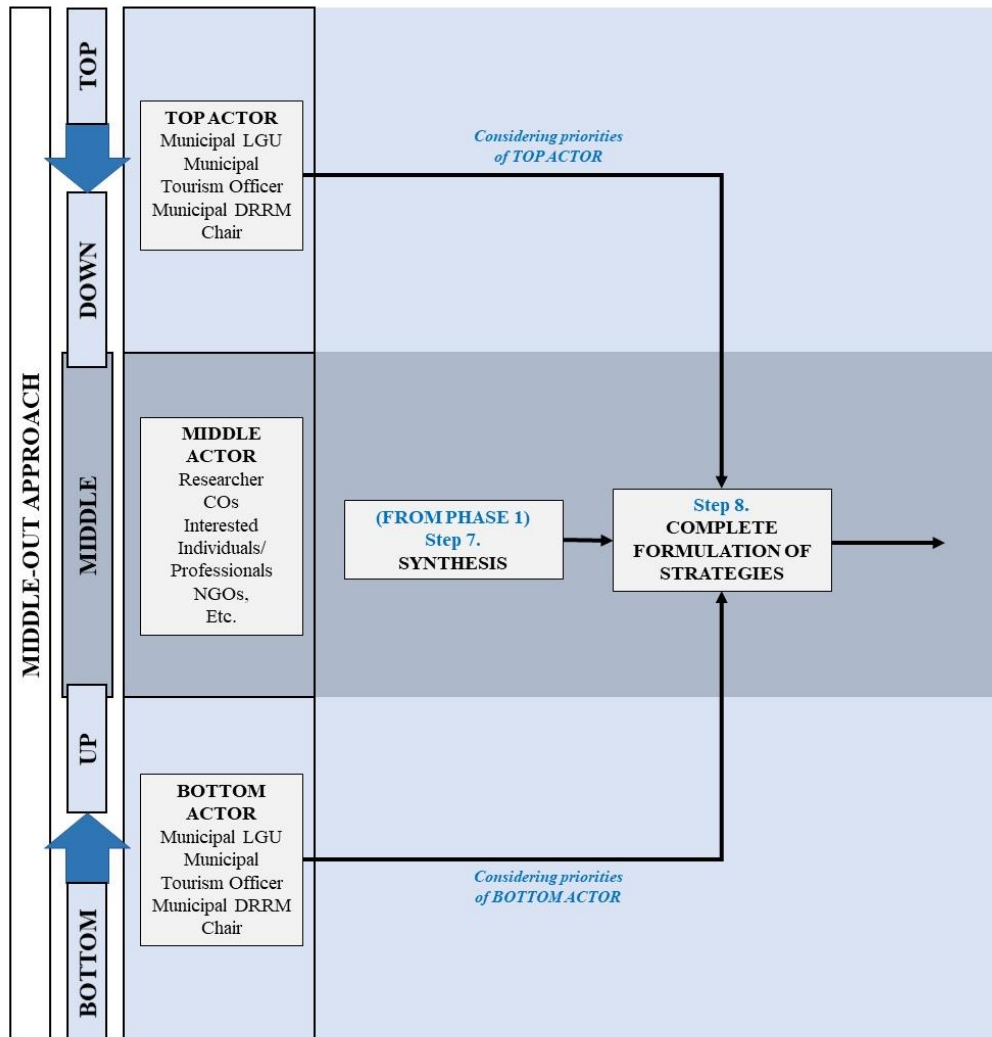
Hunting			
Fishing			
Forest goods extraction			
Bodies of water goods extraction			
Local businesses			
Farm-to-market goods			
Crafts			
Manufacturing			
<b>CULTURAL PRACTICES &amp; COMMUNITY WAY OF LIFE</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Historical Context			
Local Language			
Festivals/Fiestas			
Planting and Harvest traditions and practices			
Traditional Jobs like hilot, etc.			
Traditional medicine			
Religious activities			
Song and dance			
Traditional games			
<b>Additional Notes from the Community:</b>			
<b>Notes from the Researcher:</b>			

Just like in the previous table, any additional concerns and problems that the community has experienced are to be written in the Additional Notes during the discussion; the researcher will also note some observations that are helpful for the study.

**Step 7.** The discussions and observations from Step 6 will yield another Synthesis. The Actors can repeat Step 6 and 7 as necessary if the required data are not fully met.

## PHASE 2: Strategy Mapping (Step 8)

Figure 6. RURES Framework PHASE 2.



**PHASE 2: Strategy Mapping (Step 8)**

### **Step 8.** Formulation of the Ecotourism Activity Strategies by the Middle Actor.

The Middle Actor should consider the priorities of the Top and Bottom Actors. The following tables show the relationships and strategy details between Rehabilitation through Ecotourism Strategies (Table 4) and Community Profile and Site Characteristics Enhancement through Ecotourism Strategies (Table 5). Tables 4 and 5 can still be modified by the future user depending on the situation and the needs of

the Actors and the Site.

**Table 4**

*Degradation Rehabilitation through Ecotourism Strategies*

<b>INDICATORS DEGRADATION</b>	<b>OF</b>	<b>CAUSES</b> (Direct and Indirect)	<b>EFFECTS</b> (Direct and Indirect)	<b>PROPOSED ECOTOURISM ACTIVITY STRATEGY</b>
<b>NATURAL CALAMITY IMPACT INDICATOR</b>				
(enter item)				
<b>ENVIRONMENTAL DEGRADATION INDICATOR</b>				
(enter item)				
<b>LIVELIHOOD DEGRADATION INDICATOR</b>				
(enter item)				
<b>CULTURAL DEGRADATION INDICATOR</b>				
(enter item)				

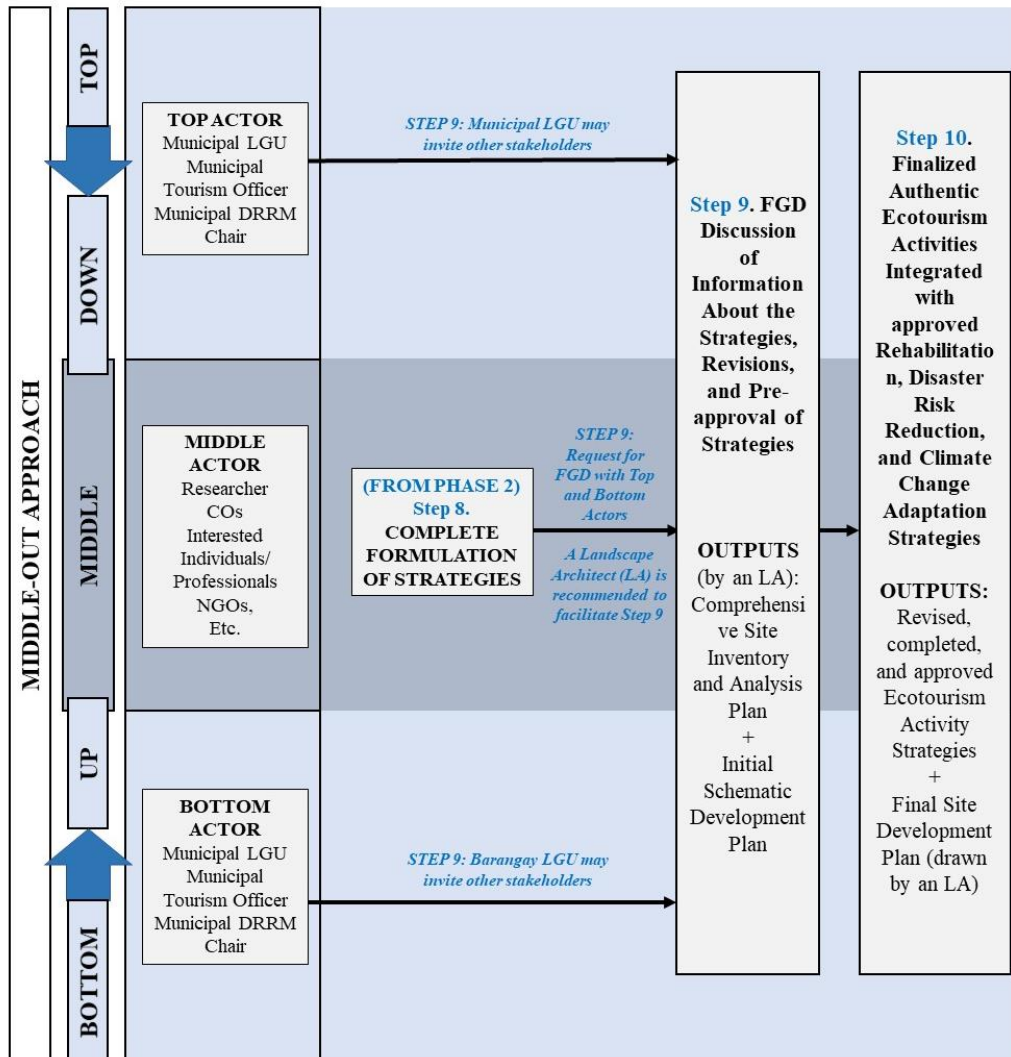
**Table 5**

*Community Profile Enhancement and Site Characteristics through Ecotourism Strategies*

<b>COMMUNITY PROFILE SITE CHARACTERISTICS</b>	<b>PROPOSED ECOTOURISM ACTIVITY STRATEGY</b>	<b>HOW &amp; WHERE</b>	<b>WHY &amp; WHO</b>
<b>NATURAL RESOURCE/ENVIRONMENT</b>			
(enter item)			
<b>TRADITIONAL &amp; CURRENT LIVELIHOOD PRACTICES</b>			
(enter item)			
<b>CULTURAL PRACTICES &amp; COMMUNITY WAY OF LIFE</b>			
(enter item)			

## PHASE 3: Strategy Discussions, Revisions, and Approval of Outputs (Steps 9-10)

Figure 7. RURES Framework PHASE 3.



### PHASE 3: Strategy Discussions, Revisions, and Approval of Outputs (Steps 9-10)

This is where the framework prior to implementation ends. Phase 4 starts after Implementation.

*The LGU (municipal and barangay) may use the outputs in proceeding to integrate it to their future Local Tourism Development Plans and other related development plans for the community and the barangay.*

**Step 9.** The Middle Actor will again schedule another FGD with the Top and Bottom Actors. The LGU may invite other stakeholders such as representatives from NGOs, Provincial DENR, DOT, etc.

In this step, a licensed landscape architect is highly recommended as he/she will facilitate and produce a comprehensive Site Inventory and Analysis Plan and the Initial Schematic Development Plan Outputs of the study. These are to be conducted during the FGD so that the Actors and other stakeholders are equipped to analyze information that they were providing and associating them with the resulting strategies and showing them how do the provided information be translated into an Initial Schematic Development Plan, with all the Actors participating in the pre-approval of the strategies and plans. Necessary revisions happen in this step.

**Step 10.** A finalized Authentic Ecotourism Activities Integrated with approved Rehabilitation, Disaster Risk Reduction, and Climate Change Adaptation Strategies manifested in two final outputs:

1. Revised, completed, and approved Ecotourism Activity Strategies extracted from the completed Table 4 (Degradation Rehabilitation through Ecotourism Strategies) and Table 5 (Community Profile Enhancement and Site Characteristics through Ecotourism Strategies)
2. Site Development Plan (drawn by a licensed Landscape Architect)

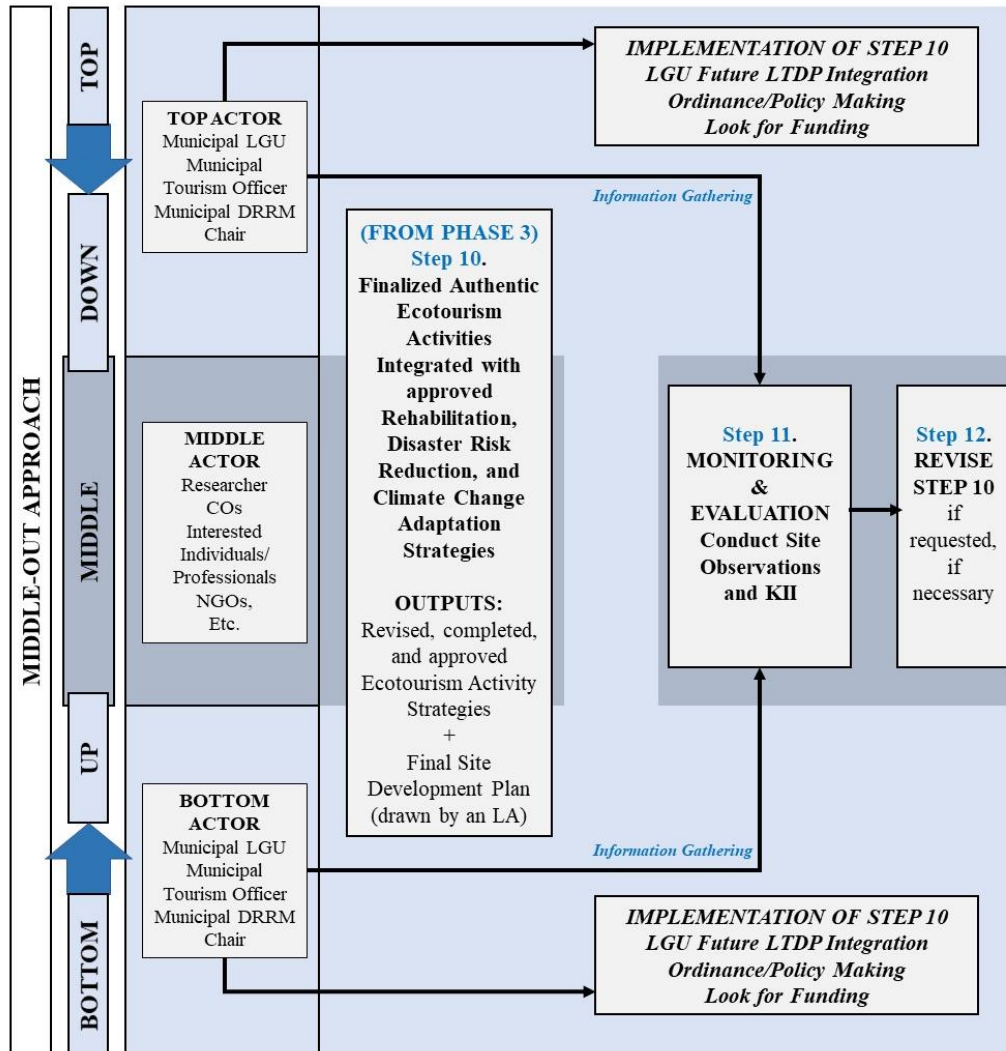
This is where the framework prior to implementation ends. The LGU (municipal and barangay) may use the outputs in proceeding to integrate them into their future Local Tourism Development Plans and other related development plans for the community and the barangay.

It was noted in the Scope and Delimitation Section of the Study that the formulated framework would not include the ecotourism development plan and implementation process of the specified site because the scope of the study only covers specific areas and site characteristics along with their proposed ecotourism strategies/activities that are to be considered in the process of drafting the LGU's Local Tourism Development Plan (LTDP). In the LTDP planning process, the outputs of the framework will help the barangay and the municipality LGU to determine whether the site can become an ecotourism site or not. Constraints to consider during this process includes active participation of everyone in the community, lack of funds, and unfavorable market study, among others. This means that if the output ecotourism strategies are prevented by the said constraints, then ecotourism is not the right tourism label for the destination.

Though the role of the Middle Actor ends here, the following steps are still advised to be pursued to monitor and evaluate the applicability of the framework to make necessary revisions.

## PHASE 4. Monitoring and Evaluation (Steps 11-12).

Figure 8. RURES Framework PHASE 4.



### PHASE 4: Monitoring and Evaluation (Steps 11-12).

Phase 4 starts after Implementation.

*After PHASE 3, the LGU (municipal and barangay) may use the outputs in proceeding to integrate it to their future Local Tourism Development Plans and other related development plans for the community and the barangay.*

**Step 11.** It was stated in the Scope and Delimitation Section of the Study that the formulated framework would not go into detail for M & E Indicators and Process because of the current limitations of the study.

This step is dedicated to gathering information from both the Top and Bottom Actors and doing site visits to evaluate and monitor the progress of the employed strategies and to note if there are indicators of success or failure. The Success Indicators will be based on the improvements of items in Tables 2 and 3.

**Step 12.** Revisions are to be made if the Top or Bottom Actors requests for changes pertaining to the two outputs in Step 10, provided that the information required leading to formulate and draw the two outputs did not significantly change. Otherwise, the process is repeated starting from Step 4.

## X. RESULTS AND DISCUSSIONS

### Case Study

To apply the formulated framework in an existing rural upland community site in the Philippines, the following Case Study was conducted. It explores the applicability of the RURES Framework by following the steps provided by the framework. In this research, the case study will be applied to Brgy. Salde, Culasi, Antique.

#### **PHASE 1: Initial Site Investigation (Steps 1-5) and Environmental Scanning and Evaluation (Step 6-7)**

**Step 1.** At the start of the study, the Middle Actor will conduct the initial observation of the site through online research or studies or other means. Notes are taken.

#### **The Middle Actor: The Researcher**

The Municipality of Culasi in the province of Antique has one ecotourism development that was initiated by the Local Municipal Tourism Office. This ecotourism site is in Malalison Island. It is a Community-based Tourism Enterprise now managed by a local cooperative – MICBETO.

Years after the establishment of Malalison Ecotourism Destination, the municipal LGU is again open to the idea of finding

a suitable site to be the next area to be developed as an ecotourism site. The initial proposed site is based on the initial discussions between the municipal and the barangay LGUs.

**Step 2.** Middle Actor interviews the Top Actor and the Bottom Actor to ask and gather basic information from them.

### ***The Site***

Barangay Salde is located on the island of Panay, under the Municipality of Culasi in the Province of Antique. Salde is the northernmost unbroken mountain range of Culasi.

Figure 9. 3D-Sattelite image of the extents of Brgy. Salde, Culasi, Antique, Philippines.



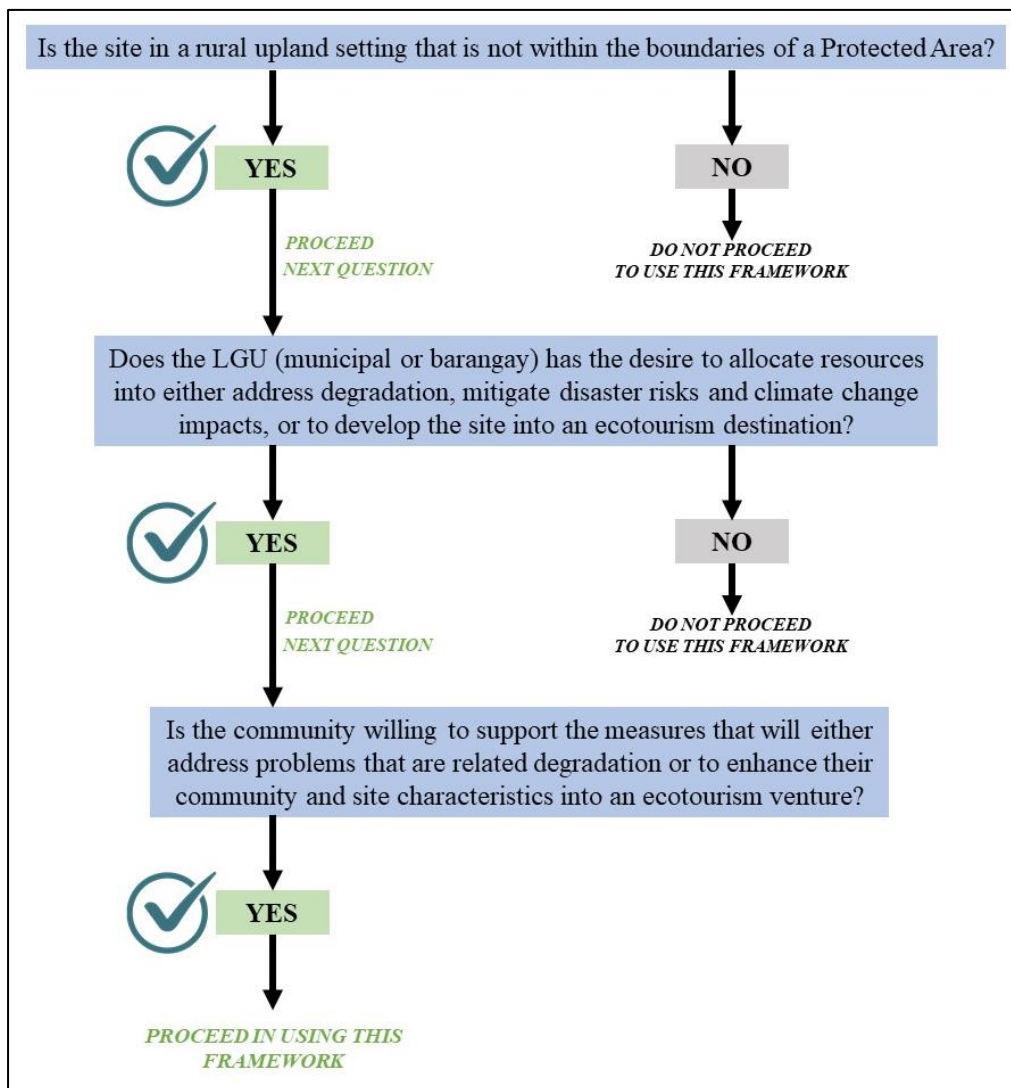
SOURCE: Base Map from Google Earth

According to the provided barangay data, Salde is ranked as the fastest-growing barangay with an annual growth rate of 10.35% in 2015. The livelihood of the community is largely dependent on

agriculture (rice, peanut, and corn) and introduced agroforestry (abaca, coffee, and coconut plantations).

**Step 3.** The researcher will determine if Salde fits the Prerequisites of the Framework by answering the decision tree as illustrated below.

Figure 10. Precondition to Using the RURES Framework – Salde, Culasi.



Then the researcher proceeds to gather additional information by noting significant basic characteristics of the site. The following table (Table 1) shows basic

information gathered as a supplement for the prerequisites in using the RURES Framework.

**Table 6**

*Rural-Upland Area for RURES Framework Application Basic Criteria – Salde, Culasi*

<b>LOCATION CRITERIA</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Is the community located outside the city?			
Is the community located outside the municipality's población?			
Does the community live in hilly, mountainous area or does the barangay have a hilly, mountainous area?			
<b>INITIAL OBSERVATIONS</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Do you notice signs or indicators of degradation?			Cogon Grass dominated land cover
Do you see local features in terms of their landscape, flora and fauna, other natural features that struck you?			Based on Photos Shown by the Tourism Officer, there are two notable waterfalls
Do you notice traditions, customs, local fashion, livelihood, local way of life that you find interesting?			Not Yet
<b>INITIAL QUESTIONS FOR THE TOP &amp; BOTTOM ACTORS</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Does the Municipal LGU has future development plans for the site?			As the Next Ecotourism Destination
Do the Brgy. LGU and the local community wanted their barangay to be enhanced, protected, rehabilitated, improved, developed, etc.?			The locals wanted to make their income more stable and sustainable

**Step 4.** The gathered basic information about Salde and the community as

provided by both the Top and Bottom Actors are then Synthesized by the Researcher.

### **Climatic Conditions.**

The rainy season (May to February) and dry seasons (March to April) are the two distinct seasons in the area. A higher precipitation rate is experienced due to the high topography of the area.

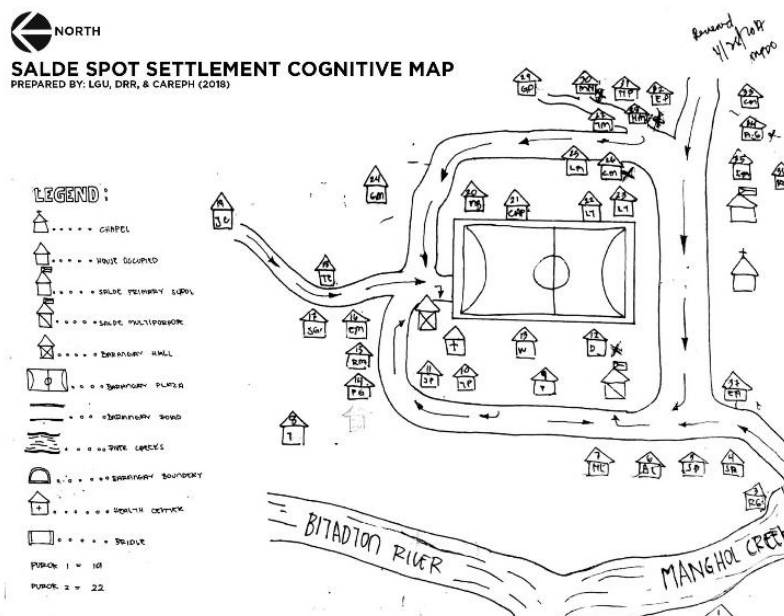
### **Site Characteristics**

Salde is home to an array of native flora, most found in the forested areas of Panay Island.

### **Maps Provided**

Below is the provided Spot Settlement Cognitive Map

Figure 11. Spot Settlement Cognitive Map of Barangay Salde, Culasi, Antique.

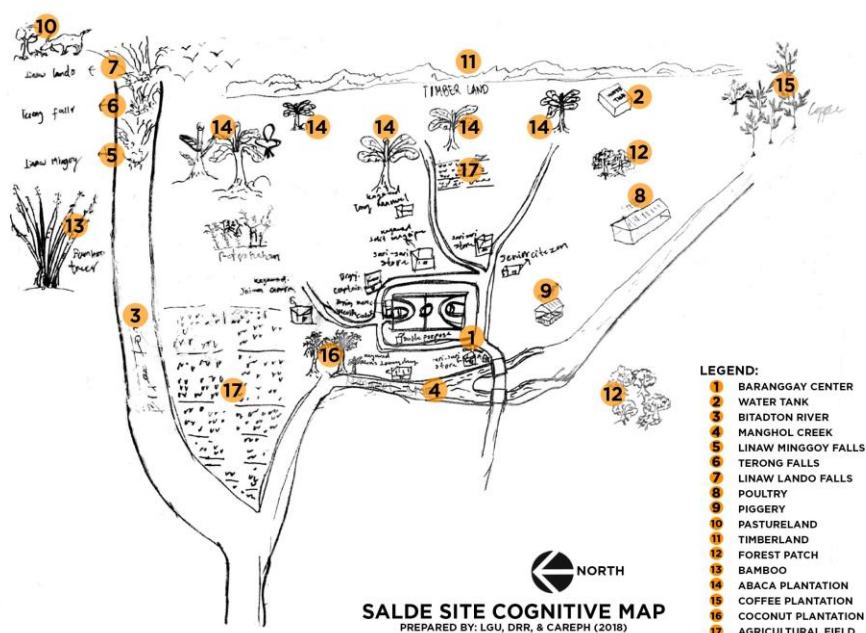


SOURCE: LGU Document (enhanced by the author)

According to this cognitive map, the settlement is clustered around the barangay proper, and individual homes of families are scattered in relation to the location of the land that they own.

Below is the Site Cognitive Map of Salde wherein it illustrates the Environmental and Physical Profile of Salde in relation to the existing livelihood and natural resources present in the area.

Figure 12. Site Cognitive Map of Barangay Salde, Culasi, Antique.



SOURCE: Enhanced LGU Document.

From the cognitive map above, it was determined that there are three existing major waterfalls near the peak of the River Bitadton.

### **Economic Profile**

As per the data provided, it was deduced that Salde has no other sources of income that could sustain the needs of the community once disaster strikes. Household income is very low during the months of February, April, and June; low during the

months of August and September; moderate during the months of January, July, and November; moderate to high during the months of March, May, and October; and high during December. This data was from a 2018 LGU document derived from a previous NGO intervention/capacity building at Salde.

***Identified Strengths, Weaknesses, Opportunities, Threats of Salde***

The following information is part of the data gathered as provided by the community LGU. The identified Strengths, Weaknesses, Opportunities, and Threats were made by them with the aid of an NGO, Care Philippines. The initial SWOT will not be analyzed by the researcher as this will only serve as initial guiding information prior to the site analysis that is to be done together with the community using the RURES Framework.

**STRENGTHS:**

- Peaceful community
- Sense of order
- Natural resources are not yet depleted but remain relatively productive
- Community act as one
- Respect among the community members
- Existence of the farm-to-market road
- Water is abundant
- No population problem
- There is an existing Barangay Disaster Risk Reduction Management Council

## WEAKNESSES

- No barangay car service or emergency response vehicle
- Only Primary School is existing
- Not accessible to health services
- Risks to disasters, location-wise
- Not enough communication equipment and search and rescue equipment for emergency purposes
- Small capacity evacuation area and chapel

## OPPORTUNITIES

- Potential for ecotourism
- Good quality municipal, provincial, and national roads
- Rich in biodiversity
- Presence of professionals
- Abaca production

## THREATS

- Insurgency
- Disasters
- Typhoons
- Landslides
- Bushfire
- Harsh Monsoon Winds
- Presence of rift or tension crack from the previous earthquake in 1990
- Illegal logging
- Illegal fishing techniques at the river
- Emigration due to lack of better source of income
- Presence of “kuhol” infestation

### ***Historical Context of Causes of Degradation***

- Prior to log bans. Logging practices significantly reduced forest covers of Salde.
- 1958. There was a fire that ravaged half of the barangay added to it was the strong monsoon wind that fueled the fire. The men in the community were, unfortunately, working in sugarcane farms in Negros and were not present to help quell the fire.
- 1984-1995. There was an insurgency event that led to the declaration of Salde as a “No Man’s Land”.
- 1990. An Earthquake occurred with a strong magnitude that caused landslides, a 50-meter long rift/tension crack on the ground, and rivers were covered with soil from the landslide.
- 1996. Peace and Order was restored. People went back to Salde for resettlement.
- 2008. Typhoon Frank caused a lot of damage to properties and homes.
- 2013. Typhoon Yolanda destroyed 95% of homes.
- 2015. El Niño caused damage and financial loss to the livelihood of the community.
- There were periodic landslides and bushfires that happen many times every year.

**Step 5.** The Researcher requested an Environmental Site Scanning together with the Top and Bottom Actors. Environmental Scanning is to be done in a series, at multiple times in a year, as per the availability of all the Actors.

**Environmental Site Scanning** participated by the researcher, and her companion, together with the Brgy. Salde LGU (Brgy. Captain and Kagawads) and the Culasi Tourism Office and DRRM Office Staff on:

Figure 13. October 26, 2019 Date Photos.



Figure 14. March 10, 2020 Date Photos.



Figure 15. March 11, 2020 Date Photo.



Due to the pandemic limitations, only three site visits were conducted. The last site visit was accompanied by the members of Philippine Native Tree Enthusiasts – Panay Chapter.

**Step 6.** An Environmental Site Scan and a Focused Group Discussion (FGD)

with the three Actors are conducted, focusing on the synthesized information at Step 4.

Information is gathered through Site Environmental Scanning and FGDs to be conducted by the Middle Actor together with the Bottom and Top Actors. The three Actors will note and discuss during the Site Environmental Scanning and FGDs activities community and site characteristics, issues, and needs using the Tables for Step 6 as a guide.

***Degradation Indicators as Identified by the Community are***

- low and unstable income from existing livelihood and alternative agricultural livelihood programs
- the low production yield of farms
- a decline in river resource yield
- changes in soil fertility
- dwindling forest cover
- Cogon grass-dominated land cover
- forest land-use conversion and intensive land use
- soil erosion and landslides
- river sedimentation
- an infestation of local snail
- vulnerability to disasters, and
- emigration, etc.

**Table 7**

*Common Degradation Indicators Checklist and Assessment – Salde, Culasi*

<b>NATURAL CALAMITY, DISASTER, &amp; CLIMATE CHANGE IMPACT INDICATORS</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Increasing intensity of rainfall			Especially during Typhoon Season
Flooding			At Manghol Creek
Landslides			Most Recent at near peak of Manghol Creek
Loss of lives due to natural calamities			
Loss of properties due to natural calamities			
Increasing incidence drought			Some owned farmland were decided to stop farming practices due to irrigation problems
Increasing incidence of bushfire			Usually at the mountains due to people from the next barangay throwing cigarettes at the cogon covered land and they deliberately burn Cogon for their animals to roam
<b>LAND DEGRADATION INDICATOR</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Continued loss of vegetative cover, especially in the remaining patches of forest			<i>To Be Verified</i>
Loss of notable flora and fauna			<i>To Be Verified</i>
Presence of invasive exotic species			Golden kuhol destroying crops
Pest and disease outbreaks			Kuhol as pest
Reduced reliability, quantity, quality			Only during

of water in rivers, lakes, and aquifers			summer, the waterfalls dry out
Loss of wetland habitats			Not Applicable
Loss of flood reduction environmental function			Evident of the occurring landslides
Easily eroded soils			On sloped areas and some areas beside the rivers
Increased soil salinity, increased acidity, presence of metal or organic toxicity			<i>To Be Verified</i>
Depleted soil organic matter, surface sealing, compaction			Especially in farmlands
<b>LIVELIHOOD DEGRADATION INDICATOR</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Reduced biomass and persistent loss of vegetation productivity			
Reduced number of plants that provide food for herbivores			<i>To Be Verified</i>
Decreased crop yield			
Decreased yield in forest products			
Continued reduced income form farming			
Continued reduced income from fishing			Also shrimp catch
<b>CULTURAL DEGRADATION INDICATOR</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Reduced income leading to emigration			Indirect effect
Little to no job opportunities			
Erosion of traditional practices			<i>To Be Verified</i>
Reduced practice of traditional customs in planting and harvest			<i>To Be Verified</i>
Only the elders know traditional cooking and food preservation techniques			<i>To Be Verified</i>
Young people are not engaged in traditional livelihood			<i>To Be Verified</i>
Some of the young do not have the motivation to enjoy rural life			<i>To Be Verified</i>
Loss in interest of younger generations in the traditional livelihood and cultural practices			<i>To Be Verified</i>
Cultural and traditional pastime games are replaced by digitalization			<i>To Be Verified</i>

Pronounced loss of cultural identity/traditional knowledge			<i>To Be Verified</i>
Drain in human capital			<i>To Be Verified</i>
<b>Additional Notes from the Community:</b>			
<b>Notes from the Researcher:</b> Items remarked as To Be Verified are items that the community has no official record of, only assumptions of Maybe. In this instance, another set of interviews should be conducted with elderlies and the younger demographics of the barangay.			

**Table 8**

*Additional Common Community Profile & Site Characteristics – Salde, Culasi*

<b>NATURAL RESOURCE/ENVIRONMENT</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Water bodies (rivers, waterfalls, lakes, etc.)			3 major Waterfalls, 2 Rivers, and minor natural water features at the rivers
Land formation (hills, mountains, plains, etc.)			Antique Mountain Range overlooking the West Philippine Sea
Flora and Fauna (native)			Many identified notable native species of trees and other plants. Birds are also present, but species Need to be Verified.
Renewable energy source			To Be Verified
<b>TRADITIONAL &amp; CURRENT LIVELIHOOD PRACTICES</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Agricultural practices			Intercropping
Agroforestry			Abaka
Copra			

Piggery			
Hunting			To Be Verified
Fishing			
Forest goods extraction			For Firewood and Food
Bodies of water goods extraction			Shrimp and freshwater shells
Local businesses			To Be Verified
Farm-to-market goods			To Be Verified
Crafts			To Be Verified
Manufacturing			To Be Verified
<b>CULTURAL PRACTICES &amp; COMMUNITY WAY OF LIFE</b>	<b>YES</b>	<b>NO</b>	<b>REMARKS</b>
Historical Context			
Local Language			Kinaray-a
Festivals/Fiestas			
Planting and Harvest traditions and practices			
Traditional Jobs like hilot, etc.			To Be Verified
Traditional medicine			To Be Verified
Religious activities			
Song and dance			To Be Verified
Traditional games			To Be Verified
<b>Additional Notes from the Community:</b> They do not want ecotourism to be their main livelihood. They just want to have an alternate source of income that will not destroy their land.			
<b>Notes from the Researcher:</b> There still many items that needs to be verified with the Key informants from the community.			

**Step 7.** The Actors can repeat Step 6 and 7, as necessary. This happens if required information is not fully met. In the case of Salde, the environmental scanning activity with its corresponding FGD still needs to be repeated as the gathered information is still very general and still lacking.

Unfortunately, the Case Study application ended here due to the constraints caused by the COVID-19 pandemic. The researcher did not have a chance to convene with the concerned locals and LGU representatives to carry out the Finalized Synthesis for Step 7 as there are still items yet to be verified. However, the researcher

listed the initial proposed Strategy Themes for Step 8 that embody the characteristics of authentic ecotourism. These are only examples of themes for further exploration once the needed data and information are available. PHASE 3: Strategy Discussions, Revisions, and Approval of Outputs (Steps 9-10) and PHASE 4. Monitoring and Evaluation (Steps 11-12) are also not carried out.

## **PHASE 2: Strategy Mapping (Step 8)**

**Step 8.** Formulation of the Ecotourism Activity Strategies by the Researcher. The Middle Actor should consider the priorities of the Top and Bottom Actors. As per the abovementioned, the following tables, (Table 4) Rehabilitation through Ecotourism Strategies and (Table 5) Community Profile and Site Characteristics Enhancement through Ecotourism Strategies, are not yet available for synthesis because the information needed is yet to be gathered. This was halted because of the constraints of the pandemic.

**Table 9**

*Degradation Rehabilitation through Ecotourism Strategies – Salde, Culasi*

<b>INDICATORS OF DEGRADATION</b>	<b>CAUSES (Direct and Indirect)</b>	<b>EFFECTS (Direct and Indirect)</b>	<b>PROPOSED ECOTOURISM ACTIVITY STRATEGY</b>
<b>NATURAL CALAMITY IMPACT INDICATOR</b>			
Increasing intensity of rainfall	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS
Flooding			
Landslides			
Loss of Lives due to natural calamities			
Loss of properties due to natural calamities			
Increasing incidence drought			
Increasing incidence of bushfire			
<b>ENVIRONMENTAL DEGRADATION INDICATOR</b>			
Continued loss of vegetative cover, especially in the remaining patches of forest	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS
Loss of notable flora and fauna			
Presence of invasive exotic species			
Pest and disease outbreaks			
Reduced reliability, quantity, quality of water in rivers, lakes, and aquifers			
Loss of wetland habitats			
Loss of flood reduction environmental function			
Easily eroded soils			
Increased soil salinity, increased acidity, presence of metal or organic toxicity			
Depleted soil organic matter, surface sealing, compaction			

<b>LIVELIHOOD DEGRADATION INDICATOR</b>									
Reduced biomass and persistent loss of vegetation productivity		NO DATA YET DUE TO PANDEMIC CONSTRAINTS			NO DATA YET DUE TO PANDEMIC CONSTRAINTS			NO DATA YET DUE TO PANDEMIC CONSTRAINTS	
Reduced number of plants that provide food for herbivores									
Decreased crop yield									
Decreased yield in forest products									
Continued reduced income from farming									
Continued reduced income from fishing									
<b>CULTURAL DEGRADATION INDICATOR</b>									
Reduced income leading to emigration		NO DATA YET DUE TO PANDEMIC CONSTRAINTS			NO DATA YET DUE TO PANDEMIC CONSTRAINTS			NO DATA YET DUE TO PANDEMIC CONSTRAINTS	
Little to no job opportunities									
Erosion of traditional practices									
Reduced practice of traditional customs in planting and harvest									
Only the elders know traditional cooking and food preservation techniques									
Young people are not engaged in traditional livelihood									
Some of the young do not have the motivation to enjoy rural life									
Loss in interest of younger generations in the traditional livelihood and cultural practices									
Cultural and traditional pastime games are replaced by digitalization									
Pronounced loss of cultural identity/traditional knowledge									

**Table 10**

*Community Profile Enhancement and Site Characteristics through Ecotourism Strategies – Salde, Culasi*

<b>COMMUNITY PROFILE SITE CHARACTERISTICS</b>	<b>PROPOSED ECOTOURISM ACTIVITY STRATEGY</b>	<b>HOW &amp; WHERE</b>	<b>WHY &amp; WHO</b>			
<b>NATURAL RESOURCE/ENVIRONMENT</b>						
Water bodies (rivers, waterfalls, lakes, etc.)						
Land formation (hills, mountains, plains, etc.)	NO DATA YET DUE TO PANDEMIC CONSTRAINTS					
Flora and Fauna (native)						
Renewable energy source						
<b>TRADITIONAL &amp; CURRENT LIVELIHOOD PRACTICES</b>						
Agricultural practices						
Agroforestry	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS			
Copra						
Piggery						
Hunting						
Fishing						
Forest goods extraction						
Bodies of water goods extraction						
Local businesses						
Farm-to-market goods						
Crafts						
Manufacturing						
<b>CULTURAL PRACTICES &amp; COMMUNITY WAY OF LIFE</b>						
Historical Context				NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS	NO DATA YET DUE TO PANDEMIC CONSTRAINTS
Local Language						
Festivals/Fiestas						
Planting and Harvest traditions and practices						
Traditional Jobs like hilot, etc.						
Traditional medicine						
Religious activities						
Song and dance						
Traditional games						

Although the Syntheses for Step 8, Formulation of the Ecotourism Activity Strategies Mapping, cannot proceed as of this time, the following are the lists of general Ecotourism Strategy Themes that can be explored once the data for the previous Steps become available. These general strategy themes may be applicable to all three areas of ecotourism – Natural Resource/Environment, Traditional & Current Livelihood Practices, and Cultural Practices and Community Way of Life.

***Initial General Ecotourism Strategy Themes***

**Strategy Theme 1.** Nature Appreciation and Other Low-Impact Recreational Activities

**Strategy Theme 2.** Authentic Ecotourism

**Strategy Theme 3.** Riverine Adventure Trail and Zero-Challenge Trail

**Strategy Theme 4.** Natural Regeneration through Zoning of Public Access

**Strategy Theme 5:** Ecotourism Farming and Other Local Livelihood

**Strategy Theme 6.** Rainforestation Farming Technology

**Strategy Theme 7.** Existing Plantations' Sustainable Practices & Future Rented Agroforestry

**Strategy Theme 8.** Native Plant Nursery (As Supplier)

**Strategy Theme 9.** Visitor Tree Adoption Programs

**Strategy Theme 10.** Technology Training Center for Bamboo Products for Construction Use

**Strategy Theme 11.** Non-Wood Forest Products (Home Accessories, Fashion, Landscape Architectural, Architectural, and Interior Design Elements made from Local Materials Easily Found in Nature

**Strategy 12.** Showcasing Traditional Knowledge for Native Edible Plants and Promoting Local Food

**Strategy 13.** Educational Strategies involving Local Knowledge Systems as in a mini-native botanic garden, publications, etc.

**PHASE 3: Strategy Discussions, Revisions, and Approval of Outputs (Steps 9-10) and PHASE 4. Monitoring and Evaluation (Steps 11-12).**

Phase 3 and Phase 4 data are not yet available; that is why Steps 9-12 cannot be carried out due to the constraints of the pandemic.

Nevertheless, it was deemed apt to show some of the incomplete, initial raw data collected during the Environmental Site Scanning. Such are clips of location maps, illustrating photos of the route that the three Actors took during the conducted site environmental scanning and the initial list of the flora that has been identified on site. These are just a small component of the overall Site Inventory and Analysis Output of Step 9 of the RURES Framework. The raw location maps with corresponding site photos and the existing plant list attempt to illustrate the initial extent of the Salde's resources.

The following are examples of raw data taken during the Environmental Site Scanning activities conducted by the Middle, Bottom, and Top Actors.

Figure 16. Brgy. Salde Environmental Scanning Locator Map.



The colored highlighted parts in the Salde map above illustrates the areas where the Actors have been.

The succeeding images illustrate sample raw data photo snippets gathered. The black dots are area clusters where the Actors are located during the day visit. Data gathered during these activities are to be drawn and mapped into a synthesized in a Site Inventory and Analysis Plan Output as indicated in Step 9 of the framework. As mentioned, Step 6 and 7 of the frameworks is not yet finished and is expected to continue and be repeated and completed once the pandemic restrictions are over.

Figure 17. Brgy. Salde Environmental Scanning Locator Map – October 26, 2019.

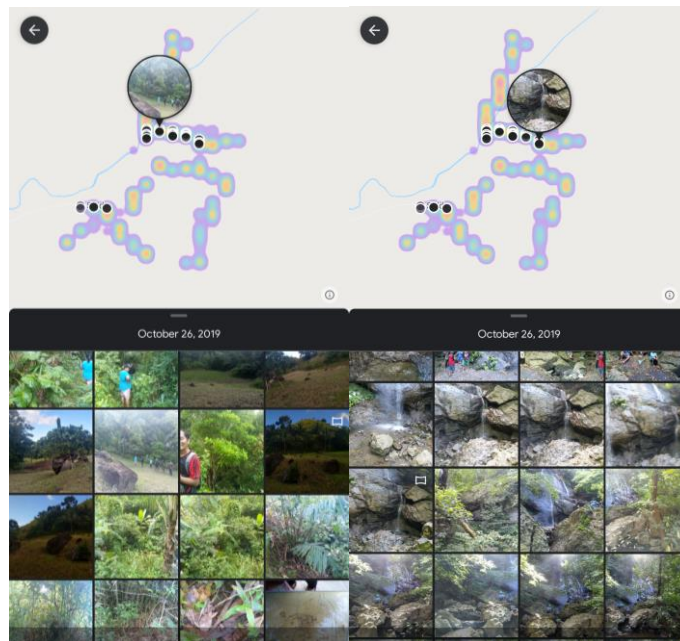


Figure 18. Brgy. Salde Environmental Scanning Locator Map – March 10, 2020.



Figure 19. Brgy. Salde Environmental Scanning Locator Map – March 11, 2020 (Route A).

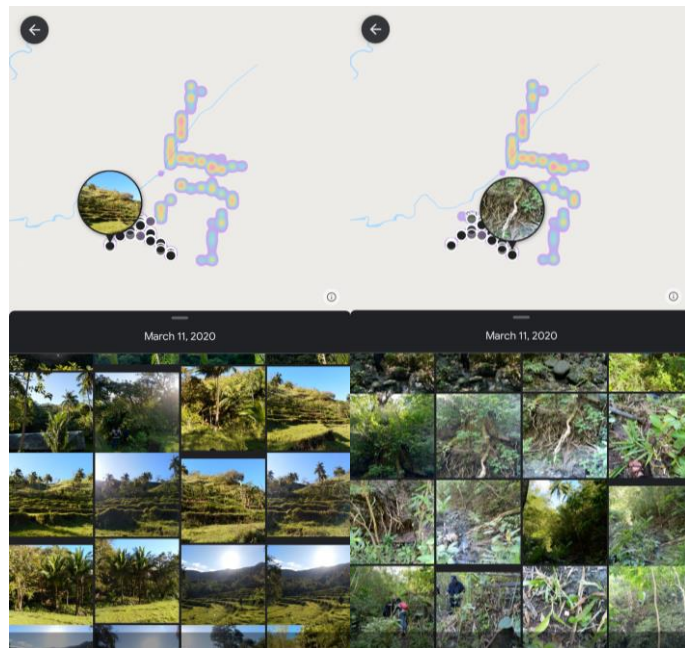
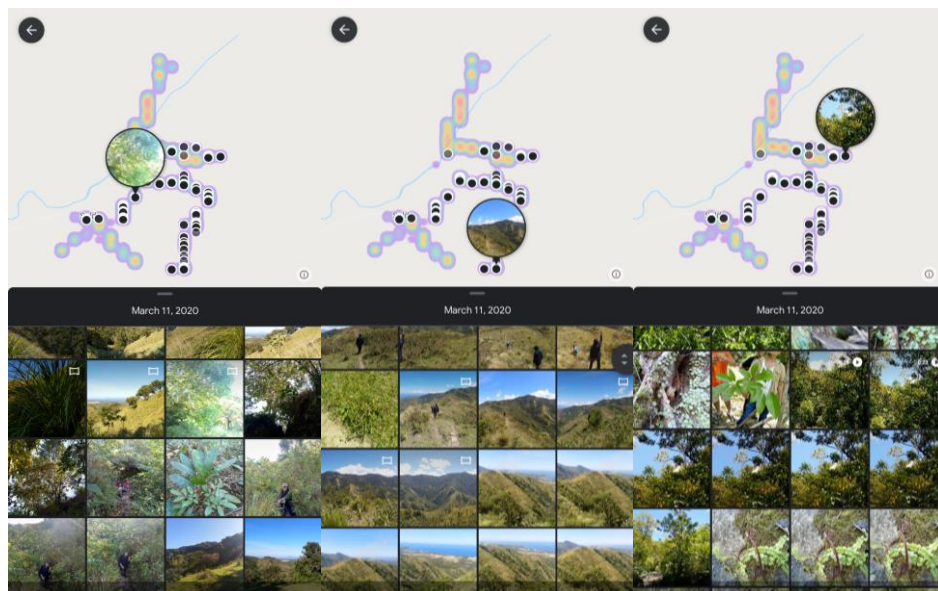


Figure 20. Brgy. Salde Environmental Scanning Locator Map – March 11, 2020 (Route B).



The following initial plant list will be used for further study with regards to their site-ecological importance, reforestation appropriateness, utilization as forest products, as construction material, or as landscape planting material, among others.

Figure 21. Brgy. Salde Initial Plant List Identified during the Environmental Scanning – March 11, 2020.

**IDENTIFIED TREES DURING THE SALDE TRAIL HIKE**

<b>NATIVE</b>		
	<b>Scientific Name</b>	<b>Local Name</b>
33	<i>Alphitonia excelsa</i>	
27	<i>Alstonia macrophylla</i>	Batino
28	<i>Alstonia scholaris</i>	Dita, Bitá
29	<i>Amorphophallus sp.</i>	
9	<i>Antidesma ghaesembilla</i>	Inyam
31	<i>Ardisia squamulose</i>	Tagpo
11	<i>Aristolochia sp.</i>	
12	<i>Bischofia javanica</i>	Toog, Tuai
24	<i>Bridelia sp.</i>	
4	<i>Buchanania arborescens</i>	An-an
1	<i>Cratoxylum formosum</i>	Salinggogon, Panguringon
25	<i>Dischidia platyphylla</i>	
21	<i>Dysoxylum gaudichaudianum</i>	Igyo
34	<i>Ficus pseudopalma</i>	Lubi-lubi, Niyog-niyogan
17	<i>Ficus septica</i>	Hawili, Labnog
5	<i>Glochidion sp.</i>	
18	<i>Gymnostoma sp.</i>	Ayu
13	<i>Leucosyke capitellata</i>	
19	<i>Macaranga tanarius</i>	Binunga
20	<i>Melanolepis multiglandulosa</i>	Alim
32	<i>Melastoma malabathricum</i>	Malatungaw, Centungaw
30	<i>Micromelum minutum</i>	
26	<i>Morinda coreia</i>	
6	<i>Mussaenda philippinensis</i>	
14	<i>Neonauclea formicaria</i>	Babalod, Himbabalod
15	<i>Neonauclea sp.</i>	Kuruntingan
2	<i>Polyscias nodosa</i>	Malapapaya
16	<i>Premna odorata</i>	Adgaw, Alagau
23	<i>Psychotria sp.</i>	
22	<i>Pterospermum obliquum</i>	Bayok
8	<i>Radermarchera sp.</i>	
3	<i>Semecarpus cuneiformis</i>	Anagas
7	<i>Sterculia foetida</i>	Bubog, Kalumpang
10	<i>Syzygium cumini</i>	Lomboy
<b>NON-NATIVE</b>		
	<b>Scientific Name</b>	<b>Local Name</b>
2	<i>Leucena leucocephala</i>	Ipil-ipil
1	<i>Piper aduncum</i>	Imelda

SOURCE: List Consolidated by botanist Derek Bagonoc

## **XI. RECOMMENDATION AND CONCLUSION**

Rural upland communities are the most affected of the impacts of degradation, including the impacts from disasters and climate change. Indigenous peoples possess valuable knowledge on how to take care of the environment and arrest degradation. However, most human activities and interventions are drivers of degradation. Examples are mislabeled ecotourism sites that do not adhere to the principle of ecotourism. There are many strategies that attempt to address degradation, but this study intends to formulate a framework that integrates ecotourism activities with rehabilitation measures and sustainable effects. Ecotourism activities aims to enhance and support traditional practices, way of life, source of livelihood, and other local community characteristics.

The researcher used qualitative research for this study with a corresponding case study to check the applicability of the framework. It works on a site-scale, and the output of the framework are the approved ecotourism strategies and a Site Development Plan that can be used outside of the framework (implementation), mainly in the planning for future Tourism Development Plans of the LGU. The Middle-Out Approach was used as the main method in synthesizing information gathered for the framework application. It heavily intends to involve participation from both the community (Bottom-level Actor) and the municipal LGU (Top-level Actor).

Although the case study was not finished, the formulated RURES framework is still applicable for use in the continuance of this study. Frameworks, in general, are tools that segment processes, but data gathered are not lost and are still usable for

when it is time to continue the process. This is the reality of things, especially for government projects and community projects that face many constraints such as financial, manpower, and reallocation of resources, etc. Projects tend to sleep, but if a framework is there, those involved in the planning of projects such as this one can just continue where the project was left off. Of course, there will be changes in the data as time passes but the direction and intent of what the framework wants to lead the project to still holds.

The RURES Framework is recommended to be used in ecotourism planning prior to their formulation of the LGU's Local Tourism Development Plan and Management Plan of Tourism Areas because the framework determines the present conditions of the site and how are each of those conditions is utilized to be an authentic tourism development while attempting to rehabilitate degraded lands and address impacts of disasters and climate change. It will also aid the local community and the LGU in determining if the label of ecotourism is the right fit for the chosen site destination.

Funding is one of the primary constraints in the application of this study as it needs various experts and landscape architects to produce the outputs of the framework. It is thus urged that the local communities and LGUs ask assistance from various landscape architectural arms – the academe, the local organization, and the corporate entities.

The framework can be used in a different case study, and that the elements in the tables of the framework that were used as a guide can be modified as per the site's circumstance and setting.

It is also recommended for future researchers to do an additional section in the framework, i.e., the Criteria and Indicators for Monitoring & Evaluation.

If the RURES Framework is applied in areas where the locals speak a different language, it is recommended for the future researcher or users to translate the framework according to the site's language. For this study, because the researcher is also a native of the province where the site is located, it was easier to communicate the items in the framework and translate back the gathered data and information coming from the locals.

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