

Overseas Fieldwork Report 2015:

Palawan Province, The Philippines



**Graduate School of International Development
Nagoya University**

Overseas Fieldwork Report 2015

Palawan Province, The Philippines

March 2016

Graduate School of International Development

Nagoya University

Nagoya, Japan

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Palawan Province, The Philippines
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Introduction
Field Studies Concerning Four Dimensions
of “Tourism and Development” for the OFW 2015
in Coron, the Philippines

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Service sector has been the largest in the Economy of the Philippines in terms of the contribution to GDP and it explains more than a half. Service sector has been growing due to the increase in tourists has become one of the major sources of income for citizens also in Palawan province. Given these circumstances, “Tourism and Development” was established as the Leading Theme for the OFW 2015. The emphasis on tourism was found among the local government units of the Coron municipality. The Department of Tourism, the Philippines, also had thrown out the “Visit the Philippines Year 2015” campaign. For the OFW 2015, this Leading Theme was tackled from Four Dimensions, “Tourism and Economic Development”, “Tourism and Governance”, “Tourism and Educational Development”, and “Tourism and Cultural Development”. These four dimensions were investigated by four groups of graduate students from Graduate School of International Development (GSID), Nagoya University and College of Public Affairs and Development (CPAf), the University of the Philippines, Los Baños. These four groups have identified their own research questions related to the above-mentioned dimensions and applied appropriate methodologies of their choices in order to examine those questions. Although these dimensions are studied and analyzed separately by each group in the Municipality of Coron, outcomes are inter-related.

Research questions are as follows: “The Economic Effects of Tourism on Local Fishermen in Coron island, Palawan Province” for Group 1, “Tagbanua People’s Participation in Tourism in Coron” for Group 2 on “Tourism and Governance”, “Education in fisheries for sustainable Coastal Resource Utilization in Coron” for Group 3 on “Tourism and Educational Development”, and “The Coexistence of Indigenous Culture and Tourism: A Case Study of the Tagbanua of Northern Palawan” for Group 4 on “Tourism and Cultural Development”.

Methodologies of group field studies are mostly qualitative based on key informant interviews except for Group 3, which used a quantitative method based on field interviews to individual fishermen.

Analyses by Group 1 and Group 3 are complementary since both groups selected the livelihood of fishermen as main research objectives. Group 1 investigated income of fishermen and its various links with tourism as economic resources, whereas environmental knowledge and practices of fishermen, which represents the nexus of human resources and environment, were centers of exploration for Group 3. Analyses by Group 2 and Group 4 are also complementary as they both address issues in indigenous communities. Group 2 investigated the role of the Tagbanua in decision-making process in relation to tourism, while perspectives of cultural tourism of the Tagbanua are examined by Group 4.

All in all, this report cannot cover all the issues lying between tourism and development. However, certainly this report can become a milestone for international cooperation, given that participated students are originated from seven countries.

Lastly, I would like to take this opportunity to show our appreciation to the Coron Municipality, the Honorable Clara Reyes, Mayor of Coron, the Honorable Jim Pe, Vice-Mayor of Coron, Stuart, Fay, and other LGU officers, Barangay chiefs, Barangay citizens, Fishermen, Tagbanua communities, Tourist guides, Commercial establishments, who cooperated with our group interviews despite their busy schedules, all the Assistant Professors, Advisors from GSID, Nagoya University and CPAf, the University of the Philippines, Los Baños for overseeing groups and having provided continuous support. Last but not least, we are very grateful to Dr. Aser Javier for deliberate coordination regarding OFW 2015 in Coron.

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List of Participants

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WG3	Yuki Shimazu	Ephraim C. Quinones
WG4	Yoshikazu Oshima	Evelie P. Serrano
Logistics/Coordination	Jing Liu	

Interpreters from UPLB and Local Government Unit of Municipality of Corn (8)

WG	Name	Sex	WG	Name	Sex
WG1	Gil Espenido (UPLB)	M	WG3	Almira Lumbres (UPLB)	F
	Faye Ormido	M		Marco Saclet	M
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	Jonthan P. Dabvit	F		Gorgonio Pulilan	M

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	No.	Name	Sex	Nationality	Dept	Group Advisor
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	14	Takashi Watanabe	M	Japanese	DICOS	
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	18	Keitai Tsuchihashi	M	Japanese	DID	
	19	Rie Takagi*	F	Japanese	DICOS	

** Group leader, * Sub-leader,

DID: Department of International Development;

DICOS: Department of International Cooperation;

DICOM: Department of International Communication.

Program of OFW 2015

Preparatory Seminar at GSID

	Date	Title of the Lecture and the Lecturer
1	April 24 (Fri.) 14:45-16:15	“Introduction to 2015 OFW and Campus ASEAN” By Prof. Naoko Shinkai, Prof. Yuki Shimazu, Prof. Jing Liu, GSID.
2	May 13 (Wed.) 14:45-16:15	“Introduction to the Philippines 1: Economic Development, Green Revolution, and Food Security in the Philippines” By Prof. Jonna P. Estudillo, National Graduate Institute For Policy Studies.
3	May 20 (Wed.) 14:45-16:15	“Introduction to the Philippines 2: Overall introduction to the Philippines” By Prof. Aser Javier, UPLB, Visiting Researcher to GSID.
4	May 27 (Wed.) 14:45-16:15	“Introduction to the Philippines 3: Comparative education on the Philippines” By Prof. Hirofumi Nagahama, Mejiro University.
5	June 3 (Wed.) 14:45-16:15	“Introduction to the Philippines 4: About Coron Island” By Prof. Aser Javier, UPLB, Visiting Researcher to GSID.
6	June 10 (Wed.) 14:45-16:15	“Introduction to the Philippines 5: Governance in the Philippines” By Prof. Wataru Kusaka, GSID.
7	June 17 (Wed.) 14:45-16:15	“Introduction to the Philippines 6: Culture and Community Development” By Prof. Aser Javier, UPLB, Visiting Researcher to GSID.
8	June 24 (Wed.) 14:45-16:15	“Introduction to Fieldwork 1: How to make a research proposal” By Prof. Frank Peddie, GSID.
9	July 1 (Wed.) 14:45-16:15	“Introduction to Fieldwork 2: How to conduct interview” By Prof. Frank Peddie, GSID.
10	July 3 (Fri.) 16:30-18:00	“Introduction to Fieldwork 3: Infectious Disease Risks and the Precautionary Principle” By Dr. Hitoshi Kikuchi, Meitetsu Hospital Vaccinations Center.
11	July 8 (Wed.) 14:45-16:15	“Introduction to Fieldwork 4: Why and how we need Integrated Disaster Risk Management- Ongoing challenges in Japan and other Asian countries” By Prof. Norio Okada, Kwansei Gakuin University.
12	July 15 (Wed.) 14:45-16:15	“Introduction to Fieldwork 5: Experiences and lessons learnt from personal fieldworks” By Prof. Isamu Okada and Prof. Jing Liu, GSID.
13	July 22 (Wed.) 14:45-16:15	“Introduction to Fieldwork 6: Introduction to PCM” By Prof. Tetsuo Umemura, GSID.
14	July 29 (Wed.) 16:30-18:00	Group Presentations of Research Proposals
15	July 30 (Thu.) 16:30-18:00	“Introduction to the Philippines 7: Community Development in the Philippines ~ via NGO activities” By Mr. Toshihiro Ueda, RISE ASIA Foundation

Interim Presentations of Research Findings

The interim presentation of research findings was held at Municipality of Coron on Sept. 24th, 2015. Based on the comments received in Coron, participants made another interim presentation in the University of the Philippines of Los Banos on Sept. 26th, 2015. Each WG presented for 20 minutes and followed by Q&A session by the participants.

Presentation of Research Findings at GSID

The presentation of research findings was held at GSID by each working group to disseminate and to collect feedback from colleagues on Oct. 28th, 2015.

Overall Schedule of Fieldwork in the Philippines

Date	Activities
Sept.7 (Mon.)	13:00-15:00 Pre-survey Orientation on OFW2015 at GSID
Sept.12 (Sat.)	7:20 Meeting at Chubu International Airport 9:35 Departure from Nagoya (PR437) 12:45 Arrival at Manila (<i>Accommodation: EL CIELITO Hotel</i>)
Sept.13 (Sun.)	8:40 Departure from Manila (PR2031) 9:35 Arrival at Municipality of Coron, Palawan
Sept. 14 (Mon.)	9:00-11:00 Orientation by the LGU 17:00 Get-to-know-each-other Party
Sept. 14 (Mon.) - Sept.18 (Fri.)	Field survey by each WG
Sept. 19 (Sat.) - Sept. 20 (Sun.)	Free time
Sept.21 (Mon.) - Sept.23 (Wed.)	Field survey by each WG
Sept.24 (Thu.)	Preparation for presentation on site. 16:00 Presentations of Research Findings at Darayonan Hotel 18:30 Farewell Party hosted by GSID, Nagoya University
Sept.25 (Fri.)	9:55 Departure from Municipality of Coron (PR2032) 10:50 Arrival at Manila 14:00-15:00 Courtesy visit to ADB 15:00- Back to UPLB
Sept.26 (Sat.)	8:30-9:00 Courtesy to UPLB 9:00-11:00 Presentation of Research Results Free Activities & Back to Manila
Sept.27 (Sun.)	13:50 Departure from Manila (PR438) 18:55 Arrival at Nagoya

Detailed Schedule of Fieldwork by Each Working Group

WG1

Date		Place	Who	What
Mon	Sept.14	Orientation by the Local Government Unit Municipal Planning and Development Office, Coordinating with Municipal Agri Office (MAO), facing into FARMC possible meeting Tourism Officer	Officers	Meeting
Tue	Sept.15	Economic Development Committee Tourism Committee, Pilot testing for the questionnaire WG1A	Officers	Interview
Wed	Sept.16	Calamianes Association of Tourism Enterprises (Gift shops, restaurants, hotels), Fishermen / Fishing villages	Households	Interview
Thu	Sept.17	Restaurants and bars in Poblacion, Fishermen	Fishermen	Interview
Fri	Sept.18	Live Fish Association		Interview
Mon	Sept.21	Random tourists on restaurants & bars	Tourists	Interview
Tue	Sept.22	Calamianes Cultural Conservation Networks, Inc. (CCCN)	NGO leader	Meeting, Interview
Wed	Sept.23	Fishermen	Fishermen	Interview

WG2

Date		Place	Who	What
Mon	Sept.14	Municipal of Tourism, Municipal of Administration, Municipal of Assessor, Municipal of Business Licensing	Officers, Household	Meeting, Interview
Tue	Sept.15	Municipal of Planning, Legislative Meeting, National Committee of Indigenous People and Sarag punta	Officers, Household	Interview, Meeting
Wed	Sept.16	Tagbanua Tribe of Coron Island Association (TTCIA) (Kanyanan Lake (Island)), Hikari Company, Kanyanan Lake (Fee Collected Office)	Watchman, Resident manager and Financial officers	Interview
Thu	Sept.17	Banuang Daan Village Department of Interior and Local Government	Household, Officers	Interview
Fri	Sept.18	Banuang Daan Village	Household	Interview
Mon	Sept.21	Lajala Village (Barangay)	Officers, Household	Interview
Tue	Sept.22	The Coron Initiative	Al Linsangan	Meeting

WG3

Date		Place	Who	What
Mon	Sept.14	Local Government Unit, Municipal Environment Office, Palawan Council for Sustainable Development, Planning Office & Agricultural Office	Officers	Meeting, Interviews
Tue	Sept.15	Pilot test in Tagumpay Legislative Council (SB) Meeting	Households Officers	Interviews, Meeting
Wed	Sept.16	Fisherfolks in Tagumpay	Households	Interviews
Thu	Sept.17	Fisherfolks in Bintuan Fisherfolks in Tagumpay	Households	Interviews
Fri	Sept.18	Tagbanua tribes of Banuang Daan(islet)	Households	Interviews
Mon	Sept.21	Tagbanua tribes of Lahala (islet)	Officers, Households	Interviews
Tue	Sept.22	ECOFISH	Staffs	Interviews

WG4

Date		Place	Who	What
Mon	Sept.14	Local Government Unit, Indigenous Peoples Committee Office, Saragpunta	Officers	Meeting, Interview
Tue	Sept.15	Food and Nutrition Office Planning Office Municipal doctor Legislative Council (SB)	Officers, doctor	Interview, Meeting
Wed	Sept.16	Tagbanua tribes of Barangay Balisongan, Saragpunta	Households	Interview
Thu	Sept.17	Tagbanua tribes of Banuang Daan (islet)	Households	Interview
Fri	Sept.18	Mt. Tapyas	Tourists	Interview
Mon	Sept.21	Homestay on Caluit Island	Households	Interview
Tue	Sept.22	NGO day, Tourism Office, Mt. Tapyas	NGO leader, Officer Tourists	Interview

Introduction to Coron

Aser B. Javier, Ph.D.
Associate Professor
College of Public Affairs and Development
University of the Philippines Los Baños

Coron is located in Palawan Island in the Philippines. Palawan Islands is declared as the best island in the World by Conde Nast Traveler's Readers' Choice Awards for the year 2014 and 2015. Coron is one of the three municipalities of Calamianen Group of Islands in the Philippine frontier of Northern Palawan and is blessed with picturesque islands, pristine waters, world-class wreck diving, and unspoiled countryside making it the leading tourist destination among the 23 municipalities of Palawan and getting known as a prime tourist destination of the country.

Coron is home of two Hall of Fame Awards as the Cleanest and Greenest Inland Bodies of Water-Lake Category in 1997-1999. Also, the concentration of eight out of twelve Japanese shipwrecks in one area, the incredibly clear waters, and the spectacular marine life puts Coron in the Forbes Traveler Magazine's Top 10 best scuba diving sites in the world.

The municipality has a land area of 69,247.14 hectares with 50 islands and islets divided into 23 barangays. The thriving fishing and tourism industries led to influx of migrants from neighboring towns and provinces. The population has notably increased from 17,852 in 1970 to 40,007 in 2007 with 3.13 percent growth rate for the past four decades (Coron SEP, undated). With tourists, both foreign and local, visiting its beaches, lakes, dive sites, and other natural tourist attractions all throughout the year, tourist arrivals boomed from 2,580 in 2006 to 91,590 in 2013 (Municipal Government of Coron, 2014) making tourism its top industry. Nowadays, Coron is no longer just a small fishing town but has been growing slowly and is being recognized in the global tourism industry.

The Tagbanua tribes (Coron's first inhabitants) were awarded a Certificate of Ancestral Domain Title (CADT) for Coron Island with over more than 22,000 hectares of land and sea through the landmark Indigenous Peoples Rights Act (IPRA). Coron Island is considered part of their ancestral domain giving them the right to manage tourism activities and preserve Kayangan and Barracuda Lakes which are the only lakes in the island open to visitors.

These situations have then lead to tourism as an economic driver through investment attraction, job creation, and opportunities for entrepreneurship with locals being engaged in tourism activities as well as hotels, resorts, restaurants, and other businesses catering to the needs of tourists. Undoubtedly, tourism has contributed to the socio-economic development of the community.

However, several challenges have been observed in tourism planning and management. Poverty still persists despite tourism development. Coron is a community in transition as a result of the boom in the tourism sector and its traditional practices. The way forward is for tourism to be seen as a shared responsibility of all actors - facilitative roles of national and local governments, concerted efforts of the community, and active engagement of the private sector - in advancing local tourism development and sustain local economic development (LED). The locals need to capitalize on opportunities from tourism with local governments having a key enabling role and strong influence in conserving its resources as well as stakeholders and the community participating in planning and decision making (Javier and Ferido, 2010). The need for sustainable livelihoods in tourism mean also sustainable environmental management of its resources. This is coupled with a look at how the culture is slowly being eroded and what are the necessary interventions to preserve its indigenous practices in light of the changes happening.

To help address this, the results of the research and immersion in the community through the Overseas Field Work of the students by the Graduate School of International Development (GSID) in Nagoya University can assist local partners in developing local policies and programs. Further, the field work and its results has become very timely as a contribution of GSID for Coron as a sustainable tourism destination area in celebration of Tourism Year in year 2015.

References

- Javier, Aser B. and Ferido, Miguel P. (2010). Can Tourism be Pro Poor? The Tourism Act of 2009 and the Local Government of the Philippines. Skills Development for the Emerging New Dynamism in Asian Developing Countries under Globalization. Japan Society for the Promotion of Science (JSPS) and Nagoya University. Phnom Penh, Cambodia.
- Municipal Government of Coron. (2014). *Tourist Arrival Report*. Coron, Palawan

Working Group 1

Tourism and Economic Development

The Economic Effects of Tourism on Local Fishermen in the Municipality of Coron, Palawan Province, Philippines

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* Sub-leader

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1. Introduction

1.1 Economic development and tourism

Tourism has been recognized as the fastest growing industry that brings accelerated growth for individual national economies worldwide (Creaco, 2003; WTO, 2006). It is in this regard that there exists a general consensus by proponents that tourism has a positive influence on economic growth at a country level (Armstrong and Read, 2000; Balaguer and Cantavella-Jorda, 2002) resulting in development of local regional economies, employment opportunities and foreign exchange earnings (Lea, 1998; Sinclair, 1998; Creaco, 2003). These outcomes have been supported by a steady growth in tourist numbers at an average annual rate of 6.5%, from 25 million in 1950 to 825 million as of 2007 (WTO, 2007). Critics, on the other hand, opine that in small island economies that exclusively depend on tourism, its contribution to economic growth is poor if not failing (Bryden, 1973; Patullo, 1996; Fagence, 1999). Further, incidences of leakage (in the case of tourism imports) and revenue paid out to national and foreign stakeholders dilute its impact on the host country's economy. However, contrary to dissenting views on the impact of tourism on island economies, the abundance of unique natural resources, including premium scenic locations for sightseeing, marine parks, beaches, and fish species (as a source of food) has ensured a steady flow of tourists into these regions. It is therefore worth noting that this window of opportunity is what has driven a majority of countries worldwide to invest heavily in the tourism sector. Investments have included taking advantage of the ripple effect of tourism to other sectors of the economy such as fishing, which is one of the related businesses that is largely tied to the sector.

The importance of fishing as an economic activity cannot be overstated. In many nations, it contributes to providing not only employment, but livelihood for the majority of fishing communities. Fishermen derive their livelihood directly from fishing, as do other household members who may be employed in activities within the fish value or supply chain, either in processing or transportation and marketing. Given the diverse varieties of species available, the abundance of unique species places a particular country and destination at a comparative advantage to its competition. This does not only draw large numbers of tourists, but also leads to the development of food tourism as a product (Hall and Mitchell, 2000). Turning focus to the Philippines, a 2012 Food and Agricultural Office report ranked the nation in seventh position (2.66%) in the production of fish and sea products such as crustaceans, mollusks, and aquatic plants (including seaweeds). In recognition of the growing fish industry, the central government enacted the Local Government Units Act of 1991, which decentralized governance and helped transform municipal governments into the vanguard of spearheading regional development initiatives. The act also mandated the National Department of Agriculture through its

Bureau for Fisheries and Aquatic Resources (BFAR) to work closely with local governments to boost sector performance, as well as promote sustainability.

One key region which is of interest to our study was the Municipality of Coron, located in Palawan Province. The fishing industry in Coron has grown steadily, with the latest figures from the municipal government's Department of Agriculture data from 2015 reporting catches of 617,672 tons (fresh fish), 167,733 (dried fish), 430,828 (live fish), 13,403 (crabs) and 2,391 (seaweed). The Municipal Government of Coron's tourism blueprint is based on the Comprehensive Development Plan (CDP) 2014-2024, which aims to empower local communities for self-reliance through the identification of sectors that can promote economic growth. With tourism as a key sector for economic growth in the Municipality of Coron and its environs, the local government (through stakeholder meetings and consensus building) embarked on and developed the tourist structure plan for Coron-Busuanga. In it, Tourist Development Areas (TDAs) were identified by considering transport infrastructure, existing environmentally sensitive zones and potential tourist sites, as well as tourism service centers and their linkages. These TDAs serve as a cluster of sites through which the potential for tourism in the region can be exploited. Categorization of TDAs was based mainly on the uniqueness of an area and the available features and includes limestone landscapes, reefs & shipwrecks, and wildlife. In keeping with the objectives of the CDP, the Municipal Government of Coron has placed emphasis on developing the fishing industry with a view to uplifting the livelihoods of small-scale fishermen who depend on the tourism sector as a source of income generation.

1.2 Background

For small-scale fishermen in the Municipality of Coron, the booming tourism sector presents a good opportunity through which they can eke out a living, considering that fishing is the mainstay of their survival. The majority take up the activity as part of family tradition passed down from father to son through years of "on the job training". The local fishing industry is vibrant and largely driven by demand from tourists for local sea food delicacies and by the huge export market through its port to Manila and further overseas. The steady inflow of tourists, which peaked at 91,590 in 2013 (based on the municipal government's 2015 Department of Planning report) has contributed to transient migration. The report also showed an increase in fishermen to 4,498, comprising 46% of the 9,777 total households, with a total population estimated at 45,951.

Coron's fishing industry is characterized by various players, with local fishermen supplying the fish to fish traders both at the local market (for dead fish) and export market (live fish). Live fish trading is an upward-trending activity with most fishermen engaged in capture of the red grouper *Lapu-Lapu* due to its high demand

in the overseas markets of Hong Kong and mainland China. Pomeroy (2008) found that the international demand for live fish trading had increased steadily. This observation was a follow-up of Parilla (2003), whose study singled out Palawan as the premier destination for live fish trading. These studies were further supported by a 2009 Palawan Live Fish Trade for Food trade report which estimated production at the time to be worth well over US \$25 million. Statistics from (Bureau of Fisheries and Aquatic Resources, 2013) report revealed the high rankings of seaweed (in second position behind tuna), shrimps and prawns (in third position), while performance of Lapu-Lapu and crabs for exports was also notable. These figures explain the enthusiasm with which local fishermen have turned their attention to live fish trading as a viable income generator. However, despite this positive outlook, fishermen are ranked at the bottom of the industry chain, with little income to show despite a booming live fish trading sector

1.3 Problem statement

Sampang's 2007 study established that fishing was one of the main occupations in Coron, with an estimated 3,283 people engaged in fishing activities. These statistics were later revised during our research where secondary data from the Local Government Planning office placed the numbers at 4,498. This increase is testament to the emergence of the Municipality of Coron as a premier tourist destination owing to its diverse fish species and exotic natural beaches and facilities. As a result, a bustling local economy has emerged, as seen through the mushrooming of tourist-related businesses and activities, all of which have ensured a steady supply of employment opportunities for local residents and migrants alike. Data obtained during this research revealed that tourist expenditure on fish dishes has risen sharply, leading to expansion of the fishing sector through the introduction of diverse products to meet tourist expectations and ensure satisfaction.

For the local fisherman, this portends great opportunity that has important implications for his income. While data from the Coron Department of Planning shows that fishing is the top livelihood activity, at 22.2%, this does not translate into automatic income benefits. As a result, the majority of fishermen within the area still live below the poverty line. Statistics further show that show that 44.73% of total households live below the food subsistence level. This figure, while lower than the provincial average of 54.95%, falls short of the national average, which stands at 22.3%. Given the fact that the fisherman is ranked at the bottom within the fish value chain, there is pressure to maximize catch per day so as to yield sufficient stock that can earn him a good profit. The fish market chain has its self-regulatory mechanism that determines prices of fish based on consumer demand. There also exists a classification system where live fish trading attracts higher income than

fresh fish. Fishermen within communities in the Municipality of Coron therefore embark on many fishing trips aimed at catching live fish (Lapu-Lapu) so as to secure income for their livelihoods.

However, there are many challenges that are faced by the fisherman in this regard. First, sustainable fish stocks require time to allow for breeding. As pointed out by Jacinto & Pomeroy (2008), many fish are migratory and do not observe human-determined boundaries. This means that local fishermen's catch per day and consequently their income is determined by the volume and types of fish caught. Second, many fishing households lack sufficient fishing equipment such as boats, many of which were destroyed by the Typhoon Haiyan in 2013. Resource limitations and logistical challenges hamper speedy interventions by government or support agencies in regions affected. For local fishermen, coping with this challenge means that they engage in group fishing, which reduces profit margins per households. Third, there is the challenge brought about by increased local investor presence in the fishing sector which (from the fisherman's perspective) has encroached on their access to fishing grounds, leading to longer trips out to sea to catch fish. Fourth, there is a lack of skills and knowledge to carry out value addition to certain fish stock before selling. This leads to lower prices for fish caught, with greater benefits going to other players within the value chain (fish market traders). Fifth, the lack of an umbrella organization for collective bargaining makes fishermen vulnerable to market forces which in most cases are not favorable to boosting their income. Sixth, there are limited to no culturing facilities for popular fishes and other seafood favorites among tourists, meaning the fishermen lose out in cases where the fish caught does not meet size requirements and therefore fetches a lower price in the market.

Therefore, while fishermen play a pivotal role in sustaining the fishing industry, they remain poor and are economically disadvantaged by being at the bottom of the fish value chain. These challenges show that there is a need to investigate chain activities to seek solutions that would improve the overall position of the local fisherman. It is not clearly known to what extent the thriving fishing industry benefits the fisherman's individual income prospects. Even more important is given the seasonality trends of fishing livelihood in Coron, there is a need to focus on the plight of the fisherman by analyzing what income benefits are realized from fishing through analyzing vertical chain activities, and what are the alternatives for income diversification to enable sustained income generation within the horizontal chain.

1.4 Purpose statement

The purpose of this descriptive study is to investigate the income effect of tourism on local municipal fishermen within the fishing value chain in the Municipality of Coron.

1.5 Research questions

1. How does tourism affect the income of the local fisherman?
2. How does the local fisherman cope with lack of income during lean months?

1.6 Objective

To assess the impact of tourism on the local fishermen's income

1.7 Significance of study

1. To highlight the important role played by local fishermen in sustaining the local fishing industry
2. To explore the income benefits (if any) that local fishermen derive within the fish value chain

1.8 Limitations of study

Time constraint did not allow for a thorough investigation into the economic effect of tourism on the local fisherman's income. This meant that it was not possible and practical to analyze the exact value chain (specific sets of players). As a result, there is still a need to carry out an in-depth analysis of the fish value chain so as to get more detailed information on the extent to which value is added by each player.

1.9 Conclusion

This research sought to investigate how tourism-related activities in the Municipality of Coron impacted on local fishermen. Specifically, an analysis of the income of fishermen within the vertical and horizontal fish value chain was carried out with a view to assessing the effect of tourism on income as well as the alternative income opportunities to cushion fishermen against shocks occasioned during lean months. As the literature review in this research shows, a majority of studies on small-scale fishermen paint a dim picture as to the economic benefits derived from fishing, with some linking it to causes of sustained poverty levels among fishermen households (FAO, 1974; Bene, 2003). Bene further stressed this point by positing two schools of thought; that 'fishermen are the poorest of the poor' and 'fishing is the activity of last resort'. In line with this assertion, the research took a closer look at fishermen's income within the value chain.

Attention was placed on activities within the vertical chain, where the role of the fishermen, from catching the fish to selling it to fish trader, local market, restaurants and tourists, was analyzed. The aim of this was to assess the income benefits derived in comparison to other players in the chain. By studying the horizontal activities as carried out by fishermen within the chain, the study sought to investigate alternative income

livelihood activities outside of fishing. This is because the Municipality of Coron is plagued by natural shocks caused by variations in the weather, such as the annual monsoon and typhoons, both of which have adverse effects on local residents' livelihood. In the literature review carried out, contrary opinions (Smith, 1979, 1981; Wright, 1990; Payne, 2000) to Bene's assertion attributed the sustained poverty of fishermen to natural occurrences, health related concerns, and economic shocks, hence making our focus on income diversification prospects even more relevant.

The research methods applied in this study lay emphasis on fishermen's activities and used interviews and questionnaires. All key respondents within the vertical chain took part, with questions directed at the fisherman focusing on mode of fishing, frequency, catch per day, price of fish caught, operational costs and alternative income opportunities. These were aimed at establishing differences in costs and revenue to assess net income earned. Other respondents, such as fish traders, were probed with a view to investigating the purchase prices and fish sold to them, the frequency of purchase, and popular species. Restaurants and hotels were probed to establish fish suppliers, prices, frequency and the favored fish dishes of tourists. Tourists, on the other hand, were asked about favorite dishes and frequency of consuming fish dishes, which aimed at establishing how popular fish dishes spur demand from restaurants.

Findings from the research were categorized as vertical and horizontal as defined by the research questions, and it is worth noting that the primary focus of this study was fishermen's income in the Municipality of Coron. To this end, results under the vertical analysis are pegged on a fisherman's income prospects within the chain. In addition, factors affecting a fisherman's income were analyzed and the results are presented herein, as well as the challenges faced along the chain, including power relations with other actors. In the horizontal analysis, findings were also anchored on fishing income, but with a focus on how seasonality and fluctuation of income is addressed through the pursuit of alternative income.

Finally, recommendations to be made herein include addressing power relations and value chain management, the need for value addition policy within the fishery sector to improve the income of fishermen, market development strategies for small-scale fisherman, and the promotion of alternative income strategies

2. Literature Review

The literature review is an important chapter in this research because it provides background information on previous related research as presented by various scholars. This information is useful in highlighting the significance of the study and is intended to allow the reader to get a clear understanding on the plight of local fishermen in the Municipality of Coron. Organization of the literature review will be based on key themes,

including fishing and poverty, fish value chain analysis, and income diversification in fishermen communities. First, under fishing and poverty, this study will focus on the income of small-scale local fishermen. By highlighting the discourse around this subject matter, it is hoped that a clear picture will emerge as to why fishermen tend to remain below the poverty line even while operating in thriving sectors of tourism and fishing. Second, a review of fishing value chain analysis will be carried out. The aim here is to look at fishermen's income prospects from the vertical and horizontal perspective within the chain. Under the vertical approach, past studies targeting fishermen will be examined to establish trends, similarities and differences in income compared to other activities and players within the chain. In the case of the horizontal analysis, identification of past studies that highlight alternative income generating activities for local fisherman are of great importance.

2.1 Fishing and poverty

2.1.1 The endogenous nature of poverty

Numerous studies carried out in fishing communities have tended to approach them from the perspective of poverty. Gordon's study (1954) produced a paper on the economics of fisheries and their open-access nature, in which he sought to explain persistent low income among Canadian fishermen. He concluded that 'rent dissipation' was a direct result of the fisheries' 'common property nature'. This conclusion seems to imply that by sharing common resources for their livelihood pursuit, fishermen's income continues to decrease. In addition, Hardin (1968) implied that over-exploitation of natural resources in pursuit of livelihood by man had a devastating effects on fishermen's livelihoods and biodiversity as a whole.

In addition, from the mid-1970s into the 1980s, more studies were conducted that led to a common perception that communities living within and engaging in fishing activities were bound to remain poor (FAO, 1974; Smith, 1979, 1981; Panayotou, 1982 et al). This shared view seemed to draw from the school of thought linking rural poverty and fishing attributed to Bene (2003). In his observations, he stated that fishermen belong to the poorest of the poor and that they engage in fishing as a last resort owing to a lack of alternatives. Furthermore, Copes's study (1999) contributed to this thinking by opining that poverty among fishermen is related to low levels of natural resources; thereby confining the origin and causes of their poverty to what he termed as 'conventional wisdom on poverty in fisheries'. Copes's thinking was based on the fact that fishermen's poverty resulted from over-exploitation of resources (over-exploitation = low catch = low income = poverty).

In contrast to these views, other studies have argued that fishermen were not necessarily ‘the poorest of the poor’ in monetary terms but suffered from vulnerabilities in what Bene (2003) and Allison et.al. (2006) attribute to natural and economic shocks, health issues and natural disasters as a cause of poverty. This counter-argument supported an earlier assertion by Jazairy et.al (1992) in a study commissioned by International Fund Agricultural Development, which concluded that small scale fishermen were among the most vulnerable groups, leading to low income and poverty.

2.1.2 The exogenous nature of poverty

Bene (2003) also looked at ‘low opportunity incomes’ available to fishermen, and concluded that with the lack of viable alternatives to livelihood income, fishermen are bound to remain in sustained poverty. His view seemed to receive support from Cunningham (1993), who based his assumption on a perfect market scenario comprising open-access fishing, perfect labor mobility and a standard two sector model (that is, the fishing and non-fishing sectors). In Cunningham’s argument, he suggested that owing to the geographical location of fishing communities and limited access to alternative income sources, poverty among fishermen is inevitable.

2.2 Value chain analysis of small-scale fishermen

The value chain concept, initially proposed by Porter (1985), as adopted by Kaplinsky and Morris (2000), refers to the full range of activities necessary to transform a product or service from conception, through the stages of production, to final consumer (including logistics and final disposal). Within the context of the fish industry, Jacinto (2004) aptly defined the chain as a series of activities involved transforming fish products from capture or culture, through the different phases of production and delivery, to final consumers. Kaplinsky and Morris further asserted that value chain analysis not only provides a good base from which to understand policy as it relates to resource distribution within the domestic economy, but also helps shed light on a sector’s performance within the global economy.

While there has been a growing number of market development studies carried out in many agricultural product chains (Kanji and Barrientos, 2002; Dorward et al., 2003; MacFayden et al.), Jacinto and Pomeroy (2008) observed that little has been done on small-scale fishermen. They further argued that despite many development programs initiated within the small scale fisheries sector, fishermen have largely remained poor due to their inability to tap into local and international markets. By virtue of their place on the lower end of the value chain, fishermen fetch lower prices for fish products. This, according to Jacinto (2004), results from

governance and distributional mechanisms that favor fish traders, processors and other intermediaries over small-scale fishermen.

A major contributing factor to the marginalization of fishermen within the value chain stems from their lack of organization. The majority operate independently, thereby weakening their socioeconomic and performance within the fishing industry as an economic sector (FAO, 2004). In addition, the lack of collective action leaves fisherman with no bargaining power, which leaves them vulnerable to other more experienced operators with better capital, including traders, processors, and exporters. The report concluded by citing asymmetric information flows, lack of transparency in price formulation, challenges of capital for technology upgrades, and inadequate post-harvest equipment, including cold chains, which are critical within the fishing sector.

2.3 Income diversification for small-scale fishermen

In their studies, Ellis (1998) and Bryceson (1999) pointed out that income diversification has not received due attention at the public policy level despite the critical role it plays to rural household sustainability. Studies have been conducted on the reasons for and trends in livelihood pursuit, culminating in the development and adoption of the Sustainable Livelihood Approach (SLA) (DFID, 1999). The SLA framework reveals that rural communities in low-income countries are prone to diversified livelihood pursuit. In the case of fishing, which is regarded as a high-risk occupation (Sethi, 2010), fishermen face high financial risks due to annual income fluctuations. These include concerns of seasonality, cyclical fluctuations in stock size and location, as well as the risk to a fisherman's life, all of which point to income diversification as a viable option against livelihood failure at the household level (FAO, 2013). In their study on occupational and geographical mobility within the Thai fish sector, Panayotou & Panayotou (1996) opined that shifts in and out of fishing, while relatively lower than that of non-fishing activities, are usually greater than shifts into fishing. They attributed this outward migration to economic incentives and prospects from alternative livelihoods.

In addition, Olale and Henson (2012) pointed out that empirical evidence shows fishing communities in developing countries are among the poorest communities (Smith 1981; Panayotou, 1985, 1988; Platteau, 1989; Jansen, 1997; Pauly, 1997; Bene, 2004; Nevin, 2005; Salagrama, 2006). However, past studies have generally failed to investigate ways of reducing poverty among these communities. Olale and Henson's study focused its attention on addressing this research gap by proposing the investigation of income diversification as a potential way out of poverty. In particular, the study analyzed the determinants of income diversification decisions among fishing communities, with a focus on those living on the Kenyan shores of Lake Victoria.

The results showed that education level, access to credit, and membership of associations are the key factors that explain income diversification behaviour among fish workers. Also, the study discovered that income diversification can be stimulated by focusing on these determinants.

However, Kasperski and Holland (2013) introduced the concept of risk into the debate. They envisioned the existence of a dome-shaped relationship between the variability of individual income and income diversification. In their study, they argued that a small amount of diversification does not reduce income risk, but that higher levels of diversification can substantially reduce the variability of income from fishing. This is because some fishermen may diversify their income with non-fishing sources during low-income periods when they have more time to pursue income from some non-fishing source. Thus, total income variation may be much lower for those that have alternative income sources that are flexible, which would be a good risk-coping strategy.

Interestingly, while appreciating the discourse on income diversification from a risk and poverty dimension, it is perhaps worth noting that Fabinyi (2010) in his paper “The intensification of fishing and the rise of tourism: competing coastal livelihoods in the Calamianes Islands, Philippines” highlighted the ways in which coastal residents deal with the changes in the fishing and tourism industries. The conclusions of the paper revealed that, despite the push for and growth of tourism as a more sustainable alternative livelihood to fishing, resident behaviour towards outward shifts was determined by local geographical and social factors, particularly their experiences and priorities. Fabinyi added that fishing remains irreplaceable to most fishermen, backed by the evidence of increasing levels of capital intensification in the live reef fish for food trade. The paper demonstrated two important trends, which are that fishing is marked by increasing levels of intensification, and that tourism has the potential to exclude fishermen from many of its purported benefits.

2.4 Conclusion

The review undertaken was aimed at addressing key concerns within the purpose statement for this research. The study seeks to investigate tourism’s effect on fishermen’s income and coping mechanisms during lean months. Through the course of the review, literature addressing fishermen and poverty has highlighted views raised by scholars regarding the state of fisherman poverty and how it affects income. Our choice of studies for review has therefore been influenced by this driving need to investigate whether or not low income is synonymous with fishing and the position fishermen hold within the value chain. Within the scope of this research, the fish value chain is linked closely to tourism in the Municipality of Coron. Fishermen are the entry

point into the chain, and they provide fish (dead or live) to fish traders, either at the local market or supply them directly to restaurants, bars and hotels.

The debate on value chain has highlighted the key role played by fishermen within the fish value chain, and brought to light the lack of market development strategies targeting them for improved income. Also, key concerns of fragmentation among fishermen leading to lack of bargaining power in price negotiation have been raised. On income diversification, it has been clearly pointed out that fishing as a risky occupation necessitates alternative livelihoods for fishing households. While the discourse has produced varied dimensions touching on poverty and risk as well as key issues under income diversification choice, it has also been noted that not all fishermen shift away from fishing to alternative income livelihoods.

Most studies as outlined in the review have focused on evidence of poverty among fishing communities in developing countries. While these are important in adding to the body of knowledge, there is need for close scrutiny and investigation of small-scale fishermen within the value chain so as to address challenges that result in low income prospects and sustained poverty. Researchers have failed to investigate potential strategies that can be pursued to reverse the poverty situation. Besides, the role of certain potential alternative income sources in a fisherman's total income is not yet known. In order to address this research problem, this study proposes to investigate alternative income sources as a potential poverty reduction strategy.

It is therefore worth noting that our study strives to make use of the literature reviewed to help design the research methodology, including the paradigm, research design, data collection techniques and analysis methods. Based on our problem statement as outlined in Chapter 1, investigating fishermen's income trends may require adoption of mixed methods of research that allow for factual information and statistics on income trends as well as testimony from players within the chain regarding events as they occur within the fishing industry in Coron. We also address the different role of alternative income in dealing with the fluctuation of fishermen's income in Coron. In addition to helping generate policies for reducing poverty among fishing communities, information generated from this study will fill the gaps in the literature concerning the income diversification behaviour of fishing communities.

3. Research Methods

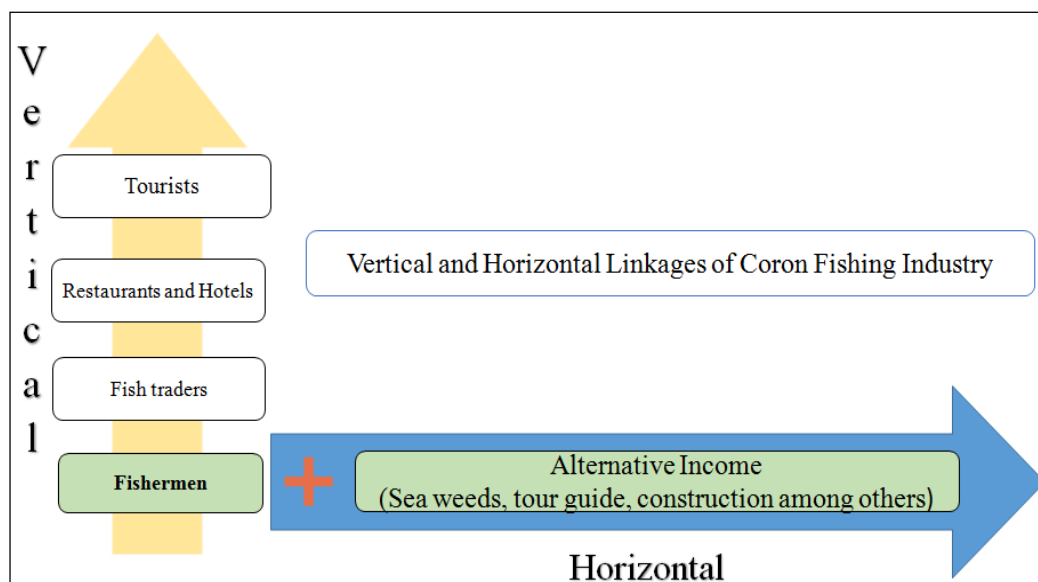
This chapter focuses on explaining the methods used in investigating the research gaps as outlined in the problem statement, and pointed out in the literature review. In carrying out this research, the study adopted a concurrent mixed methodology, which Creswell (2009) described as a study that combines quantitative and qualitative data necessary for comprehensive analysis of a research problem. In this research, data collection

sought to get a direct account of events from the testimony of players in the fish industry while also collecting data to fact check their opinions. This proved very effective in light of the varied responses that cited challenges faced by fishermen within the value chain.

3.1 Conceptual framework

To clarify the impact of tourism on the income of fishermen, the conceptual framework described in Figure 1 was developed and used to show the linkage between fishermen and tourists. It is used to display a list of actors within the vertical chain that formed the basis of the research study and specifically to show the extent to which tourist spending on fish dishes affected a fisherman’s income judged by his position on the chain hierarchy. Players involved in the supply chain of fish include fish traders, restaurants, and hotels, as well as fishermen (at the bottom) and tourists (at the top). For the purposes of this research, the analysis of linkages between fishermen and tourists along the chain will be referred to as ‘vertical analysis’, while analysis of fishermen’s alternative income prospects will be referred to as 'horizontal analysis’. Therefore, vertical

Figure1 Conceptual Framework



Source: Created by the authors.

analysis tries to trace how fish flow from fishermen to tourists and how much value is added by each player along the chain, thereby focusing exclusively on the income from fishing. On the other hand, horizontal analysis sheds light on the diverse composition of income of fishermen from other activities besides fishing.

3.2 Target groups

Target respondents for our research comprised stakeholders within the fishing industry in the Municipality of Coron and included municipal government agencies, the Legislative Assembly, tourism sector associations, and local NGOs, as well as players within the fish value chain, namely local fishermen, fish traders, restaurants, bars, and tourists.

3.3 Research design

Rather than increasing the size of the sample, the coverage of expected patterns of fish trading and characteristics of samples was prioritized, with qualitative data taking center stage. Regarding vertical analysis, information was sought on which actors engaged in fish trading and roles played. Questionnaires were used to collect information on tourists' expenditure on fish dishes.

3.3.1 Key informant interviews

In an effort to establish clear linkages among players, interviews with fishermen, fish traders, restaurants and hotel owners were used to gather information on the selling and buying price of fish, frequency of dealings, and operation costs. Specifically, a number of key informant interviews were carried out with various stakeholders connected to the fish industry. These included interviews with local government officers (legislative assembly members and executive officers), tourism related municipal associations, a private company and a NGO in order to elicit comprehensive opinions about tourism and the fishing industry. For local government officials, four key informant interviews were carried out, including with the Coron Local Government Legislative Assembly members, which aimed to establish what support mechanisms were in place to support local fishermen within the fishing industry. Others included three key informant interviews with the executive officers under the municipal government (Planning and Development Officer, Agricultural Officer and Tourism Officer). Each of these interviews sought to establish what support measures were in place by respective offices to promote fishermen's performance within the local economy. They also served to provide key background information on the performance of the tourism and fishing sectors in Coron, which formed the basis for secondary data needed in our analysis.

In addition, one interview was done with the Calamianes Tour Guide Association (CTGA) and four interviews with officials and members of the Calamianes Tourists Boat Association (CTBA). In the case of CTGA, questions about tour guide operations were raised with a view to establishing whether fishermen who shifted from fishing took up tour guide operation as an alternative livelihood. For the CTBA, questions raised

centered on tour boat operations, entry and boat registration requirements, as well as income earned by boat captains (who are mainly former fishermen).

Furthermore, interviews with the Bureau of Fisheries and Aquatic Resources (BFAR) in Coron sought to understand the bureau's operations and role within the local fishing industry, as well as to obtain information on legal actions and regulations on fishing activities. Other interviews with Hikari Pearl Farm manager helped to shed light on the impact of private investment on the local fishing industry, and specifically its effect on local fishermen. Finally, interviews with local NGOs, including Coron Initiative and ECOFISH, provided insights into their contributions to the fishery situation.

3.3.2 Questionnaires

Table 1 shows the list of participants in the fieldwork survey. Three sites, Sitio Marupo, Sitio Biguyboy and Sitio Canipo, were used in the study. Questionnaires were administered to both fishermen (23) and fish traders (7). For fishermen, the aim was to establish their socioeconomic characteristics, including fish-related assets owned, fishing patterns, prices for fish products, frequency of supply and to whom, as well as questions regarding coping with lean months through alternative income sources. Under alternative income sources, the survey focused on probing fishermen on activities carried out to subsidize fishing income.

For fish traders, the survey involved both fresh fish traders as well as live fish traders. Local fish traders were questioned about income earned, fish product prices, and relationships with fishermen, including supply and payment options. Live fish traders were probed on live fish trading price setting mechanisms, prices of live fish (at purchase from fishermen and selling for export to Manila) among other issues. In order to conduct interviews with fishermen and investigate their income conditions, we conducted nine interviews in Sitio Marupo, seven interviews in Sitio Biguyboy, and nine interviews in Sitio Canipo respectively. In addition to the interviews with fishermen, seven interviews with fish traders in the local market and one in the fish trade company named KITKIT Fish Traders Co. Limited were conducted to gain information on fish trading activities. Other respondents included thirty four tourists to establish the relationship between fishermen and tourists, and seven interviews with restaurants and bars to trace connections with fishermen, fish traders and tourists.

Table1 List of Interviewees on Fieldwork Survey

Respondents	Place	Number
Fishermen	Coron Public Market, Sitio Marupo,	23
Fish traders	Sitio Diguiboy, Sitio Canipo	7
Restaurants and bars	Coron Town	7
Tourists	Coron Town	34

Source: Created by the authors.

3.3.3 Validity and reliability

Since our research employed a mixed methodology, we sought to verify data received from the questionnaires (fishermen, fish traders, restaurants and bars and tourists). The researchers also employed the use of the member check system (by taking back transcripts to respondents for verification). It was hoped that through this exercise, accounts as recorded during in-depth interviews could be confirmed. Audit trails were also used for ensuring records of all activities as they happened during the research process. Most important was the use of the triangulation technique to confirm data provided within the survey. According to Jick (1979), this technique was adopted as a way to seek convergence across qualitative and quantitative methods, and has proved successful in many studies across disciplines.

4. Results & Discussion

The results were analyzed based on the research questions that formed the basis for our study. Data collected as described in the methodology section was used in the analysis. Results were categorized based on the two research questions: How does tourism affect the income of a fisherman (vertical analysis) and How does the local fisherman cope with the lack of income in lean months (horizontal analysis). The organization of this section involves the presentation of results followed by discussion for both vertical and horizontal analysis as well as the chapter conclusion.

4.1 Results based on vertical analysis

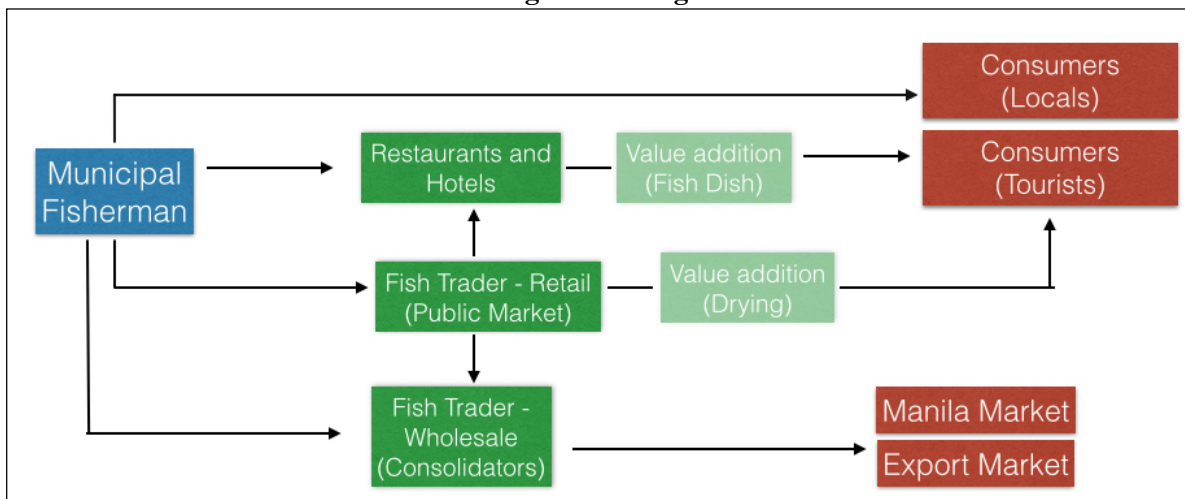
In the vertical analysis, the research sought to establish the amount of fishing income for the fishermen along the chain of activities. To this end, emphasis was placed on selling routes as the basis of the chain interaction between fishermen and other actors. In addition, key findings from each player within the value chain under study are reported. Finally, a detailed description of findings is analyzed based on key factors

observed to affect the vertical chain during the research, including fish type and catch volume, mode of fishing (solo or group), verbal supply contracts with fish traders, restaurants and bar owners, as well demand for fish dishes.

4.1.1 Selling routes

As shown in Figure 2, the route of fish from fishermen to tourists is classified into two patterns. First, fishermen sell directly to restaurants and hotels and subsequently to tourists for consumption. Second, fishermen sell to fish traders, who then supply to restaurants and hotels or directly to tourists. In addition, there are other selling routes which do not directly involve tourists which have local residents and outsiders as buyers of fish. Although these two additional patterns obviously contribute to the income of fishermen, our findings were limited to selling routes that display fisherman-to-tourist linkages as they form the basis for our vertical analysis, which is determined by tourists' expenditure.

Figure2 Selling Routes



Source: Created by the authors.

4.1.2 Key findings for fishermen

As shown in Figure 2 above, fishermen, fish traders, restaurants and hotels, and tourists engage in the fish trade. During the research, twenty three interviews conducted with fishermen revealed that species of fish caught varied by location, as well as explaining their relationship with fish traders. The study found that the average price of fish differed from species to species, and in particular Lapu-Lapu has a remarkably high price. The type of available fish and the average price of fish by species are summarized in Table 2.

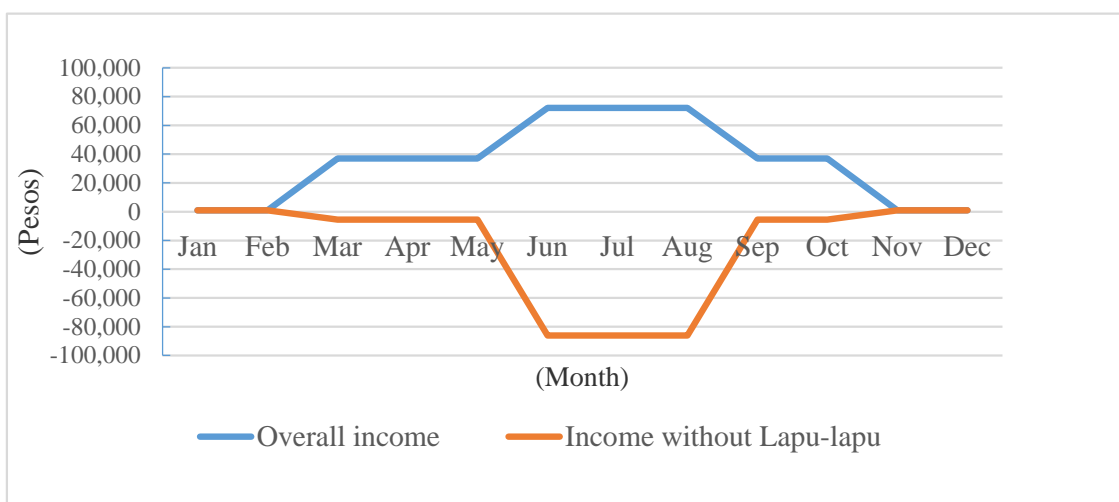
It was also revealed that the catch of fish is greatly affected by seasonality based on the peak season (June to September) and low season (October to May) for fishing in the municipality. Some species, such as Samaral and Danggit, are available throughout the year. Figure 3 illustrates the comparison of income of one fisherman where overall net income is analyzed with and without the contribution of Lapu-Lapu live fish on Canipo Island.

Table 2 Type of Fish and Selling Prices

Fish type	Selling price (pesos)/kg
Kanuping	60
Maya-maya	70
Sagisi	70
Tambacol	80
Talakito	80
Alamahan	80
Squid	100
Dalangang Bukid	Peak:100 Low:120
Crab	Peak:200 Low:350
Shrimp	550

Source: Created by the authors.

Figure 3 Income Comparison between Net Income Without Contribution of Lapu-Lapu



Source: Created by authors.

4.1.2.1 Discussion

First, from Figure 3 above, reflecting the contribution by Lapu-Lapu, the annual net income is disaggregated by the monthly level to reflect seasonality. In addition, monthly income is expressed in two ways; as “overall net income” which refers to net income from selling all fish, and as “net income without Lapu-Lapu (live)”, which refers to net income earned minus live Lapu-Lapu sales for the fisherman. In the analysis, income earned without Lapu-Lapu sales is calculated by deducting net income of selling Lapu-Lapu from the overall net income. In this analysis, the data analyzed represents a sample fisherman who engages exclusively in fishing activities and does not have any other income-generating activity. With the exception of Lapu-Lapu, other fish caught are non-seasonal species, meaning his ability to make profits and remain above the national poverty line totally depends on the seasonal catch of Lapu-Lapu.

Second, it was also observed that the mode of fishing also affected the income of fishermen. While some fishermen engage in solo fishing, others fish in a group. In group fishing, the profit is divided equally, with the boat owner getting an extra share for his boat (which is considered as a member of the group) towards maintenance fees. From fishermen’s testimonials, the interpretation of this sharing arrangement varied depending on agreed terms, where in some cases the boat owner got two shares and in others it counted as 1.5 shares. It was observed that in solo fishing, all the proceeds from the catch went to the fishermen. On the other hand, group fishing enables them to invest more in their equipment and use more sophisticated fishing tools, such as fish finders, which help to improve catch volume. In contrast, solo fishing brought with it challenges including insufficient funds to rent equipment such as fish finders and motor engines that would allow for greater offshore access to more lucrative fish species.

Third, besides catching fish, since fishermen had no official contracts to supply fish, they had to source for buyers based on verbal contracts. From the interviews carried out, it was revealed that almost all fishermen sold their catch to fish traders who also set the dealing price. This, it was observed, heavily favored the fish trader, as evidenced in one fishing village in where fish traders also rented equipment to boost the catch to fishermen and recovered the costs from the fish supplied. In this case, while accessing rental equipment enabled the fishermen to make longer trips further offshore, their profits were affected by this arrangement. It was, however, interesting to note that in this example, fishermen were caught up in a perpetual rental scheme which ensured maximum benefit for the fish trader. Some fishermen sold directly to local residents and tourists at the local fish market, while others had unwritten contracts to supply either to local hotels and restaurants as well as Manila.

4.1.3 Key findings for fish traders

During the research, it was observed that fish traders have exclusive decision rights on the dealing price of fish. During the study, three fish traders were interviewed in the local fish market. Tables 3-5 below summarize the selling price of Lapu-Lapu as reported by fish traders interviewed in this research.

Table3 Value-added Activity by Fish Traders (Case1)

		Fish trader 1		
Fish type	Season	(1)Buying price (per kg)	(2)Selling price (per kg)	(2)-(1)Value added
Lapu-Lapu	Peak	90-100	200	100-110
	Lean	100-110	250	140-150
Tuna	Peak	N/A	N/A	N/A
	Lean	N/A	N/A	N/A
Shrimp		N/A	N/A	N/A
Crab		N/A	N/A	N/A
Samaral	Whole year	50-60	40-50	10
Danggit	Whole year	40	50	10
Squid	Full moon	N/A	N/A	N/A
	Lean moon	N/A	N/A	N/A

Source: Created by authors

Table4 Value-added Activity by Fish Traders (Case2)

		Fish trader 2		
Fish type	Season	(1)Buying price (per kg)	(2)Selling price (per kg)	(2)-(1)Value added
Lapu-Lapu	Peak	200	250	50
	Lean	250	300	50
Tuna	Peak	100	130-140	30-40
	Lean	110	160	50
Shrimp		N/A	N/A	N/A
Crab		N/A	N/A	N/A
Samaral	Whole year	50	N/A	N/A
Danggit	Whole year	50	80	30
Squid	Full moon	N/A	N/A	N/A
	Lean moon	N/A	N/A	N/A

Source: Created by the authors.

Table5 Value-added Activity by Fish Traders (Case3)

		Fish trader 3		
Fish type	Season	(1)Buying price (per kg)	(2)Selling price (per kg)	(2)-(1)Value added
Lapu-Lapu	Peak	230	280	50
	Lean	230	280	50
Tuna	Peak	100	130	30
	Lean	100	130	30
Shrimp		N/A	N/A	N/A
Crab		N/A	N/A	N/A
Samaral	Whole year	40-50	100	50-60
Danggit	Whole year	40-50	80	30-40
Squid	Full moon	20	200	180
	Lean moon	50	200	150

Source: Created by the authors.

4.1.3.1 Discussion

First, from fish trader interviews, it was revealed that except in some extreme cases for species such as Lapu-Lapu and squid, by and large 10-50 pesos was added on the fish trader's selling price. This ensured that fish traders enjoyed a stable added value and profits regardless of seasons year round. Notably the selling price varies from trader to trader. This indicates that there seems to be no market mechanism for regulating prices of fish. However, due to the nature of their agreement, which is verbal, price information is based on the two actors and determined by the fish trader. There are cases, for instance, where a trader may have verbal contracts with up to ten fishermen.

Second, it was also established that fish traders accrued high operational costs, including rents for the selling place, delivery costs, and cooling item for preventing spoilage, which were mainly recovered in the selling price. One trader cited challenges faced due to the fragile infrastructure, including the lack of a garbage process system and stable water supply, as the difficulties she is facing.

Third, since fish traders are price makers, it enables them to offset the fluctuation of price caused by seasonality. This gives them an advantage over fishermen, who are price takers and are unaware of the variations in dealing price and miss opportunities for seeking optional buyers. Also, the unwritten verbal

contracts and tapped information on dealing price gives fish traders advantages in setting dealing price, while fishermen have little bargaining power.

4.1.4 Key findings for restaurant & hotels owners and discussion

Restaurants and hotels were crucial during this study as they served as final suppliers of fish to tourists. First, the study found that tourists' demand for fish dishes influenced the demand for fish from restaurants and hotel owners. During the research, interviews focused on discovering the number of tourists served during peak and low seasons, sources, how fish was procured, the price of fish, and their overall perceptions of tourism.

Second, it was revealed that similar to seasonality in fish catches, the tourism sector also had its peak season (October to May) and low season (June to July). In particular, the month of October (beginning of the school season in the municipality) was cited as a low point for tourist arrivals in Coron. Interestingly, it was observed that the peak season for tourism corresponds to the low season for fish catches.

Third, hotels and restaurants procure fish from both fishermen and fish traders. There were cases where some had fixed relationships with fishermen who supplied them regularly based on an order list, which served as a guide for what fisherman would supply. Mutual trust dominated the unwritten contractual agreements, an arrangement with which most respondents interviewed were happy. In addition, respondents also stated that procuring fish in this way cost less than buying fish at the local fish market.

The procurement price by species is summarized in Table 6 below, which shows that procuring crabs and shrimps come with relatively higher costs than other species. It was also worth noting that two of the respondents attested to having observed an increase in procurement costs in the last five years.

Table 6 Procured Fish and Cost

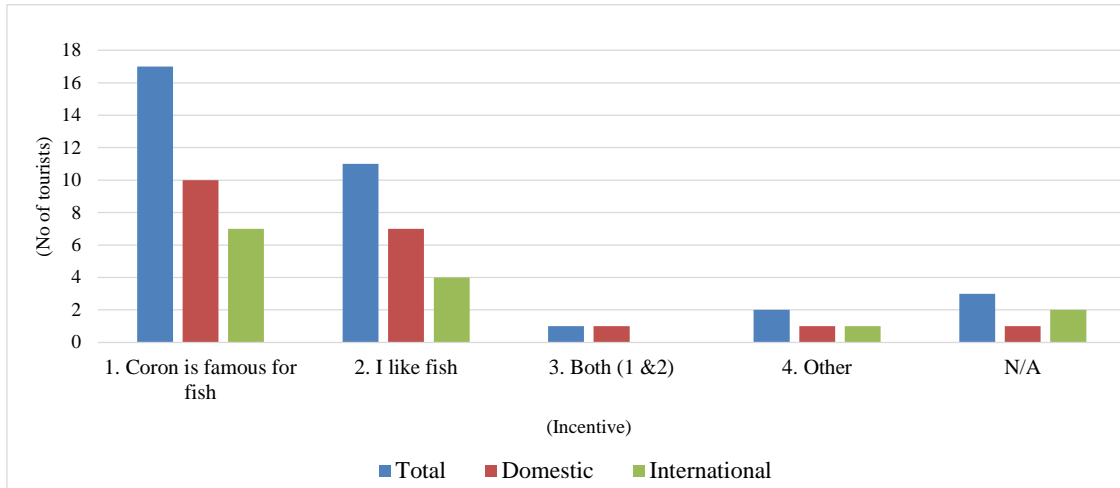
	Respondet1	Respondet2	Respondent3
Fish type	Price (per kg)	Price (per kg)	Price (per kg)
Lapu-Lapu (cultured)	200	180	200
Tuna	200	150	130
Shrimp	450	500	450
Mad crab	400-500	Not procured	S=350/ M=500/L=600
Alimasag	180-200	Not procured	Not procured
Samaral	Not procured	Not procured	Not procured
Danggit	400	Not procured	Not procured
Squid	200	220	180

Source: Created by the authors.

4.1.5 Tourists

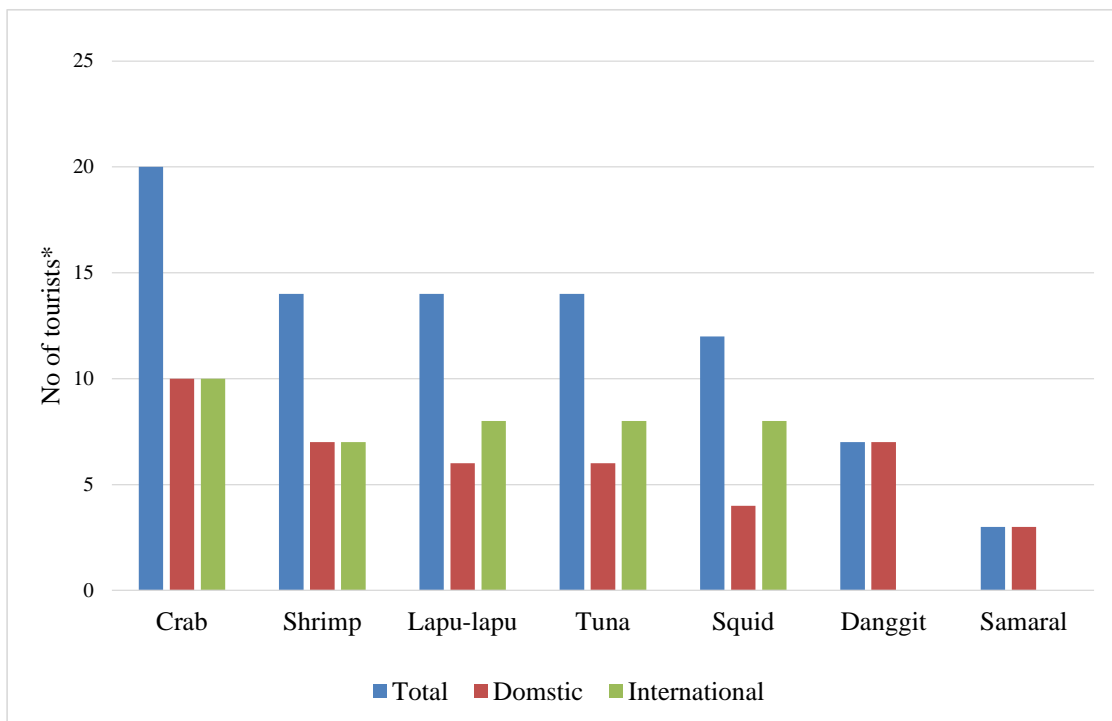
Tourists formed the basis for this research study as their significant and continuous flow in numbers since 2008 had positively impacted the local economy through their increased expenditure. In the context of this research, spending on fish dishes by tourists was expected to affect the income of fishermen through the supply chain of fish. The results of the tourist questionnaire are summarized in Figures 4 to 7.

Figure 4 Incentive for Ordering Fish Dishes



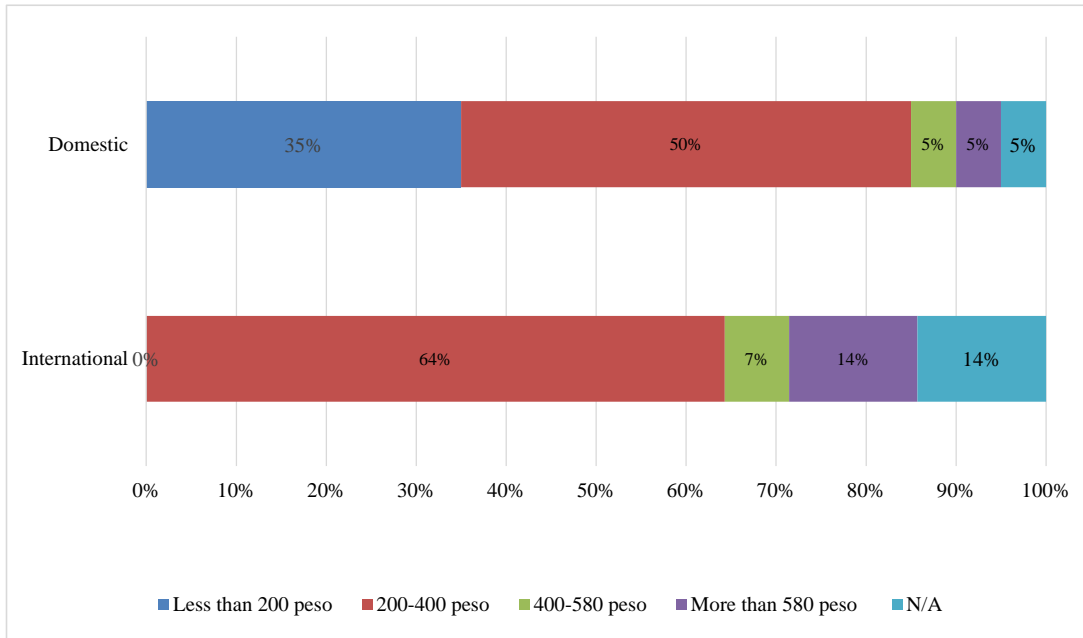
Source: Created by the authors.

Figure 5 Frequency of Having Fish Dishes



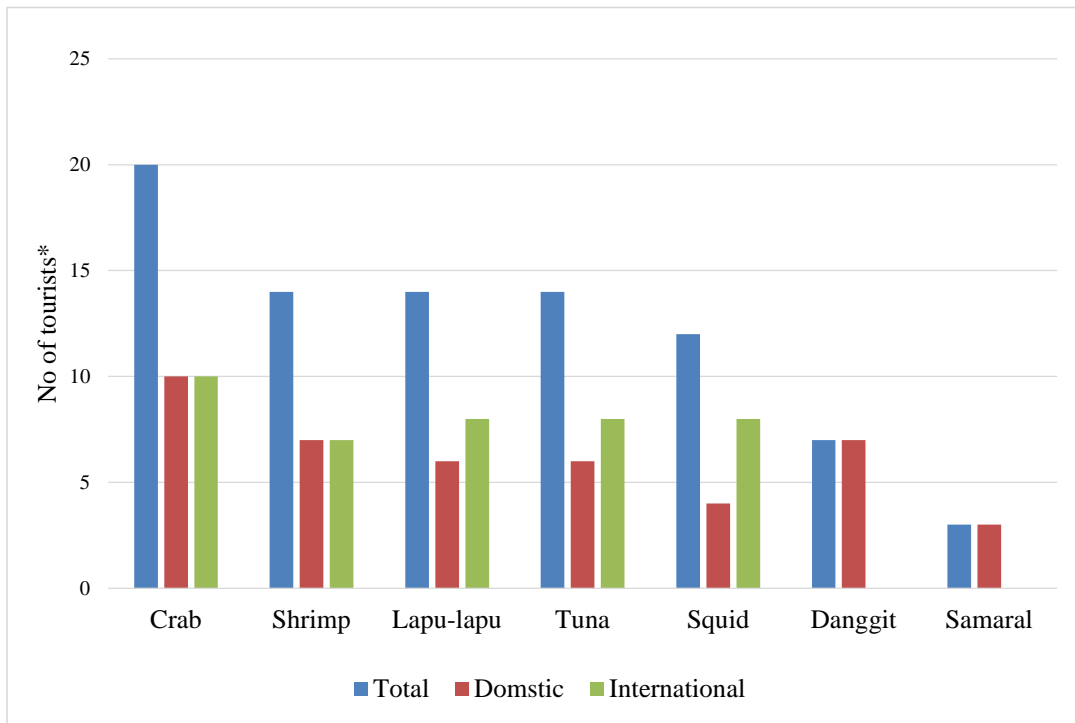
Source: Created by the authors.

Figure 6 Average Spending on Fish Dishes



Source: Created by the authors.

Figure 7 Preferred Fish Dishes by Fish Species (Multiple Choices)



Source: Created by the authors

*Tourists who order or plan to order

4.1.5.1 Discussion

First, it was noted that the major trigger for ordering fish dishes is that the fact that the island is famous for its fish dishes, which is mentioned in 17 responses in total (Figure 7).

Second, while there is no clear difference in incentives for ordering fish dishes between domestic tourists and international tourists, figures 5 and 6 suggest that international tourists order more frequently and spend more on fish dishes. Results from these figures show that 71 per cent of international tourists ordered fish dishes more than once a day and 35 per cent spent more than 400 peso per dish, whereas 40 per cent of domestic tourists ordered and 15 per cent of them spent more than 400 pesos.

Third, crab was found to be the preferred dish among both domestic and the international tourists, followed by shrimp, Lapu-Lapu and tuna. The lack of response by international tourists for Danggit and Sammaral might imply that simply they do not prefer those fish dishes or they are not familiar with them.

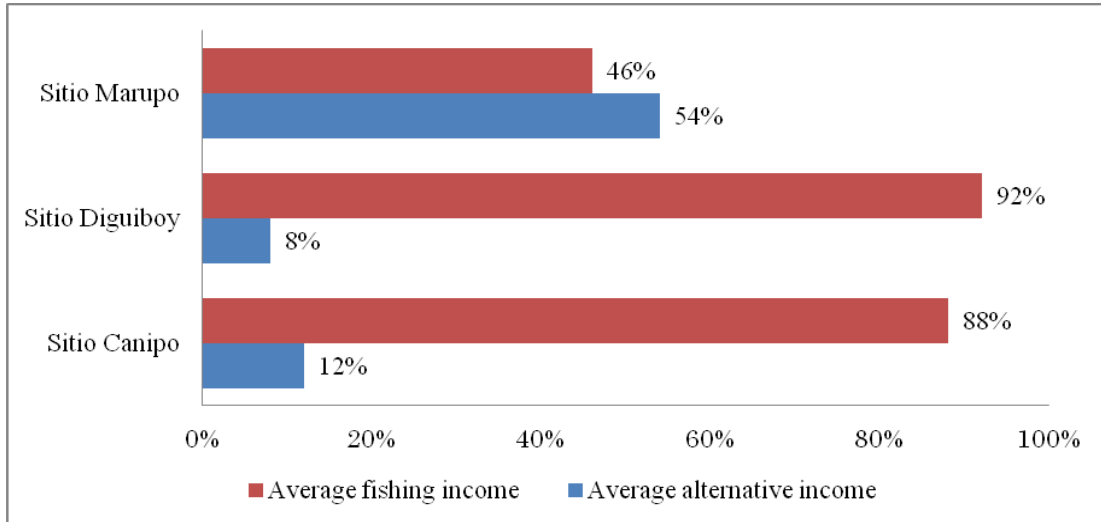
4.2 Results based on horizontal analysis

This section discusses the key findings related to the horizontal analysis, where a study of the fisherman's total household income was calculated and summarized. This was aimed at establishing what percentage of income earned by fishermen comes exclusively from fishing-related activities. In addition, alternative income sources were also calculated and analyzed to establish the income source options available for fishermen besides that which is derived from fishing, and will also be analyzed with a view to assessing how fishermen in the Municipality of Coron cope during lean or low seasons.

4.2.1 Average household income of fishermen in each surveyed area

From data collected in the three sites sampled during the research, the average total household income of Sitio Marupo was estimated at 101,371.7 pesos per year, with fishing income accounting for 46% and alternative income claiming the remaining 54%. Likewise, in Sitio Biguboy, average total household income was estimated at 274,919 pesos per year, with fishing income accounting for 92%. In the case of Sitio Canipo, the average total household income stood at 260,444 pesos per year, with fishing income accounting for about 88% of the total income. This analysis revealed that the lowest share of fishing income was in Sitio Marupo, with the two other sites registering a significant share. From this analysis, it was further observed that even if all respondents had the same occupations, the composition of their income would vary. The comparison of annual average incomes for fishermen households surveyed are displayed in figure 8 below.

Figure 8 Comparison of Annual Average Fisherman’s Household Income Source among Areas

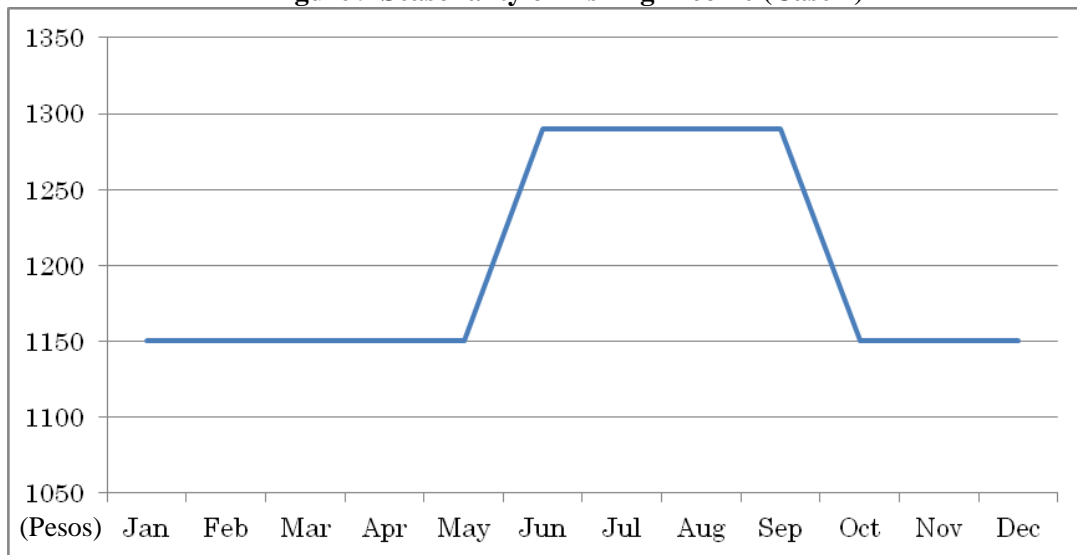


Source: Created by the authors.

4.2.2 Income from fishing: key findings & discussion

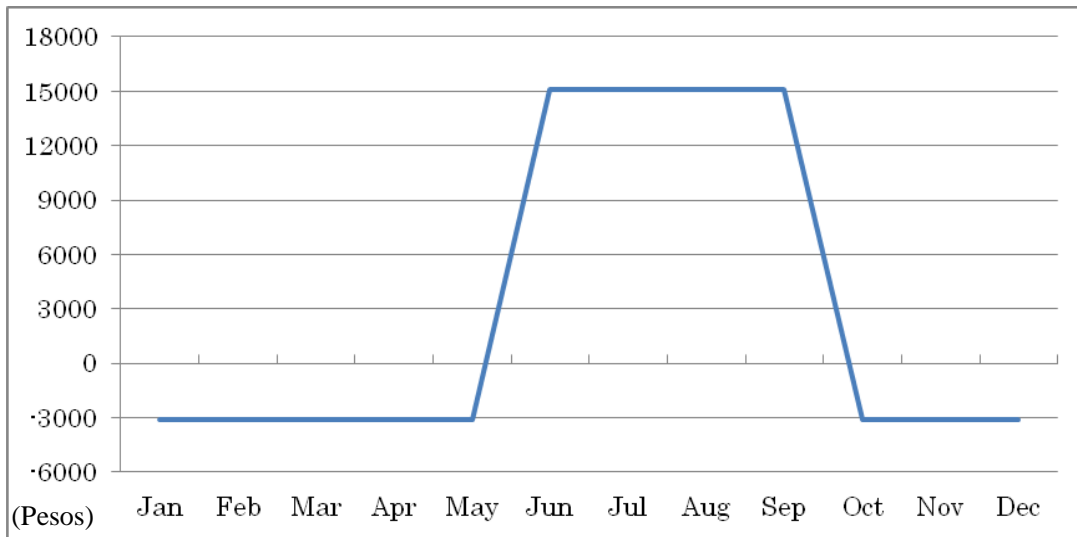
From the fishing income analysis carried out, four findings were made. First, the results established that fishing activities were affected by seasonality (peak and low season), which in turn had an effect on fishing income, as shown in both figures 9 (low) and 10 (peak). Respondent interviews also revealed that fishing income increased between May and October (peak) and decreased between November and April (low). Interestingly, this observation only affected fishing income, unlike the case of alternative income (which will be analyzed in this section as well).

Figure 9 Seasonality of Fishing Income (Case 1)



Source: Created by the authors.

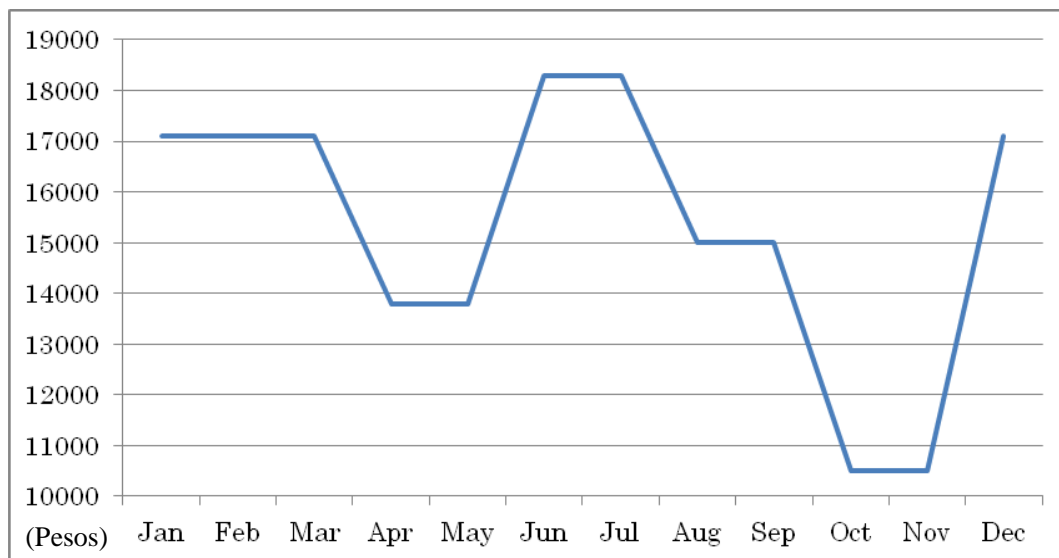
Figure 10 Seasonality of Fishing Income (Case 2)



Source: Created by the authors.

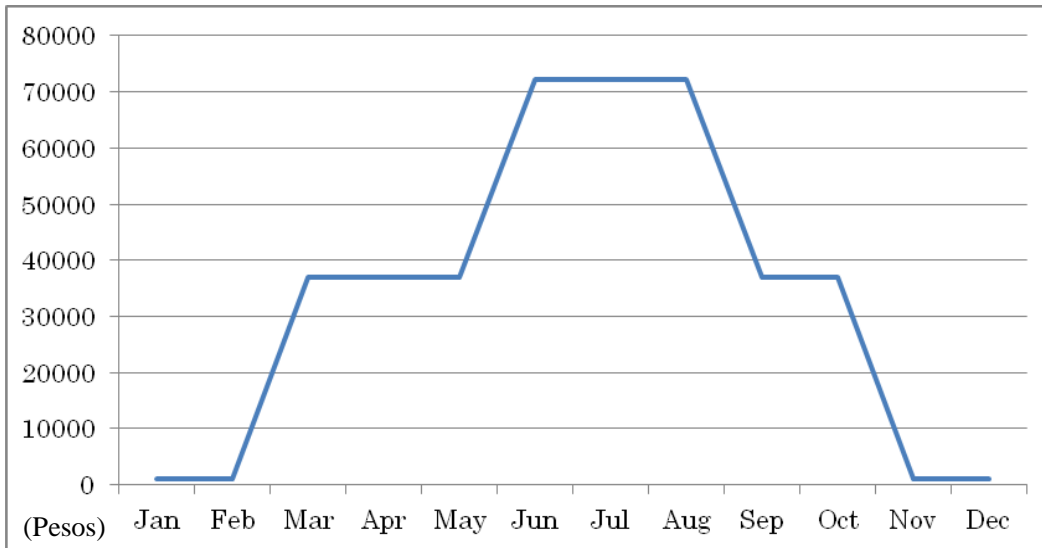
Second, results from study also revealed that fishing income fluctuated based on the great variations in monthly income. Figure 11 and 12 below show remarkable cases of fluctuation.

Figure11 Fluctuation of Fishing Income (Case 1)



Source: Created by the authors.

Figure 12 Fluctuation of Fishing Income (Case 2)



Source: Created by the authors

Third, fish selling prices varied depending on fish species, and this affected income. However, it was noted that fishing styles have a greater impact in terms of income gain. Although previously analyzed under vertical analysis, an evaluation of types of fish species caught and their selling price was an important indicator of fisherman household income. This is because fishing was observed to be the main income source for livelihood during this study. From the analysis of table 2 (see the figure above), types of fish and their selling prices were summarized. The data showed that fish are bought at approximately 100 pesos per kilogram on average, while crabs and shrimps had a relatively higher selling price.

Lastly, it was worth noting that live fish generated higher income than fresh fish (dead fish). This is owed to the fact that besides common fish species caught, the Municipality of Coron is famous for Lapu-Lapu, which fetch the highest market selling price. It was interesting to observe that the price of Lapu-Lapu was determined by whether they were dead or alive, as well as on their color and size. Further, a closer look at size revealed that there were three colors of Lapu-Lapu species traded, including red, pink and brown. Size of Lapu-Lapu was also established as an important criterion for determining selling price and included three categories, namely live, red and good (which fetched the best selling price, especially during the low season).

From data presented in table 7 below, they are trading prices for Lapu-Lapu in peak and low seasons as well as whether they are cultured or caught in the wild. It can therefore be observed that the price of wild Lapu-Lapu during the low season fetches the highest price, at approximately 3000 pesos per kilogram. Figure 8, on the other hand, shows the categorization chart which ultimately determines the price of Lapu-Lapu. Data

presented shows that 0.5 to 0.99 kilograms is categorized as good-sized Lapu-Lapu, while the undersized are cultured.

Table7 Price of Red Lapu-Lapu

Season	Live (pesos/Kg)		Fresh (pesos/Kg)	
	Culture	Wild	Culture	Wild
Peak	2300	2800	400	980
Low	2300	3000	400	1000

Source: Created by the authors.

Table8 Size Categorization of Lapu-Lapu

Size	Range
Good	0.5-0.99 (kg)
Over	1.5 (kg)
SS	1-1.5 (kg)
Under	0.3-0.48 (kg)

Source: Created by the authors.

A comparison of fisherman household income with Lapu-Lapu sales averaged 145,662 pesos per year, while income without Lapu-Lapu averaged 198,824 pesos per year. This observation was notable, considering the high market value for Lapu-Lapu. From respondent interviews, it was established that this phenomenon could be explained by the fact that fishing styles (mode of fishing) had an impact on fisherman income. Further, interviews revealed that fishermen who caught Lapu-Lapu tended to fish as a group, while those who did not went solo. This meant that catch from a group fishing trip would be divided evenly amongst all fishermen (including the boat), thereby explaining the lower amount of annual income for Lapu-Lapu fishermen.

In Sitio Biguyboy, fishermen instead engaged in catching crabs and shrimps which sold at approximately 500 pesos per kilogram. As mentioned, these prices are well above those for normal fish, with interviews showing crabs and shrimps could fetch stable market prices year round. This was an important observation because of its contribution to stabilizing fisherman annual total income. In the case of Sitio Biguyboy, all

respondents stated that they fished solo, covered all the operational fishing costs, and collected all revenue from the catch sold individually. Further, it was established that they engaged in catching crabs and shrimps in shallow and muddy water, which from interviewee responses was less costly compared to sea fishing. Consequently, it was established that although local fishermen did not engage in catching Lapu-Lapu, their solo fishing style used for catching crabs or shrimps gave them an expectation of higher fishing income.

A comparison of fishing incomes for fishermen in Sitio Marupo and Sitio Canipo showed huge disparities despite the fact that both villages engaged in Lapu-Lapu fishing. Estimates of fishing income for Sitio Marupo stood at 54,263 pesos per year, while that of Sitio Canipo was 230,410 pesos per year. This difference, according to respondents queried, was explained by the great expertise of Sitio Canipo fishermen in catching live Lapu-Lapu compared to their counterparts in Sitio Marupo. From this observation, it became evident that live fish generated higher income for fishermen than fresh fish.

4.2.3 Income from alternative activities

Results from studying alternative income opportunities illustrated three phenomena. First, yearly operated alternative jobs not only contributed towards raising total income levels but also compensated for the low fishing season. Second, culturing of fish, especially Lapu-Lapu, contributed to the stabilization of fishermen's household income. Third, tourism-related jobs such as boat captains generated higher income for fishermen, thereby having great potential to compensate for income loss experienced during low season of fishing.

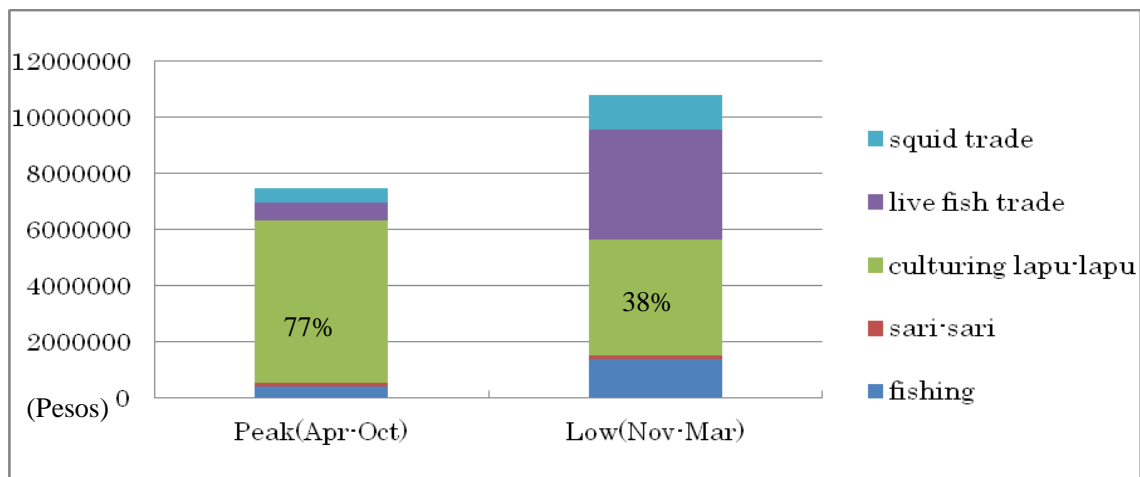
As mentioned above, it was observed that alternative income exceeded fishing income in Sitio Marupo, owing to its widespread seaweed farming activity practiced by the majority of respondents. As a result, the municipal government in Coron had become actively involved in the promotion of seaweed production as an alternative livelihood for fishermen. Besides seaweed farming, fishermen's households also engaged in other year round alternative income sources including livestock rearing, construction work, carpentry and tour guide operation. These income sources helped to level up the fishermen's total household income above fishing income.

On the other hand, in Sitio Biguyboy alternative income was treated purely as a "sideline" opportunity that was used to compensate for the low/lean season of fishing. In Sitio Canipo, respondents emphasized the importance of culturing fish. Figure 13 below shows an example of fishermen engaging in Lapu-Lapu culturing and a Sari-sari store for their alternative income sources. It was observed that culturing Lapu-Lapu accounted for nearly 80% of total household income during the peak season of fishing. From respondent feedback, it was

further observed that the price of fish in the peak season was lower than that of the low season. Similarly, income generated from fishing and the live fish trade was smaller in peak than lean months. It was, however, noted that Lapu-Lapu culturing played a significant role in stabilizing household income during the peak season of fishing.

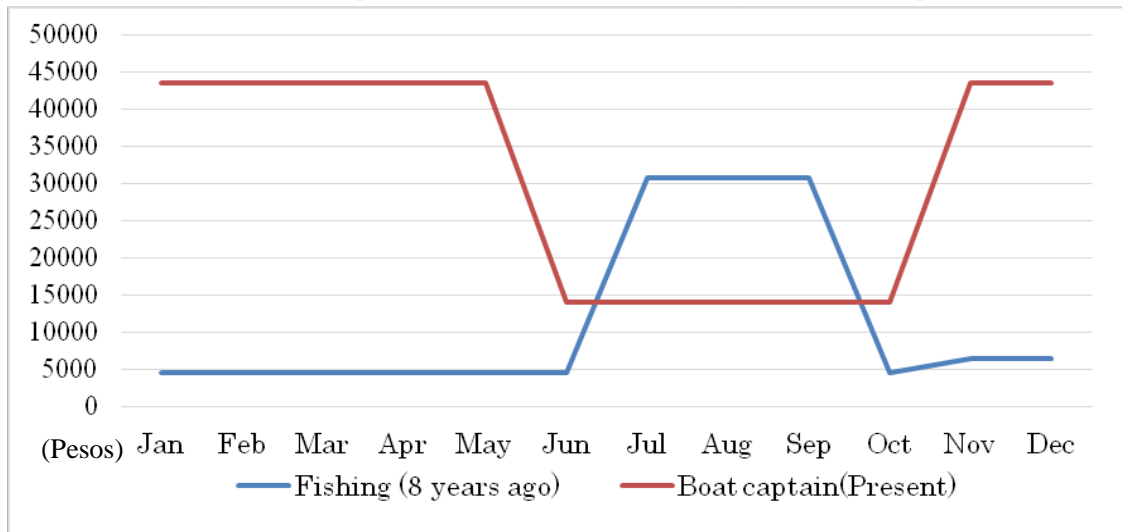
Interviews were also conducted with boat owners who had shifted from fishing to alternative tourist-related jobs. Respondent comments were reviewed and analyzed with a view to comparing previous and current income. From the analysis, it was observed that boat captainship generated higher monthly income than fishing income on average. Further, since the peak season of fishing and that of tourism were not overlapping, there was a high possibility for fishermen to engage in both fishing and tourism activities within a year to boost total income. However, revelations from respondents during interviews stated that current regulations prohibited the use of tour boats for fishing activities. Therefore, the only way one would engage in tour boat operations was by giving up fishing altogether. Figure 14 below displays a comparison between fishing and boat captain income.

Figure 13 Decomposition of a Fisherman’s Household Net Income



Source: Created by the authors.

Figure 14 Comparison of Income from Fishing and Boat Captain



Source: Created by the authors.

4.3 Conclusion

From the analysis of the vertical chain, it was established that factors affecting fisherman income included the type of fish caught, the mode of fishing, verbal contracts with fish traders and restaurants/bars, and tourist demand for fish dishes. First, results from studying respondents (restaurants and hotels, tourists) suggest that while there may be a demand for fish dishes by tourists, which triggers a trickle-down effect for demand along the vertical chain for fish, the income benefits from tourism activities are not evenly spread to the fishermen. While they engage fully in the activity, conditioned by high risk, they seem bound to remain at the bottom of the chain given the current circumstances. This observation would seem to cement the assertion made by Bene (2003) that fishermen are poor because they are fishermen. Second, the favoring of fish traders over fishermen, who from respondent interviews appear to remain at the bottom of the chain, would also fit in with Jacinto's observation (2004) that attributed fishermen's income woes to poor governance and distributional mechanisms due to underdeveloped markets. Another clear outcome from the vertical analysis relates to dealings in price which point to the fish trader having an upper hand. Finally, as mentioned in a study by FAO (2004), collective action yields bargaining power. The fact that local fishermen are not organized in large groups that can give them bargaining power leaves them vulnerable and marginalized, with no market information on price. Therefore, it is clear from the research that opening up of new market opportunities may lead to improved income for fishermen. The unbalanced bargaining power gives fish traders an edge, as does market information not being evenly disseminated. It is worth noting that despite high operational costs and seasonality in catch, the majority is still relatively able to save and establish capital owing to this advantage in their bargaining

position. This is evidenced in the results from the case where fishermen continually rent equipment but cannot afford to buy it, while the fish trader benefits more from the arrangement.

From the analysis of the horizontal chain, in line with Kapserski & Holland's observation (2013) on risks and coping mechanisms, it was concluded that local fishermen cope with the lack of income during the lean months by having alternative jobs, such as construction and carpentry. However, since fishing income fluctuates year-round, fishing households engage in year round alternative livelihood activities such as seaweed farming and Lapu-Lapu culturing to boost their household income. It was further noted that tourism-related employment, such as the popular boat captainships, generated higher income and had great potential to compensate for income loss during the low season of fishing. This observation is in line with Pabayatou & Panayatou's observation (1996) about outward shift into non-fishing activities for better income prospects.

In conclusion, this chapter has provided key results for the research questions as outlined, as well as providing detailed discussions to interpret these findings. It is therefore clear that there is a need for stakeholders to design mechanisms that will ensure a smooth, vibrant and competitive fishing sector that provides mutual benefit for all actors within the fish value chain. Therefore, the concluding chapter of this research provides suggestions and policy recommendations that can provide a good start towards achieving this goal.

5. Recommendation & Conclusion

This study focused on investigating the effect of tourism on local fishermen's income. As outlined in the previous chapter, results have been grouped into vertical and horizontal analysis based on the research questions. The findings reveal that within the fishing industry in the Municipality of Coron, fishermen invest a large stake into the chain, with little to show for it due to low income earned from selling their fish. In recognition of the crucial role played by fishermen within the chain, this chapter will first propose solutions in the form of policy recommendations that can be considered by local stakeholders within the fishing industry. Second, the chapter will conclude by summarizing the outcome of the research process by highlighting goals established, activities carried out, and finally the reporting on findings.

5.1 Addressing power relations and value chain management

Power relations between actors are a critical area of focus in effective chain operations. In the course of the research, it was established that local fishermen operate at the low end of the chain where despite their large role of supplying fish products, they remain disadvantaged with regard to income benefits. As aptly noted

by Jacinto and Pomeroy (2011), small-scale fishermen need to strengthen their organizations to improve their management of resources. The lack of organization plays a major role in reduced bargaining power. This fact has been evident throughout the research, where it was observed that fishermen have no say in price negotiations, contractual terms and agreements (which are mainly verbal), as well as in negotiating credit terms as advanced by fish traders. In addition, as pointed out by Jacinto and Pomeroy (2011), addressing relationship concerns and inequalities between fish traders and fishermen is crucial to ensure increased returns and the better sustainability of fish resources by fishermen. Further, Jacinto (2004) study of the Seaweed Industry Association of the Philippines (SIAP) showed that despite vertical integration within the seaweed chain, the majority of seaweed farmers were not organized, thus minimizing their income benefits through reduced negotiating power. **Therefore, the study proposes a stakeholder forum comprised of local government agricultural officers, BFAR, fishermen and fish trader representatives to chart a course for strong and capacity-building fishermen associations.** It is hoped this will help uplift the income prospects of local fishermen and boost chain management operations as well as sustainability prospects for the fish resource.

5.2 Need for a value addition policy within the fishery sector to improve the income of fishermen

In the course of the research, it was established that the fishing industry is driven by supply and demand. The fish catch is sold immediately. In this case, fishermen are disadvantaged due to competition and the lack of value added products to boost price. As noted by Sauzade and Rousset (2013), their study of the Moroccan small fisheries sector revealed that the largest marginal increase in value occurs at the 'first sale stage'. In their assessment, this is the point at which fishermen completely lose ownership of their catch to other players in the chain. In addition, the study further states that fishermen associations have purchased fish stock from fishermen and sold it on their behalf to minimize losses. In the course of this research, it was observed at landing sites and market points that most fishermen were faced with similar situations, where prices offered were not good but with no choice and lack of storage facilities, they had to abide by these market-set prices. Therefore, the study **proposes the training and promotion of local fishermen on simple value added technologies that are cost effective with high market value.**

It is envisioned that municipal government agricultural officers would lead this effort. As a follow-up to training, **it is also proposed that a policy on the establishment of post-harvest infrastructure be formulated.** This will require coordination from the Executive Office at the Mayor's office in close collaboration with Legislative Assembly, and followed by lobbying of both the central government and donor agencies to finance this venture. The existence of cold chain and processing facilities would offer storage of

surplus stock and offer value addition services respectively, thereby boosting prices based on the supply and demand principle. Bene, MacFayden and Allison, (2007) supported this view by concluding that interventions in the post harvest sector (processing and trading) can help in poverty alleviation. They further added that promoting local processing and value added products boosts local economic development, with Delgado et.al (2003) summing it all up with their assertion that fish income retained locally from production and processing has a nearly double net income effect on the community when compared to the value of fish sales. They are, however, quick to point out that this requires sound labor rights legislation that ensures fair redistribution and promotes local as opposed to foreign investment in processing and trading in fish products.

5.3 Market development strategies for small-scale fishermen

While it is widely stated that markets are required products, Jacinto and Pomeroy (2011) argue about the need to ensure a stable supply of fish before engaging in market development activities. However, they stated that it is difficult to ensure this stabilization by small-scale fisheries for long enough, so as to allow for market development. This they attribute to problems with overfishing due to high demand, and position the future of fish production in aquaculture. In the course of the research, it was noted that certain species, including Lapu-Lapu and shrimps, fetched high income for fishermen and attracted high demand within the value chain. In the case of Lapu-Lapu, live fish trading proved to be a lucrative source of income compared to traditional fresh fish capture. With the increased capture, fish stocks are shrinking, as is size. The research team witnessed several instances of rejected stock due to weight requirements. In this case fishermen lose out despite time and money invested in the catch. Likewise, at the local market, it was noted that shrimps fetch high value yet interviews revealed that culturing is not done locally. Therefore, **it is proposed that a Lapu-Lapu and shrimp culturing facility be established locally in Coron.** This can be done through collaboration between Fisherman Associations, local NGOs, BFAR and local government agricultural officers. This would ensure a steady supply of fish and sea food species that the research survey shows attract high demand locally (tourist demand as shown in survey findings) and overseas (export of Lapu-Lapu to Hong Kong and China).

5.4 Promotion of alternative income strategies

During the course of this research, it was established that the tourism cycle has peak and low seasons. During low seasons, fishermen income was affected, especially for those who supply fish directly to restaurants and hotels or to tourists, as outlined in the results section in the previous chapter. Interviews carried out revealed that fishing households engaged in sideline income generating activities including operation of sari

sari stores, carpentry, brick making and seaweed farming. **It is proposed that strategies to boost the production and market development of seaweed farming be enhanced** judging from its good performance as outlined in national BFAR statistics. It was further noted that there was an outward shift by fishermen to tour boat operation, with those interviewed affirming that income proceeds were better than in traditional fishing. This observation is perhaps supported by Panayotou and Panayotou (1996), which notes that whereas shifting in and out of fishing exists, the trend is lower when compared to shifts in non-fishing occupations. In addition, they assert that movement of labor away from fishing is greater than movement into it, and attribute this outward migration to favorable economic incentives. To prevent an influx of boat operators leading to market saturation, **it is proposed that the local government's Tourism Department explore other creative tourism livelihoods, such as promotion of a year-round tourism fishing package.** This would be a joint collaborative effort between local fishing communities and the local government with the support of stakeholders.

5.5 Conclusion

This research sought to investigate the effects of tourism on fisherman income in the Municipality of Coron. In carrying out the research, the team was guided by two research questions that focused on fisherman income prospects within the local fish value chain, as well as income sources during lean months and further occasioned by seasonality in tourist numbers. In an effort to address these questions, the research made use of concurrent mixed methodology through the use of interviews and survey questionnaires to targeted respondents. Results revealed a growing disconnect between the fisherman's role in the fish value chain and revenue distribution. It also revealed that alternative income prospects were not as promising and that more needed to be done so as to ensure stability in his income stream.

It is therefore worth noting that to ensure better income prospects for fishermen while guarding against overfishing, increasing the value of the fish caught as opposed to stock quantity is crucial. This can only be realized through effective ecosystem management by all stakeholders. The effective management of marine water resources is important. In addition, the fishermen's capacity must be built through strengthened associations which grant them better negotiation and a larger stake in Coron's thriving fish industry.

Finally, proposed recommendations are solely based on observations and findings carried out during the research. These proposals represent the research teams' assessment of some challenges facing the sector (within the scope of the research), and suggests interventions to improve income livelihood prospects for local fisherman.

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Working Group 2

Tourism and Governance

Tagbanua People's Participation in Tourism Development in Coron

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1. Introduction

1.1 Coron Island

Coron Island is about 170 nautical miles southwest of Manila and it is part of the larger Municipality of Coron. The island is composed of two villages, which are Banuang Daan and Cabugao, and the majority of the population on the island is Tagbanua. It is a part of the ancestral domain of the indigenous Tagbanua people and it covers both land and water around the island. In 1967, Coron Island was first declared as national reserve, and as a Tourist Zone and Marine Reserve later in 1978. Coron Island was included in the priority protected areas under both the National Integrated Protected Areas Program and Strategic Environmental Plan.

1.2 IPRA Law in the Philippines

Indigenous Peoples' Rights Act of 1997 (hereafter IPRA) was enshrined in the Philippine Constitution in order to be the fundamental basis for the rights of indigenous peoples in the Philippines. The law gives the protection to indigenous peoples' rights in the use of natural resources in their ancestral domain. The most important issue emerging from IPRA is the recognition of the property rights of indigenous peoples over their ancestral domains and ancestral lands. Such ownership is in the form of a Certificate of Ancestral Domain Title (CADT) (Mayo-Anda, Cagatulla, & La Viña, 2006). Tagbanua have to first claim the land to be ancestral domain, and once it is approved, then the Certificate of Ancestral Domain Claim (CADC) is approved to be converted to CADT by the National Commission on Indigenous Peoples (NCIP). To convert CADC into a Certificate of Ancestral Domain Title is another challenge for the Tagbanua. Furthermore, IPRA grants power to the traditional tribal council, which is composed of the tribal chief, council members and spiritual advisors, in order to draft policies on natural resource use and development plans in the ancestral domain autonomously in each area.

1.3 Tagbanua on Coron Island

Tagbanua are known as indigenous people of the Calamianes, and live on Coron Island as well as other rural areas of the municipality (Fabinyi, 2011). In 1992, the Department of Environment and Natural Resources (DENR) gave an administrative order which awarded a Certificate of Ancestral Domain Claim (CADC). By 1998, the Tagbanua of Coron Island were awarded a Certificate of Ancestral Domain Title (CADT) over more than 22,000 hectares of land and sea by the Department of Environment and Natural Resources (Corrigan & Granziera, 2010). CADT is the title to the land and the sea that have sustained the communities for centuries. It gives the Tagbanua indigenous people the right to manage the area and preserve its rich marine and land

resources (Tomeldan 2009). The majority of people still rely on traditional livelihoods such as fishing, seaweed farming and seashell catching.

1.4 Tourism development on Coron Island

The Municipality of Coron, in general, is being promoted by both provincial and national governments as a new tourist destination of the Philippines (Fabinyi, 2011). Coron Island, being the largest island in the Municipality of Coron, and as home to Kayangan Lake, lagoons, rich Tagbanua culture and limestone cliffs, it now attracts many tourists from both inside and outside the Philippines. While a popular tourism destination with an increasing number of tourists, Coron Island is also a major natural resource protected area, and as of 2012, Coron Island accepts only 1000 tourists a day. Lakes, which are ancestral domain, are considered sacred by Tagbanua, and among many lakes found on the island, only two of them are open to tourists, namely Kayangan and Luluyuwan, with both lakes being awarded as cleanest lake in the Philippines. Also, beaches are restricted to tourists and only seven out of thirty three existing beaches are open for visitors.

1.5 Governance and tourism in the Philippines

The Philippines completed its first national tourism master plan, called the 1991-2010 Tourism Master Plan (TMP), in 1991 as the framework and guide of the Department of Tourism (DOT) for the sustained development and expansion of the tourism industry throughout the Philippines. The code (Section 17) gives Local Government Unit's (LGUs) responsibility for basic services and facilities that include tourism development and promotion programs, tourism facilities and other tourist attractions, including the acquisition of equipment, regulation and supervision of business concessions, and security services for such facilities. LGUs, as a corporate entity (Section 15) are also vested corporate powers with full autonomy (Dual responsibilities of LGU).

2. Objectives and Significance of the Study

The objective of this research is to find out the dynamic of the relationship among different stakeholders in tourism development in Coron Island. Among the identified stakeholders, we decided to focus on how such relationship affects the participation of Tagbanua people; since they are the proprietors of the most visited TDAs in the municipality of Coron and thus are subjected to diverse effects of the changes brought about by tourism. In addition to the relationship of stakeholders, we will look at the possible ways in which Tagbanua people can currently participate in tourism development with regard to legal aspects, and also see if those

relationships and legal aspects lead to different knowledge and attitude among different stakeholders toward Tagbanua participation in tourism development.

The research on tourism and governance is very significant, due to the great potential of tourism on Coron Island. We believe that governance issues play a major role in the development of the locality, and a participatory approach for all stakeholders in the tourism development plan is necessary for comprehensive development of the island as a whole. The capability of coordinating and managing tourism development while comprehensively involving all stakeholders in the tourism plan can propel the long-term success of development in the area. Therefore, this study aims to provide significant insights on the governance of tourism development on Coron Island.

In particular, the participation of the Tagbanua in tourism development in Coron Island is of special significance, since it highlights the challenges that arise with the boom of tourism in protected areas. Considering the remaining poverty and vulnerability of the Tagbanua, despite increasing revenues from Tourism in the area, we believe that understanding their participation is crucial for identifying the gaps between tourism development and better living conditions in Coron Island and, thus, find alternative ways for channeling tourism development for poverty alleviation and increased well being.

In the academic field, we would like to contribute to the theoretical debate regarding Indigenous People's participation in tourism development, drawing lessons from both critics of the impacts of the tourism industry and enthusiasts of the potential of tourism to improve the livelihoods of Indigenous Peoples and the community in general.

3. Methodology and Limitations

3.1 Methodology

The objective of this paper is to assess the participation and involvement of Tagbanua people in the development of tourism on Coron Island. In order to do so, the researchers conducted semi-structured interviews with different stakeholders.

Due to time limitations, only 18 in-depth interviews were conducted. Our interviewees were composed of officers from the administrative and legislative department of the Coron Local Government Unit (LGU), NCIP, an investor, NGOs, members of the Council of Elders of the Tagbanua and individual community members from two *barangays*. The complete list of the interviewees can be seen in **Appendix 1**. The interviewees were reached through a contact person who was working in the Coron LGU.

The researchers categorized the main components of analysis to answer the three variables from the objective. The interviews were analyzed qualitatively through the combination of the Logical Framework Approach (LFA) (Stakeholders Analysis [SA] and Problem Analysis) and Social Network Analysis (SNA) methods.

LFA is an analytical and management tool that was developed in the 1960s by the US Agency of International Development to improve the planning, monitoring and evaluation of their projects overseas. The LFA has been an integral part of participatory projects, especially in its consideration of the roles that different stakeholders play in the success of projects (European Integration Office, 2011).

Two LFA methods were used in this paper. First, the stakeholder analysis was used specifically to identify the major stakeholders, assess their influence on the current situation, and evaluate their level of importance in promoting the participation of Tagbanua people in tourism development in Coron.

However, stakeholder analysis often takes for granted the effects of communication or social networks in understanding stakeholder relationships (Prell, Hubacek & Reed, 2009). To fill this gap, we used Social Network Analysis. We analyzed the social networks by using a map of relationship indicators to see the existing structural pattern among the stakeholders.

The Problem Analysis, on the other hand, was used to identify the current problems and constraints in the participation of the Tagbanua people in tourism development. Through the identification of the root causes and the effects of the problem, the researchers were able to find opportunities that were used to resolve issues that hinder the building of a harmonious relationship between all the stakeholders in managing tourism development in Coron.

The interview data was triangulated with the secondary data that were collected, such as books, journals, government reports, statistical data, development plans, project plans, and so forth.

3.2 Limitation

Due to time constraints, we were only able to visit two Tagbanua communities. Therefore, we decided to base our analysis on the data that we got from the villages of Banuang Daan and Lajala. Most of the households we interviewed were located near the shore, since they were the most accessible. Furthermore, although we recognize that the fieldwork scope was mainly these two Tagbanua villages and that other villages might have different experiences with regard to tourism development, we would like to extend our recommendations to the whole municipality of Coron.

In addition, we think that since we were introduced as guests of the Coron LGU doing academic research on the area, opinions and perceptions of the respondents might not be free of bias.

4. Literature Review

4.1 Governance and Participation

The relationship between development and participation might seem a given in project formulation nowadays due to the mainstreaming of the concept; however, it was relatively recently that development studies and practice shifted towards local participation and empowerment. Parallel to the incorporation of civil society as a main actor in development, terms such as stakeholders and local governance emerged. This so-called new paradigm has argued for an agenda of more localized, empirically based and inductive approaches to development that can be materialized in, for example, the implementation of Participatory Poverty Assessments, an increasing valorization of local knowledge, and the need for locally-determined development.

Though there is no consensus over the definition of participation the term can be simply defined as granting influence over decisions to those groups or individuals affected by those decisions. The concept of participation emerged alongside with democratization processes that happened throughout the world during the 1960s and has become widely used in a series of different governance fields such as education and urban planning, as well as tourism development.

While most development projects, both national and international, now use the jargon of participation in their planning and monitoring systems, some scholars argue that solely listening to communities and the general public's views at hearings is insufficient to comply with the definition of participation. In this sense, actual participation only occurs when these views are incorporated in the decision itself, in other words, when they directly affect decision-making.

Beyond its wide acceptance as a requirement for good governance and for bottom-up approaches to project cycle planning, management and monitoring, participation is an crucial issue particularly when different groups of citizens start to demand increasing shares of power to affect decision-making in government decisions, normally accompanied by claims of inequitable or unjust distribution of such power.

Discussing participation in decision-making within the context of governance is especially needed in the field of tourism development, as according to Johnston (2013) with tourism governments tend to be more caught up in the industry than in other fields of the global economy, with major state investments and tax incentives making it difficult to differentiate between the scopes of action of the private and public sectors.

Within the context of tourism development the participatory approach framework emerged alongside issues of collaborative planning, eco-tourism, and community-based tourism initiatives starting from the mid-1980s. According to Bramwell & Lane (1993), broad stakeholder involvement in tourism planning can lead to deeper consideration of social-economic and political issues that come with becoming a tourist destination area. In this sense, the use of participatory approaches and stakeholder engagement are often recognized as essential features for sustainable tourism. At the same time, participation itself can be a driving force for increased independence and awareness of community issues, by building capacities and balancing competing interests, as well as feelings of shared responsibility (Warner, 1997).

Participation is broadly included in tourism development through the concept of collaborative planning. This term usually refers to a direct dialogue between participating stakeholders, aiming to generate negotiations that enable shared decision-making and the building of consensus regarding tourism objectives and strategies (Bramwell & Sharman, 1999). Nevertheless, as in many other fields of development, participation in tourism planning can often be instrumentalized for confirmation and legitimacy purposes, when it is limited to gathering information and one-way consultation processes.

While initially most research on participatory approaches to tourism development tended to focus on the impacts of tourism on environmental and cultural conservation, the concept of pro-poor tourism emerged as a perspective that prioritizes tourism effects on the livelihoods of the most socio-economically vulnerable, focusing on how pro-poor strategies can increase the contribution of tourism to poverty reduction. This focus on responding to unequal economic gains and distribution of tourism profits generally happens through the integration of local communities in the planning process, and thus tries to incorporate indigenous communities not as resources for exploitation or obstacles to development goals, but as the main end behind tourism development (Ashley and Roe, 2002).

On the other hand, critiques of participatory tourism planning processes call attention to the possibility of reinforcing pre-existing power structures within communities and, thus, reinforcing alienation as well as creating further conflict through social disintegration when networks of interaction are not established (Koutsouris, 2009).

Taking into consideration assessments of participatory tourism planning initiatives, one fundamental aspect in making successful participatory plans seems to be trust, particularly in the process of decision making. Institutional trust, as the extent to which each stakeholder, and governments in particular, can be relied on based on previous experiences, plays a major role in effective participatory tourism development (Nunkoo and

Ramkissoon, 2011). This notion arises as a special concern within the case of the Tagbanua's participation in tourism development in Corón Island, as shall be discussed further in the findings of our research.

As the brief overview of the application of participatory approaches to tourism development provide above shows, several scholar have argued for the potential of participatory tourism, in particular for the necessity of effective involvement at an early stage in the decision-making process, allowing in this way for the possibility of denying further tourism development as a whole. Accordingly, the term community participation seems to incorporate both a new type of development intervention and a theoretical framework and political standpoint in the field of tourism development.

When it comes to Indigenous Peoples' right to participation, it is noted that the pressure to carry out consultation is building across industries, as each country moves to incorporate the ideas of Ancestral Domain and Free and Prior Informed Consent into their national legal frameworks. Within the scope of tourism development, the idea of community participation, which includes both power over decision-making and benefit-sharing, is central, but remains a burdensome requirement to a significant part of the industry (Johnston, 2013) .

One of the primary questions with regard to Indigenous Peoples' participation in tourism development is who can give consent, as even among Indigenous Peoples there is often great ambiguity regarding identity as well as internal coordination and representation (Johnston, 2013). Our research attempts to bring further light on the literature by discussing the issues surrounding the Tagbanua's internal organization and mechanisms of representation such as the Tribal Council, as well as trying to draw lessons from the experiences of other Indigenous Peoples' participation in tourism development, as shall be further discussed in the following section.

4.2 Indigenous People rights and tourism development

The tourism activities which are related to Indigenous People are significantly different from other types because there are key challenges about how to have an effective balance between Indigenous People's rights and interests in light of tourism development. Therefore, in this section, we will systematically separate this issue into two aspects: (1) the characteristics of indigenous tourism and (2) the basic rights of Indigenous Peoples.

4.2.1 The characteristics of indigenous tourism

The distinctiveness of Indigenous Peoples' inheritance of land and culture is being in the on-going trend of tourism activities for other people who would like to experience intriguingly inherited natural resources and

culture from unique native people in various areas in the world. Hence, it is vital to find the unique characteristics of indigenous tourism in light of the relation between Indigenous People and tourism development issues.

In the relation to the meaning of the phrase “indigenous people”, there are various ways to explain the characteristics of indigenous people. However, there is the interesting elaboration from Hinch (2004) who describes that basically “indigenous people” refers to nations, communities, and peoples that could mainly continue their livelihood the same as their historical experience in the period of pre-invasion and precolonial societies. Moreover, there is the definition defined in the United Nations Declaration on the Rights of Indigenous Peoples: A Manual for National Human Rights Institutions by the Asia Pacific Forum of National Human Rights Institutions (APF) and the Office of the United Nations High Commissioner for Human Rights (OHCHR) (2013) which refers to people who:

[C]onsider themselves distinct from other sectors of societies now prevailing in those territories, or parts of them. They form at present non-dominant sectors of society and are determined to preserve, develop, and transmit to future generations their ancestral territories, and their ethnic identity, as the basis of their continued existence as peoples, in accordance with their own cultural patterns, social institutions and legal systems (p.6).

After defining the meaning of Indigenous People, the next issue which is worth understanding in this context is the concept of indigenous tourism. The indigenous tourism is the type of tourism activities by means of controlling and serving traditional culture of Indigenous People as well as natural resources in their ancestral areas that are the core attraction to the tourists who come from outside communities (Hinch, 2004).

Therefore, the inherited tourism spots and traditional culture are the unique characteristics of indigenous tourism, and these characteristics are significantly related to the basic rights of Indigenous People and tourism development.

4.2.2 The basic rights of Indigenous People and tourism development

The two main types of rights, which consist of (1) the basic rights of Indigenous People in general, and (2) the legal framework of the Philippines, will be stated in this section.

(1) The basic rights of Indigenous People in general

According to Johnston (2003), when Indigenous People are involved in tourism activities, the human rights and indigenous rights are the discourses that parallel the tourism development issues. On the one hand, it is necessary to be aware of human rights because the general human rights issues can be connected to tourism development. In the relation to human rights discourse, there are the following six most relevant tourism activities involving in the human rights issues: (i) the distorted notion of rights among consumers; (ii) willful ignorance of consumers; (iii) high demand for affordable travel; (iv) the prevalence of sustainable products; (v) the absence of effective regulation; and (vi) misrepresentation of ecotourism.

On the other hand, when we discuss about the rights of Indigenous People in general, the other issue besides the human rights is Indigenous People's rights. In light of Indigenous People rights, there are two predominant indigenous rights issues, which are self-determination and prior informed consent.

(2) The right of Indigenous People in the legal framework of the Philippines

There are the two main legal instruments which structure the main framework for the rights of Indigenous People in the Philippines: the Constitution of the Philippines and the Indigenous People's Right Act.

The Philippine Constitution of 1987

The 1987 Constitution of the Philippines contains legal provisions which define the state's absolute jurisdiction to control natural resources such as fisheries and other coastal resources, as well as pay attention to the roles of local communities and Indigenous Peoples.

Specifically, Article 12, Section 5 of the constitution states that:

The State, subject to the provisions of this Constitution and national development policies and programs, shall protect the rights of indigenous cultural communities to their ancestral lands to ensure their economic, social, and cultural well-being. The Congress may provide for the applicability of customary laws governing property rights or relations in determining the ownership and extent of ancestral domain.

This article is the foundation of the legal framework to guarantee the rights of Indigenous Peoples in the Philippines, which means it is the legal safeguard protecting the rights of and giving preferential treatment to Indigenous People as a necessary measure of social justice and equity.

Indigenous People's Right Act of 1997

The Indigenous Peoples' Rights Act of 1997 (IPRA) is part of the Constitution of the Philippines and the fundamental framework for Indigenous Peoples in the Philippines. The law gives protection to Indigenous Peoples' right to use natural resources in their ancestral domain.

The most important issue from IPRA is the recognition of the property rights of Indigenous Peoples over their ancestral domains and ancestral lands. Furthermore, IPRA grants power to the traditional tribal council, which is composed of the tribal chief, council members and spiritual advisers, in order to draft policies on natural resource use and development plans in the ancestral domain autonomously. The tribal council is able to implement community rights by traditional tribal justice systems as a signature of their cultural identity and autonomy from the national laws.

The principle of the recognition of the property rights of Indigenous Peoples leads to the legal framework which grants the Indigenous People the right to refuse or to allow the entry of development projects into their ancestral domain. Thus, the Indigenous People have their own priorities in development issues and conserve their right to have self-determination and recognition of their cultural integrity.

Basically, before any person is permitted to access resources, the Free and Prior Informed Consent (FPIC) of the community should be granted in accordance with the customary laws in each area. The FPIC is described in Part 3, Section 3 of the National Commission on Indigenous Peoples Administrative Order No. 1, or the Implementing Rules and Regulations of IPRA, as follows:

The indigenous cultural communities/indigenous peoples shall, within their communities, determine for themselves policies, development programs, projects and plans to meet their identified priority needs and concerns. The indigenous cultural communities/indigenous peoples shall have the right to accept or reject a certain development intervention in their particular communities.

In conclusion, there are legal frameworks that have expressed the understanding on Indigenous People's rights and their needs as well as their interests. Furthermore, the laws mentioned above represent the commitments to establish the legal frameworks recognizing Indigenous People's rights so as to assist them to live peacefully in their ancestral areas and traditional system of management. To sum up, Tagbanua people are recognized as Indigenous People under the Philippine Constitution of 1987 and Indigenous Peoples' Rights Act of 1997, as well as holding the Certificate of Ancestral Domain Title (CADT).

5. Findings

5.1 Stakeholder Identification

In order to analyze the dynamic of the governance within the municipality, it was necessary to identify the relevant stakeholders in the context of governance and tourism development in the Municipality of Coron. Therefore, we identified the following main five stakeholders.

5.1.1 National Government

In the Philippines, it is not only the local government unit which has duties to support the municipality, but also various organizations from the national government which have vital roles to support both the local government and Indigenous People. With reference to our fieldwork, we recognized that there are many entities from the national government which take part in the governance and tourism development process. However, because of time limitation of our research, we could interview representatives from only two national government entities which act in the municipality to reinforce the indigenous community and local government units in their objectives. The details of the two national government entities are explained below.

(1) National Commission on Indigenous Peoples (“NCIP”)

With reference to the Indigenous People Rights Act 1997 (RA 8371) (“IPRA”), the NCIP is the organization which protects and promotes the interests and well-being of Indigenous People.

(2) Department of Interior and Local Government (“DILG”)

With reference to the Local Government Code of the Philippines, the DILG has its own objectives to strengthen the capacity of local government units and establish a system of coordination and cooperation among the citizenry, local executives, and the department in order to ensure effective and efficient delivery of services to the public.

5.1.2 Local Government Units (“LGU”)

With reference to Book I, Section 15 of the Local Government Code of 1991, the LGU exercises powers as a political subdivision of the national government and as a corporate entity representing the inhabitants of its territory. There are two LGU organs which take part in the tourism development process in Coron:

- The legislative power has the main functions in legislative purposes in order to promulgate local laws, rules, and policies to regulate in the municipality.

- The executive power has the main functions in administrative purposes in order to implement laws and rules from the legislative power, as well as manage the local governance system in Coron.

With regard to administration by the LGU in the Tagbanua community, we found that there is the Barangay unit, which is the smallest unit and plans and implements government policies, plans, programs, projects and activities in the community.

5.1.3 Investors

With the tourism boom in Coron since the early 2000s, there has been a great deal of investment from tourism-related enterprises such as hotels, restaurants, and other facilities to support tourists, to enterprises related to natural resources. In our fieldwork, we had the opportunity to interview a representative from the Hikari SSP Corporation, which is a foreign investor from Japan that has been running a pearl business based on the natural resources of Coron Island.

5.1.4 NGOs

In the context of governance, we have to accept that not only the national agencies, local government unit, and investors are important stakeholders, but also the NGOs that have been reinforcing the livelihood of Indigenous People are also vital for tourism development. NGOs are supposed to be the stakeholders who reinforce the cooperation between Indigenous People and national agencies as well as the local government unit in order to have inclusive development of the governance system in the Coron community.

During the fieldwork, we had the opportunity to interview the a representative from Coron Initiative, a local NGO with the objective of encouraging sustainable development and tourism facilitation for Coron and the Calamianes Islands' businesses, agencies, non-governmental and non-profit organizations, small and medium enterprises (SME's), and the Calamianes Islands community.

5.1.5 Tagbanua Community

The Tagbanua community is the essential stakeholder, and we found that there are three main organs related to decision-making processes and tourism development on Coron Island:

(1) The Council of Elders

With reference to the IPRA and customary law of the Tagbanua people, the council of elder is the cultural leadership system that leads the community of Tagbanua people, mainly in making decisions about matters which are important to their community.

Through the application of the simplest form of social network analysis we mapped out the ties of interaction from the perspective of the Tagbanua individual, considering not only his/her centrality to our research focus, but also the importance of reaching those in the most vulnerable positions, generally excluded from representation even within their own communities. Each one of the nodes (balloons) represents an individual or organization, connected by ties of interdependency that signify socially meaningful relations (Prell, Hubacek & Reed, 2009). The width of the arrows indicates the strength of the tie between stakeholders, based on the frequency of their interaction and intensity of the relationship. On the other hand, the distance between the nodes and their positioning indicates the closeness of the relationship both in terms of intimacy and trust.

From our fieldwork analysis we could observe that the Tagbanua individual has a close and strong tie to the Council of Elders, since this is their indigenous political structure. This manifests itself in the direct consultation with the elders for solving issues within the community, reliance on them for communicating concerns about the management of the ancestral domain, and in theory being the first ones to be informed whenever people from the community have problems regarding tourism. The council of elders seems to have a high degree of centrality, holding strong ties also to the National Commission for Indigenous Peoples (NCIP), the Barangay, and the Tagbanua Tribe of Coron Island Association (TTCIA).

When it comes to information sharing, particularly concerning matters of Ancestral Domain and granting of Free and Prior Informed Consent, there seems to be no direct connection between NCIP and the individual Tagbanua, giving that most were unable to recognize the organization's roles in the community and claimed to get their information only through meetings conducted by the elders. Other organizations, such as developmental NGOs engaging in reconstruction work, particularly after Typhoon Hayan, seem to have a closer relationship to the Tagbanua individuals, often being mentioned as carrying out projects in the area, such as Cordaid, for example. In this sense, the Council of Elders acts as an intermediary connector between the community and NCIP, which have no direct connection to each other.

As for the relationship between the Council of Elders and the Barangay officials, our observations showed that, although they are in frequent contact and closely related through their belonging to the same small community, there is clearly a conflict over overlapping jurisdictions and responsibilities of the two decision-making bodies. Barangay officials do not feel represented either by the elders or TTCIA and feel like their authority is not recognized within the community, since issues of higher complexity tend to be handled by the Council of Elders, even when falling within the legal scope of the Barangay. According to the statements of the Banuang Daan Barangay officials, it was only after the Hayan Hurricane, with the visit from a national

officer, that they recognized their legal entitlement to be “on the same level” as the Council of Elders. Such a complex relationship is a direct reflection of the overlapping of the IPRA Law and the Local Government Unit code.

Similarly, despite the closeness of the relationship and strong ties between the Council of Elders and the TTCIA, this proximity is not reflected in transparency in information sharing nor in the power of the council over matters in tourist destination areas. This is a paradox, considering that TTCIA’s Board of Trustees and employees are appointed by the Council of Elders. Even though TTCIA members claim that the highest authority for decision-making in tourism matters lies with the elders, there is a great disconnect between their guidelines and the actions carried out in issues such as the limit of tourist’s arrivals per day to Kayagnan Lake and the closing time of the ancestral domain. On the same note, there is a gap between the information provided by the elders and TTCIA on the share of the earnings that is assigned to the elders.

Considering that actors sharing strong ties are more likely to influence one another (Wellman and Frank 2001), the Council of Elders is placed in an strategic position for influencing participation within the Tagbanua community, since they share strong ties with four stakeholders and work as a bridge between the individual Tagbanua and NCIP.

The Local Government Unit is placed closely to the investors, given that the municipality’s main policy priorities for tourism development consist of making Coron a business-friendly town and meeting international standards for the further attraction of investments. This proximity reflects the level of influence of business over tourism development, since actors who are closer to each other may be able to exert more power than those who are distant (Prell, Hubacek& Reed, 2009).

On the other hand, there is no direct tie between the LGU and the Tagbanua individual, and their interaction relies on weak ties between the individuals and the Barangay representatives, and the Barangay representatives and the LGU. These weak ties can be considered one of the reasons behind the difficulties in communication of complex information and lack of trust in one another (Bodin, Crona and Ernstson, 2006). What is more, taking into account the importance of the distance among actors as a macro-characteristic of the network (Bodin, Cronaand Ernstson, 2006), the distance between the LGU and a great part of the network (situated on the right side of the figure), is an indicator of the lack of channels for Tagbanua participation in tourism development. According to the Introduction to Social Network Methods textbook (Retrieved from http://faculty.ucr.edu/~hanneman/nettext/C7_Connection.html) large distances may lead to slower information sharing and higher costs of conducting exchanges between stakeholders.

We chose to represent the relationship between the LGU and NCIP with the justice symbol, since this tie is characterized by the judicialization of the connection among the two government bodies in the Municipality of Coron. There have been a series of misunderstandings between the two bodies, both over the legitimacy of the mandatory indigenous people's representative, since the elected representative has not been recognized by the Legislative, as well as matters of jurisdiction in Ancestral domains, where there seems to be no clear understanding over the limits of the Municipality authority, particularly on what concerns taxation. It can be argued that this conflictive relationship is a consequence of the absence of strong ties between the two stakeholders that has gradually eroded into antagonistic attitudes.

We believe that by focusing on the structure of the ties between stakeholders, instead of understanding them as discrete units of analysis (GTZ, 2007), we are able to see the role this structure plays in shaping the way Tagbanua People participate in tourism development on Coron Island. The application of the Social Network Analysis theoretical framework helps to uncover conflicts of interest, such as the one between the LGU and NCIP, as well as exposing hidden connections in order to better visualize patterns of interaction among stakeholders (GTZ, 2007).

The given indicators presented in this section help to identify key actors and provide systematic information on relevant stakeholders, providing necessary preliminary data on the effects of communication and social network in understanding stakeholder analysis. The following section builds from those findings to apply the stakeholder analysis framework to the governance of tourism development in the Municipality of Coron.

5.3 Stakeholder Analysis

The stakeholder analysis reflects characteristics of each stakeholder, which consists of individuals, groups, and organizations. In order to have the effective analysis which is based on the practical method, we would apply the global framework of the Importance/Influence Matrix defined by the Department for International Development (DFID), the Government of the United Kingdom to our stakeholder analysis. According to the Tools for Development by DFID (2003), there is the way to explain the stakeholder analysis by the framework of the Importance/Influence Matrix by grouping each stakeholder regarding the degree of its importance and influence.

In order to apply the meaning of Importance/Influence Matrix based on DFID's global framework to this research, we would identify the meaning of the importance and influence by the following two points:

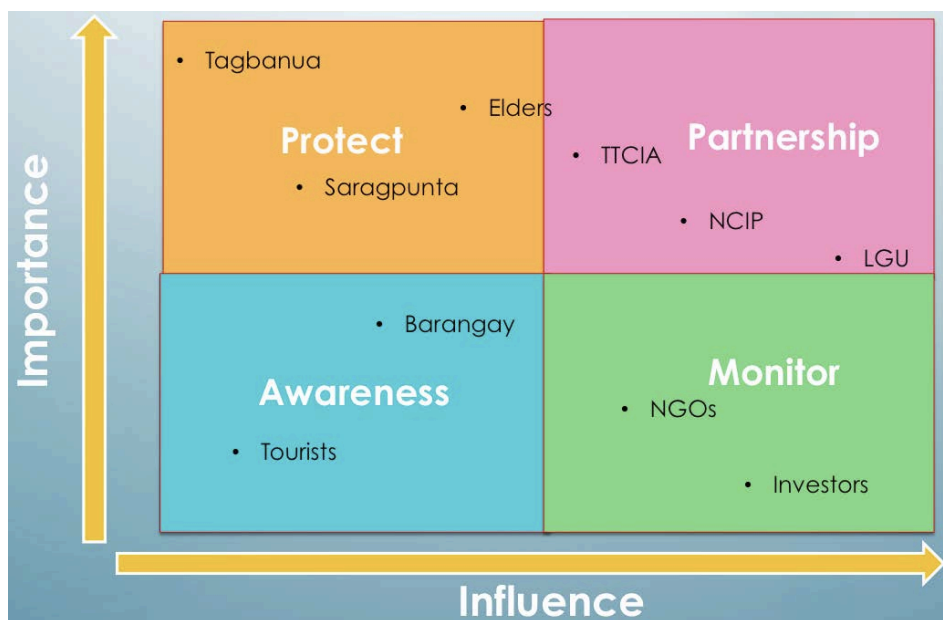
First of all, “importance” means the recognition of the great value of indigenous participation in tourism development among other stakeholders in relation to the social network analysis. In addition, “influence” means the degree of each stakeholder’s outreach in decision-making processes among other stakeholders (DFID, 2003).

Furthermore, in the light of the practical solutions, there is the integrated scheme relating to the stakeholder analysis by Asian Project Management Support Programme (APMAS) which applies the Importance/Influence Matrix to be four categories of the practical solutions which are protect; partnership; awareness; and monitor (APMAS, 2010).

Therefore, we consider that stakeholder analysis is necessary to our research not only for understanding the current situation, but also to make suitable recommendations to each stakeholder. The objective of stakeholder analysis is to propose well-rounded and appropriate solutions to each of stakeholder as well as the issues they should pay most attention to (Golder & Gawler, 2005).

The diagram below shows the stakeholder analysis which can be used to generate knowledge about relevant actors in order to understand their behaviour, intensions, interrelations, agendas, and interests, which illustrate the importance and influence of each stakeholder in the Coron community (DFID, 2003, Brugha & Varvasovszky, 2000).

Figure 2 Stakeholder Analysis



Source: Created by the authors.

According to the diagram, there are two perspectives for stakeholder analysis. On the one hand, the vertical aspect is the importance perspective of the stakeholder, and on the other hand, the horizontal aspect is the influence of the stakeholder. With reference to our fieldwork, we found that there are ten relevant stakeholders in the tourism development on Coron Island which could be grouped by considering the degree of importance and influence in order to find the explicit solutions in the following four categories: protect; partnership; awareness; and monitor.

5.3.1 Protect

We submit that there are the three following stakeholders who are supposed to be protected in the Coron community.

First, individual Tagbanua people on Coron Island are the most important stakeholder in this context because they are the most disempowered group of people among the stakeholders. They are the least influential stakeholders compared to others in the Coron community because they are individuals who cannot take part in the decision-making processes nor have much impact on others. Therefore, we propose that the individual Tagbanua are the stakeholders who are supposed to be the most protected by other stakeholders.

Second, Saragpunta, which is the organization representing the group of Tagbanua people, is the second most important stakeholder because it is the support agency for the socio-economic needs of the local Tagbanua members from each village. Nevertheless, according to Saragpunta's website (2015), there are five entities which Saragpunta cooperates with: (1) Green and Purple Sanctuary; (2) Attorney Josefina Rodriguez; (3) Peace & Equity Foundation; (4) Lian J Graphics and Printing; and (5) NCIP. Therefore, from our point of view, Saragpunta has less influence than other stakeholders because it has a limited network compared to other stakeholders, especially the LGU.

Lastly, the Council of Elders is the third most important stakeholder from the reason that it is the indigenous political structure which consists of adult members in the community who take part in the decision-making process by the power of customary law. Therefore, in our opinion, we would recognize the Council of Elders as an important stakeholder which is directly relevant to the decision-making process for the Indigenous People on Coron Island. Although the Council of Elders is an important structure inside the indigenous community, it does not have much influence on other stakeholders outside the community.

5.3.2 Partnership

For partnership, we aver that there are the following three stakeholders which are supposed to have partnership with one another in order to strengthen cooperation in tourism development on Coron Island.

First, the TTCIA is the organization founded by Tagbanua people in order to manage tourism development in the tourism destinations. Therefore, we argue that the TTCIA is an important stakeholder. At the same time, it has more influence than individual Tagbanua people, Saragpunta, and the Council of Elders because it takes part in the decision-making process of tourism development on Coron Island and this role is relevant to the interests and well-being of Tagbanua people.

Second, NCIP is the national government agency which assists and supports Tagbanua people to access the plans by government to ensure that Tagbanua people can actively participate in development. Thus, in our opinion, we identify NCIP as another influential stakeholder.

Lastly, we submit that the LGU is the most influential stakeholder in this category because of its role to develop the municipality as well as the well-being of Tagbanua people by means of planning and developing the tourism development plan.

5.3.3 Awareness

We propose there are the two stakeholders which are supposed to have awareness, the Barangay representatives and tourists.

On one hand, the Barangay is part of the LGU, but we separate it in order to show that this entity is less influential than other units in the LGU. However, the Barangay representation is important as it is the structure of the LGU closest to the Tagbanua community. Therefore, we state that the Barangay has a high level of importance, but it has less influence than other stakeholders in decision-making processes.

On the other hand, tourists, even if they are one of the important factors of tourism development through spending money to travel to the tourism destinations on Coron Island, are not high on the level of importance or influence in the decision-making process. Therefore, we assert that tourists are the group of people who are supposed to be recognized by other stakeholders.

5.3.4 Monitor

There are two stakeholders in this category, investors and NGOs, which should be monitored in order to have balance in the tourism development of Coron Island.

On one hand, investors are the second-most influential of the stakeholders on Coron Island because they have been having an impact on other stakeholders through their investments. Nevertheless, in our point of

view, we think that investors are the least important of all of the stakeholders from the perspective of their importance in decision-making processes. However, it is necessary to monitor investment in order to keep a balance in the benefit-sharing among Tagbanua people, LGU, and investors themselves.

On the other hand, in our opinion NGOs are at the level of influential stakeholders which have been assisting Tagbanua people and cooperating with other stakeholders in order to raise the well-being of Tagbanua people. Nonetheless, NGOs are not at the level of the priority stakeholders who need reinforcement, such as individual Tagbanua people, Saragpunta, and the Council of Elders.

5.4 Discussion

Through the application of the Logical Framework Approach in the analysis of the collected data we were able to identify the main stakeholders involved in the participation of the Tagbanua People in tourism development in Coron, understand recurring patterns of the social network of participation, and establish strategies of intervention targeting protection, partnership, awareness and monitoring of the stakeholders. These findings provide significant insights into the ways Tagbanua People participate in tourism development in Coron through the dynamics of participation, as well as the knowledge, attitudes and perceptions of stakeholders.

First, it can be observed that the dynamics of interaction between the stakeholders with regard to participation are characterized by a general distrust and disconnect between significant actors, visible in the opposing perceptions the Local Government Unit, national institutions, investors, and the Tagbanua community have of each other. The presence of many weak ties and great distances between the Local Government Unit and the Tagbanua individual is another example of the mentioned disconnect. The aforementioned conditions affect the existence of institutional channels, thus limiting the participation of the Tagbanua people in tourism development.

Second, although the legal apparatus establishes the grounds for participation under IPRA Law through necessary procedures of indigenous decision-making, the diverse interpretations of the existing laws, particularly on the granting of Free Prior and Informed Consent, hinders the presupposed channels for participation. This is observable in the conflicting understandings of who grants consent and what are the required procedures, confirming the concern raised by the literature on tourism and Indigenous Peoples over the issue of ambiguity with regard to identity, internal coordination and representation (Johnston, 2013).

Finally, there are different levels of knowledge, diverse perceptions and attitudes about Tagbanua participation in tourism development. The knowledge of how planning for tourism development occurs and

on the particularities of participation in ancestral domain seem to be highly concentrated in a few people, namely those directly involved in the management of the Tourist Destination Areas, such as TTCIA, and those directly involved in legal advising on Ancestral Domain claims, such as NCIP and interested NGOS. The diverse perceptions and attitudes can be observed both in terms of the negative perceptions of the intentions of different stakeholders towards tourism development and in contrasting expectations of the ultimate goals and paths of tourism development in the region.

It can be concluded from the three statements presented above that the conflictive relationship among the stakeholders in tourism development planning on Coron Island leads to the Tagbanua peoples' limited participation in the decision-making process. Still, further study on the level of participation should be conducted, so that participation of indigenous people in tourism development can be fully understood and maximized.

6. Conclusion and Recommendations

6.1 Conclusion

In conclusion, regarding the initial hypothesis we made, stakeholders involved in the tourism development of Coron Island each have different interests, and Tagbanua people, with less financial influence over the decision making of both investors and the LGU, tend to have a lower participation level than other stakeholders. Although there is a relationship among those stakeholders with regard to the participation of Tagbanua that gives each stakeholder a different role in considering participation, there also seems to be some disconnect between different stakeholders, which hinders them from coordinating with each other effectively.

There are legal frameworks and regulations at both the local and national level which promote the participation of Tagbanua in tourism development in various ways. However, the different level of knowledge of each stakeholder is currently resulting in inefficiency and underutilization of those legal frameworks and regulations. Also, we discovered that stakeholders have different attitudes and perceptions towards participation of Tagbanua in tourism development, and current policies and tourism plans are not in accordance with the diversified interests of those stakeholders.

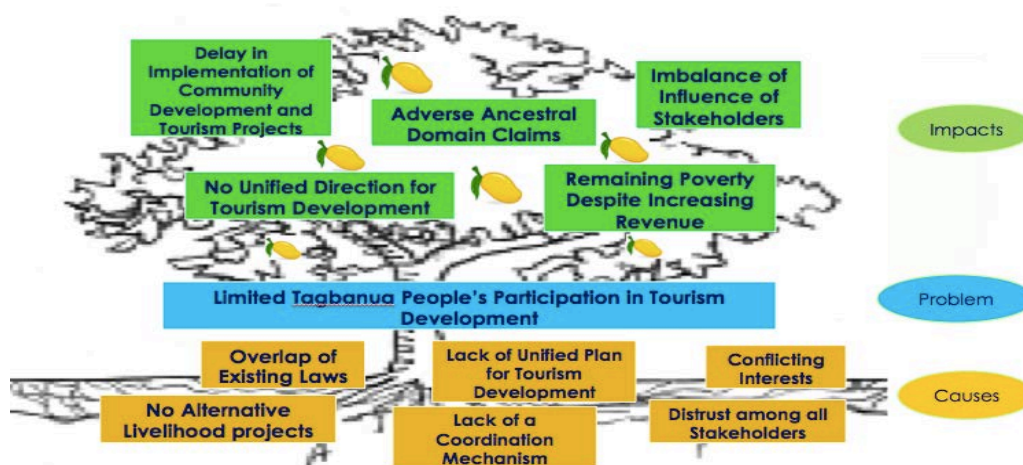
6.2 Recommendations

The goal of the Overseas Fieldwork Course was not only to introduce students to the academic aspect of fieldwork research, but also to give students the experience of being development practitioners. Therefore, we

were tasked to think of possible recommendations and projects that can improve policies with regards to tourism.

For the governance group, we used the Problem Analysis of the Logical Framework Approach in analyzing the current situation and issues in the participation of Tagbanua people in the tourism development of Coron Island. The problem analysis is carried out to deeply analyze the causes and effects of the focal problem before identifying the objectives that can be targeted in providing policy recommendations and projects. This is usually done through mapping a *problem tree* (European Integration Office, 2004), as seen in figure 1. The problem was identified beforehand in the preliminary research, and was triangulated with the interviews that were conducted with all the stakeholders (See 5.1 Stakeholder Identification) and secondary data that were collected while in the field. As written on the trunk of the tree in figure 3, the focal problem

Figure 3 Problem Tree/ Problem Analysis



Source: Created by the authors.

was established as the limited participation of the Tagbanua people in tourism development. The causes, on the other hand, were written on the roots. These were then analyzed to find out the reasons underlying the focal problem. From the causes, we identified the impacts that became the branches of the tree. The impacts demonstrate the visible consequences of the root causes. Addressing the root causes of the problem will correspond to the relevant activities that will be recommended, while the impacts substantiate the need for implementing such projects.

Accordingly, we were able to observe five visible impacts that demonstrate the limited participation of the Tagbanua people in tourism development. Expounding on this, we looked at why or in which context these impacts exist.

(1) There is no unified direction for tourism development.

The tourist influx in Coron was described as something that “just happened” by most of our interviewees from different stakeholder groups. Tourists started increasing significantly after Kayangan Lake won the “Cleanest and Greenest Inland Lake” award given by the Department of the Interior and Local Government for three consecutive years from 1997 to 1999 (COA, 2012). Although there is a National Tourism Development Plan drafted every administrative term, municipalities in the Philippines are mandated to design their own tourism development plan. For the municipality of Coron, they are still in the process of doing one. Currently, they are relying on a Japan International Cooperation Agency (JICA) commissioned study from 1995 to 1997 on the Northern Palawan Sustainable Tourism Development Plan (JICA, 2011).

The lack of unified plan for tourism development is deemed as the reason for the diverse strategies and plans that each stakeholder adopts in engaging with tourism-related opportunities.

(2) Delay in the implementation of Community Development and Tourism Projects

For implementation of any project in an area claimed to be an Ancestral Domain, FPIC has to be obtained. However, since the guidelines for obtaining FPIC are still unclear, it causes a delay in the implementation of projects. The overlapping mandates of the existing laws have made the implementation of such rules and regulations ambiguous. Currently, it is also apparent that there is a lack of coordination strategies with regards to tourism development and implementation of welfare projects in communities, thus furthering the delay.

(3) Adverse Ancestral Domain claims

The Coron LGU claims that most of the 69,2467.14 hectares of the municipality of Coron remain untitled. This gives an opportunity for many adverse claimants to come to the fore. There are also claims to areas where there are current non-Tagbanua residents and established businesses, causing friction between the factions that frequently leads to legal battles. One example is the case of a hotel on Bulalacao Island, one of the two islands in Coron that were given a CADT. The business was forced to close down for sometimes following a temporary restraining order handed down by NCIP. The hotel, on the other hand, was asked to pay 2.5 million pesos for permission to operate and an annual fee of 500,000 pesos and 2% of gross sales as lease payment for the island (Inquirer.net, 28 March 2014).

Furthermore, the LGU claims that this causes the delay in implementing projects in lands where there are pending claims, because once claimants are awarded the Certificate of Ancestral Domain Claim no projects

can be implemented in the area until a decision is made. While the lands remain contested, further development of the area remains stagnant.

(4) There is an imbalance in the influence of stakeholders

The conflicting interests of all the stakeholders divide them into those who are directly benefiting from tourism and those who are concerned about cultural and environmental preservation.

Using the social network analysis (see figure 1), we gauged the influence of the current situation of each stakeholder based on the interview data. From the data, the disparity in the degree of influence is observed. Currently, the stakeholder that has the most influence in tourism development planning is the LGU. Furthermore, since their current proposal for tourism development are Public-Private Partnership and investor-friendly policies, we can assume that investors also have a significant influence on the current trajectory of tourism development in the Municipality of Coron.

The limited participation of the Tagbanua people in tourism development led to their low ranking in terms of their influence. This is mainly because of the lack of representation of the Tagbanua people in the LGU of Coron. In fact, there is a pending case between the LGU and the NCIP regarding the non-recognition of the Indigenous Peoples Mandatory Representative (IPMR) by the Legislative Council of Coron LGU. The Coron LGU is questioning the legitimacy of the current IPMR, stating that the IPMR did not undergo the proper election guidelines during the selection process. However, Saragpunta claims that the IPMR has received the Certificate of Affirmation from NCIP, which means that the IPMR has undergone the said process.

In general, the imbalance in influence among the stakeholders reflects the level of participation of each stakeholder in tourism development.

(5) There is continuing poverty in the Tagbanua community despite increasing revenue from tourism

The main livelihoods of the Tagbanua are fishing, shellfish catching, swift-nest farming, and slash and burn farming. However, most of these cannot be practiced anymore as per wildlife conservation and environmental regulations mandated by the Palawan Council for Sustainable Development (PCSD) The regulations are implemented without follow-up projects for alternative livelihood, leaving the Tagbanua without a source of income. The delay of implementation of welfare projects in the community further diminishes their chances for a better quality of life. Moreover, Tagbanua participation in tourism-related activities was deemed limited. Thus, even with the success of the TDAs that are owned and managed by the

Tagbanua as viable income-generating activities, Tagbanua communities remain poor. This is attributed to the unequal profit sharing occurring in the current system of management of the TDAs.

Considering the issues that were observed, we came up with the following recommendations. The goal of the recommendations is to target the impacts and root causes of the focal problem.

As for the recommendation to all stakeholders involved in tourism development on Coron Island with regard to the participation of Tagbanua, we recommend several solutions. As discussed in the conclusion and problem tree, the existing relationship among all stakeholders is not resulting in effective coordination due to some disconnections (distrust) and a lack of unified direction in tourism development, and this will lead to confusion about the expected achievements. Therefore, it is recommended that there should a “the master tourism development plan” to unify the direction of all goals regarding tourism development on Coron Island.

In creating the plan, there should first be the establishment of a specialized Indigenous People office composed of people from the Tagbanua community, and the holding of reconciliation dialogues between all stakeholders in order to disseminate information equally to every stakeholder. By disseminating information equally among all stakeholders, each stakeholder is able to have an influence in decision making regarding tourism development, and the imbalanced influence of different stakeholders can be mitigated. In addition, the master plan should not only consider information dissemination, but also the carrying capacity of the island with culturally sensitive development plans, alternative livelihoods for the Indigenous People who previously relied on natural resources such as fishing, seaweed farming and shell catching, and also the existing Ancestral Domain Sustainable Development and Protection Plan.

As for the delay in implementation of community development projects and also the adverse Ancestral Domain claims, there should be a “Systematic Guideline for EPIC Implementation” by NCIP to unify the interpretation of the existing laws and simplify the legal processes within tourism development. Coron Island itself does not have the issue of adverse ancestral domain due to the fact that the whole island has already been titled as Ancestral Domain; however, we believe that the guideline will be useful for the purpose of future development in the Municipality of Coron,

Finally, in order to improve the issue of continuing poverty within the community despite the increase in tourism-related income, we recommend the establishment of a self-managed multi-sector institutional structure for equal profit sharing and improving the well-being and livelihood of the Tagbanua community. The office should be managed by IPs, but all sectors of the community, such as elders, barangay representatives and community representatives, should be the part of structure.

Figure 4 Stakeholder Targeted Recommendations



Source: Created by the authors.

Each recommendation stated above is targeted at not just one stakeholder, but at all concerned stakeholders. As we have divided stakeholders into four different categories (protect, partnership, awareness and monitor, as in figure 3) using stakeholder analysis, each recommendation can be categorized to determine the responsible stakeholders. The provision of a “municipal tourism development master plan” is useful for all of four purpose and all stakeholders should be involved in the process. Reconciliation dialogues should also be conducted between and among all stakeholders so that there will be no gap between different stakeholders in the amount of information they receive. The establishment of a specialized IP office should be done by the IP themselves for the protection of the IP community, but the partnership group should also be included in the process, as they will be coordinating with the office. For information dissemination, it is targeted at the protect, partnership, and awareness groups. Being the actors on the island who will be strongly affected by the arrival of tourists and investors, it is recommended that they exchange information effectively. In the creation of a guideline for Free and Prior Informed Consent (FPIC), the protect and partnership groups are expected to be involved in the process, due to their responsibilities and also the rights to determine the consent for the Ancestral Domain. Finally, being least influential in the current situation, but most important in the participation of Tagbanua people in the tourism development of Coron Island, the Tagbanua community in the protect group should create a self-managed multi-sector institutional structure, but the partnership group should also be involved in the process, especially TTCIA, as it is currently responsible for managing and distributing the income and resources to the Tagbanua community.

Acknowledgement

We would like to show our appreciation to all the people who supported us in conducting this research.

First, to the Tagbanua people, Barangay officials, local government officials, people from Sarag Punta, and Mr. Argustin from the Hikari company in the Municipality of Coron who patiently answered all of our questions for the research. Without support from them, we would have never been able to complete our research.

To the boat drivers, the tricycle drivers, and the van driver who took us to the fields and islands, and to the staff at *Darayonan Lodge* who took a very good care of us during our two weeks stay in Coron.

To Professor Liu Jing, who organized all the field trip to Coron and took care of us before, during and also after the trip with all necessary documentations and support.

To all professors from *Nagoya University* who made this research possible.

To Jonathan who supported us in arranging interviews and accompanied us to the interviews.

To all the staff and professors from the *University of the Philippines Los Baños* who warmly welcomed us to the Philippines for our research.

Lastly, we would like to thank our supervisors, Professor Okada from *Nagoya University*, and Dr. Aser from the *University of Philippines Los Baños* who were always patient with us while writing a research proposal, interviewing, and writing the final paper, and who always trusted us to do this research on our own, and who always kept our research group warm, fun and supportive of each other.

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Working Group 3

Tourism and Environment Education

Education in Fisheries for Sustainable Coastal Resource Utilization in Coron

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1. Introduction

1.1 Background of study

The core and major tourism spots in the municipality of Coron are highly dependent on coastal resources, such as diving spots having special value because of Japanese World War II wrecks and abundant marine ecosystem and coral reefs (Tomeldan, 2009). Another important pull factor for tourists is fresh seafood, especially grouper being served in local restaurants and hotels. However, continuing issues of destructive fishing practices such as harvesting juvenile fish, especially leopard coral grouper locally called lapu-lapu under reproductive size, using fine mesh under the locally-regulated size, and noxious or damaging substances (e.g. sodium cyanide and dynamite) are still observed among fishermen in Coron. These destructive fishing practices cause the degradation of the marine ecosystem, which in turn has negative impacts on the livelihood of the fishermen themselves and all the people in Coron who are increasingly dependent on coastal resources because of the promotion of tourism development. Therefore, the fishery is the key sector to be addressed as an agent of change for the sustainable utilization of coastal resources. A positive change toward sustainable coastal resource utilization in the fishery would benefit the livelihood of the people in Coron, while also fostering sustainable tourism development.

In the municipality of Coron, fishing has been an important livelihood since the first inhabitants, the seafaring Tagbanuas tribe, settled there five thousand years ago. The fishery has been shaping the lives of the people culturally, economically, socially and ecologically until today. The introduction of large-scale fishing in 1947 encouraged the migration of fishermen from neighbouring towns and provinces such as Luzon and Visayas, which caused a boom in the fishing industry, especially from the 1970s up to the 1990 (Municipality of Coron, Planning Office, n.d.). However, the rapid expansion of the fishing sector with the improvement of fishing methods, such as more effective gear and targeting methods through mechanization, led to intense natural resource extraction. As the result, natural resources have been depleted and damaged through exploitative fishing methods such as the use of dynamite or sodium cyanide (Geen, White, Flores, Carreon and Sia, 2003).

Meanwhile, international trade of live reef fish started in the mid-1970s and has expanded to Southeast Asia and the Philippines, especially to the Calamian Islands in Palawan. This industry started growing in the 1980s in the Calamianes through the efforts of traders incessantly searching for new fishing grounds. They found in the Calamian Islands an abundant source of the leopard coral grouper locally called lapu-lapu (Fabinyi, 2007). Recently, with the technological improvement of transportation, the value chain of live reef fish trade

has expanded not only to Manila but also to Hong Kong and mainland China, which is now bringing more than US\$100 million dollars annually to islands in Palawan (World Wildlife Fund, 2009).

With this boom-or-bust business, fishing communities started gaining additional income through the intensive harvesting of the leopard coral grouper. This is the one of the reasons that approximately 37 to 41 percent of the labor force in Coron was still working in the fishery in 2007 (Municipality of Coron, Planning Office, n.d.). The boom in the fishing industry has significantly contributed to the local economy, with increasing demand from the global market in recent years. However, this economic opportunity has become one of the motivations for some fishermen to continue using sodium cyanide or dynamite for easy capturing even after the establishment of the Republic Act 8550 in 1998, which prohibits fishermen from using obnoxious substances as well as increases recognition of destructive fishing methods (Fabinyi, 2007). Furthermore, the trade resulted in a vicious cycle among local fishmen in terms of the intensive harvest of the leopard coral fish, which has to be “plate size” for the global market. The intensive harvest of the “plate size” leopard coral grouper diminished the number of groupers reaching reproductive size, which is 28 cm in the fishing ground of Coron (Padilla, Mamauagu, Braganza, Brucal, Yu and Morales, 2003). It eventually encouraged fishermen to harvest juvenile fish and curtailed their natural reproduction. The Philippine Statistic Authority (2015) shows the volume of production of groupers in Palawan from 2002 to 2014 both in municipal and commercial fisheries. As for municipal fisheries, the volume has significantly decreased, from 6,105.22 in 2008 to 2,274.73 in 2014. As for commercial fisheries, it has decreased from 1,034.24 in 2008 to 547.36 in 2014 (Philippine Statistic Authority, 2015).

Dr. Geoffrey Muldoon, Live Reef Fish Strategy Leader for World Wildlife Fund’s Coral Triangle Program, stated that “Surveys undertaken show that 60 percent of all fish taken from the reefs around Palawan are now juveniles, which is a good indication that the adults have been removed from the ecosystem and that it has been highly overfished.” He further asserted that “Under a business as usual scenario, Palawan’s live reef fish trade will become economically unviable within the next decade and without a comprehensive management plan and the introduction of an appropriate quota system, communities that depend on the fishery for their livelihoods face a significant food security threat.”(World Wildlife Fund, 2009).

Because of the expanding recognition of depleted natural resources, attempts at institutionalizing various forms of management and conservation referred to as Integrated Coastal Management (ICM) has been promoted (Fabinyi, 2007). In the guideline of Food and Agriculture Organization (FAO), ICM is defined as a dynamic process by which actions are taken for the use, development and protection of coastal resources and areas to achieve national goals established in cooperation with user groups and regional and local authorities

(FAO, 2006). Thus, participation and cooperation among various sectors are the key components to achieve the goal through ICM. In the area of the Calamianes, the establishment of Marine Protected Areas (MPAs) is one of the significant results of ICM (Fabinyi, 2007). To manage MPAs and also prevent destructive fishing practice outside of MPAs, monitoring is important, though it is costly for the institutions to provide the function. Thus, to reduce the cost, many institutions and local governments in coastal areas of the Philippines are utilizing the principles of Community Based Coastal Resource Management (CBCRM), which is defined as process by which residents of a coastal community take responsibility to manage their own resources by defining their needs, goals and aspirations, and make decisions toward taking actions affecting their well-being (Pomeroy and Carlos, 1997). CBCRM is expected to manage resources efficiently through mutual monitoring by the community residents.

The theoretical foundation of the mutual monitoring system is the creation of collective action and participation among community residents toward resource management. In Coron, to create the basis of fishermen's participation and collective action, seminars are conducted to distribute information about MPA management, regulated fishing practice and the marine ecosystem by various sectors, such as NGOs (ECOFISH), international organizations (FAO), government agencies (Bureau of Food and Agricultural Resources) and the private sector (Malampaya Foundation). Those who acquire management knowledge or skills among fishermen in Coron are working as *bantay dagat*, who are sea police tasked with preventing destructive fishing practices. Some are paid and others are volunteer watchmen designated by institutions. Also, some institutions use a reporting system, especially for dynamite and sodium cyanide fishing. Those seminars are conducted under the premise that people have an innate capacity to understand and act on their own problems. It starts from where the people are, what the people already know, and builds on this knowledge further for new consciousness. It is expected to foster the participation of the fishermen in planning, implementation and evaluation of coastal resource management (Ferrer and Nozawa, 1997). The fundamental objective of these seminars is to encourage every fisherman to acquire the correct knowledge for appropriate resource utilization. In sum, the expected fishermen's internalization of the knowledge distributed in the seminars and its translation into their practice through the coordination of ICM are established on the theoretical foundation of CBCRM, supported by the rationale of collective action.

1.2 Problem statement

Despite the efforts being made through the process of ICM, the knowledge disseminated in the seminars is not successfully translated into behaviour. The results of the failure are seen in the depletion of natural

resources, especially the diminishing number of the groupers reaching reproductive size, which is encouraging an excessive effort of fishermen to harvest juvenile groupers. Another concern is continuing destructive fishing practices using dangerous substances such as sodium cyanide and dynamite, which causes the degradation of coral reefs and other marine habitats in the fishing ground. Also, the use of fine mesh smaller than the locally regulated size (7cm) is still common practice among fishermen in Coron, which implies the harvest of juvenile fish. These practices are negatively influencing the rapid depletion of fish stocks and degradation of marine habitats in Coron and making it much harder, especially for small-scale fisheries with limited capacity, to access the resources and obtain a sufficient harvest. This in turn potentially curtails the capacity of fishermen to generate income and endangers their livelihood. The issue is not only about the fishery, but also the degradation of marine resources, which has negative impacts on the livelihood of all the people who are largely depending for their livelihood on coastal resources, such as those in the tourism industry. Therefore, addressing the issues of the failure of the ICM in the stage of knowledge distribution, based on the theoretical foundation of CBCRM in fisheries, is crucial to enhance the capacity for the holistic development of Coron.

1.3 Research objectives and questions

The objectives of this study are: 1.a.) to identify the internal or external factors which curtail the effectiveness of ICM in the stage of knowledge distribution to fishermen in terms of translating it into their practice; 1.b.) to identify external factors (e.g. socio-economic and demographic factors) that encourage fishermen to use destructive fishing practice; and 2) to investigate the relationship between the capacity to access resources and destructive fishing practice as a basis for collective action, which is the theoretical foundation of CBCRM.

Therefore, the research questions are: 1.a.) What are the internal or external factors, if any, which curtail the effectiveness of ICM in the stage of knowledge distribution to fishermen for translating it into their behaviour?; 1.b.) What are the external factors (e.g. socio-economic and demographic factors), which encourage fishermen to use destructive fishing practices? ; 2.) What is the relationship between the capacity to access the resources and destructive fishing practice as a basis for collective action?

1.4 Hypothesis

Our hypotheses or expected results for research questions are 1.a. and 1.b are:

1.a. We hypothesize that knowledge and attitude are two key internal factors that predict non-destructive fishing practice.

1.b. External factors (e.g. socio-economic and demographic factors, seminars) will predict non-destructive fishing practice.

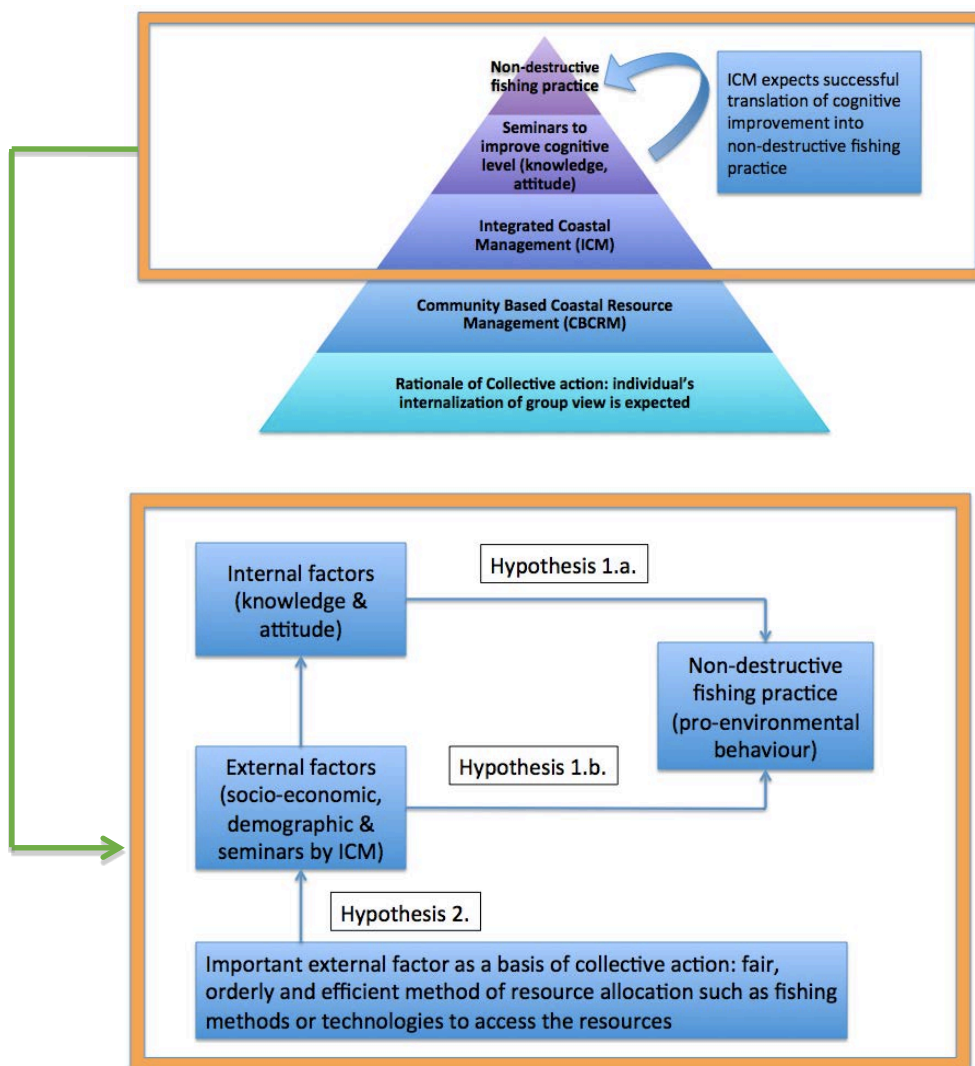
Based on previous research, we expect to find 2 as the answer to our second research question:

2. Without a fair, orderly and efficient method of resource allocation, such as fishing methods or technology to access resources, fishermen are obliged to use destructive fishing practice.

1.5 Conceptual framework

The main focus of this study is to understand non-destructive and destructive fishing practices on an individual level by utilizing the theoretical frameworks of pro-environmental behaviour. The definition of pro-environment behaviour: behaviour that consciously seeks to minimize the negative impact of one’s actions on the marine environment (Kollmuss & Agyea, 2002).

Figure 1 Conceptual Framework



Source: Authors

1.6 Significance and limitation of the study

This study is expected to contribute to understanding the complexity of Common Pool Resource (CPR) management by utilizing the theoretical foundation of pro-environmental behaviour. It is expected to determine the capacity of small-scale fisheries to accept the expected theoretical foundation of CBCRM under the influence of social dynamics created by uncertainties such as market force or environmental change of CPR itself. This will allow policy makers to identify the areas of intervention for sustainable coastal resource management through addressing the issues in the fishery. This will in turn affect the overall livelihood in Coron, which is increasingly depending on coastal resources because of the promotion of tourism development. However, the limited time of the survey constrained the number of respondents and the scope of the study, resulting in an individual level survey. Thus, there need more studies at the community level to create better linkages between the theoretical foundation of pro-environmental behaviour and CPR management.

2. Literature Review

2.1 Common-Pool Resources (CPRs)

CPR literature is key to understand the CBCRM. Many institutions and projects for coastal resource management in the Philippines are also employing the theoretical foundation from CPR literature. CPRs are characterized by difficulty of exclusion and subtractability of resource units and are threatened by overuse, leading to congestion or even destruction of the resource (Ostrom, 2003). Fishing grounds are a typical example of CPRs. Ostrom (1990) identified the capacities and limitations of self-governing institutions for regulating many types of resources by showing successful and unsuccessful efforts to govern and manage resources, and using an institutional mode of analysis, then explained how communities of individuals govern the commons.

To understand Ostrom's claim, one needs to comprehend influential models explaining the mechanism of collective action toward resource management. Hardin (1968) wrote the influential article "The Tragedy of the Commons". He described the degradation of the environment to be expected whenever many individuals use a scarce resource in common and regarded individual users as problems hindering the effective management of fisheries, rather than as the solution. The tragedy of the commons is based on the prisoner's dilemma. If each individual chooses the best strategy to gain benefits independently without engaging in bidding contracts, this negatively affects other community members. In this case, the equilibrium outcome is pareto-inferior. A pareto-optimal outcome occurs when there is no other outcome strictly preferred by at least one person that is at least as good for the others. The paradox here is that individual rationale strategies lead

to a collectively irrational outcome (Ostrom, 1990). Therefore, Hardin (1968) insisted that such individuals, acting rationally under the scenario of CPRs by following their own self-interests, will eventually deplete limited natural resources regardless of their realization that the situation is not in anyone's long-term interests. To avoid the overexploitation of the resource and its depletion, Hardin (1968) claimed the importance of strong external authorities such as government intervention or privatization of right to the resources to govern user's extraction.

Another important model to understand collective action was introduced by Mancur Olson (1965). He challenged the grand optimism expressed in group theory that the possibility of expected benefits would be sufficient to generate collective action. His argument was that unless the group is intermediate sized, but also that actors within the group must be actively engaged and motivated to contribute to the common good through some kind of mechanism. If not, self-interested individuals will act for their individual benefits rationally and not act to achieve common interests (Olson, 1965).

The tragedy of the commons, the prisoner's dilemma and Olson's logic of collective action have consistency in viewing individual problems to achieving collective action. The core of this view lies in the problem of the free rider. Whenever one person cannot be excluded from the benefits that others provide, each person is tempted to free-ride off the efforts of others (Ostrom, 1990).

However, Ostrom et al (1999) identified the failure of government intervention and privatization of rights to the resources in a number of instances. She concluded that the solution for sustainable resource management is the community itself. The most important feature of community is shared norms, which contain strategies available to individuals to take opportunistic actions. In some top-down settings, such as government intervention or the privatization of rights to resources, substantial benefits are obtained as a result of investment in monitoring and the sanctioning arrangement. In other settings focusing on community, a shared norm is expected to reduce the cost of monitoring and sanctioning activities by utilizing social capital in solving CPR problems such as overuse and crowding effects. This is under the presumption that norm-adopting individuals take contingent strategies in complex and uncertain environments. Such individuals can be expected to make contingent commitments to follow rules, which are the principles needed for stable CPR arrangements suggested by Ostrom and her colleagues. Those define a set of appropriators who are authorized to use a CPR (design principle 1), related to the specific attributes of the CPR and the community of appropriators using the CPR (design principle 2), are designed by local appropriators (design principle 3), are monitored by individuals accountable to local appropriators (design principle 4), and are sanctioned using graduated punishments (design principle 5). Community members are expected to follow these principles if most similarly situated

individuals adopt the same commitment and the long-term expected net benefits are greater than the long-term expected net benefits for individuals pursuing short-term gains (Ostrom, 1990).

In other words, without a fair, orderly, and efficient method of expected long-term resource allocation, local appropriators have little motivation to contribute to the continued provision of the resource system. In addition, if there is a local appropriator who has problems in his or her livelihood already, such as poverty, that person may refuse to undertake the provision activities, especially when the problems become severe because compliance has de-equalizing effects (Ostrom, 1990). This is one of the reasons why there are still risks of the tragedy of the commons occurring in a variety of situations affected by external and internal uncertainties even if CPRs are managed by communities following the principles.

Though the great body of CPRs literature provides the mechanism of collective community action toward management strategies, the examination of its foundation to foster collective action is little discussed, especially as many community started adopting community based resource management without questions. This rapid adoption, highlighting the mechanism of collective action, has the potential to overshadow the capacities of individuals to accept the rationale of CBCRM affected by social dynamics, combined with uncertainties, such as market forces or the environmental change of CPR itself. Therefore, comprehension of an individual's behaviour in the area of CPRs management could serve as a key to examine the acceptability of the principles of community based resource management. The focus on individual behaviour is expected to identify the capacity of individual fishermen to take provision activities expected in the mechanism of CBCRM while maintaining their livelihood.

Thus, the next theme in the literature review is the understanding of an individual's pro-environmental behaviour, which is defined as minimizing the negative impact of one's actions on the natural environment (Kollmuss & Agyeay, 2002). Gifford (2007) points out that theories explaining pro-environmental behaviour rarely interact with literature of natural resource management. Therefore, creating linkages between those theories and natural resource management could serve as a tool to evaluate the capacities of individuals to accept the principles of community based resource management under the social dynamics emerging from uncertainties such as market forces or the environmental change of a CPR itself.

2.2 Pro-Environmental Behaviour

The oldest and simplest models of pro-environmental behaviour were based on linear progression models (**Appendix A**). The scholars assumed that environmental knowledge leads to environmental awareness and attitudes, which lead to pro-environmental behaviour. These rationalist models assumed that teaching people

about environmental knowledge and issues would automatically result in more pro-environmental behaviour (Burgess, Harrison & Filius, 1998). However, these models were proved to be wrong in the early 1970s. Such research explained that in most cases, increases in knowledge and awareness did not lead to pro-environmental behaviour (Kollmuss and Agyeman, 2002). After that, scholars developed theoretical frameworks to understand pro-environmental behaviours. Here, we mention two types of frameworks, which had the most influence on the present understanding of pro-environmental behaviour.

Schwartz (1977) conceived of moral norms as feelings of strong moral obligation that people experienced to engage in pro-social behaviour. This theory assumes that altruistic behaviour increases when a person becomes aware of other people's suffering, and at the same time feels a responsibility for alleviating this suffering. The basic premise of the norm-activation model is that moral or personal norms are direct determinants of pro-social behaviour. Hines et al. (1986/87) found a mean correlation of $r = .33$ between a feeling of moral obligation to preserve the environment and pro-environmental behaviour. The formation as well as activation of moral norms tends to be based on the interplay of cognitive, emotional, and social factors (Bierhoff, 2002). In the field of pro-environmental behaviour, the most important elements which contribute to develop moral norms are cognitive preconditions, such as the awareness of and knowledge about environmental problems. Causal attribution seems to be the second important element to develop moral norms. The internal attribution of related to a harmful behaviour often triggers emotional reactions, especially feelings of guilt, which is closely related to social norms. A perceived mismatch between one's own behaviour and social norms leads to feelings of guilt (Baumeister, 1998). The internalization of the group view as appropriate in a specific context provides personal moral norms.

Ajzen conceived the Theory of Planned Behaviour (Ajzen, 1991) based on a more hedonistic model of human behaviour. The assumption was that people are motivated to avoid punishments and to seek rewards. According to this model, decision-making is guided by a rational evaluation of behavioural consequences. Thus they assumed that behaviour is not controlled by unconscious motives or overpowering desires (Fishbein & Ajzen, 1975). As the sum of perceived positive and negative consequences determines their attitude toward a behavioural option, attitudes are determined only indirectly via behavioural intention. Intention itself is viewed as summarizing the interplay of cognitive (action skills, knowledge of action strategies and issues) as well as personality variables (attitudes, locus of control, and personal responsibility) (Bamberg and Moser, 2007).

The Theory of Planned Behaviour also stresses the importance of situational constraints. This is because people estimate their ability to perform this behaviour through their perceived behavioural control over it.

Social norms are the third factor influencing decision-making, since it is basically conceptualized as perceived social pressure that is an external force influencing whether a person performs or not. In other words, fear of social exclusion is analyzed as a primary motive of people's tendency to fulfill social norms. To sum up, attitude, perceived behavioural control and social norms are thought to determine only indirectly via their impact on intention.

Hines et al. (1986/87) conducted meta-analysis of 128 pro-environmental behaviour based on the Theory of Planned Behaviour, which found that intention to act and objective external factors are more strong determinants of pro-environmental behaviour than cognitive preconditions such as the awareness of and knowledge about environmental problems. External factors are considerations such as the economic, social, educational, infrastructural and cultural situation. These external factors do not only decrease pro-environmental behaviour but have the possibility to increase responsible pro-environmental behaviour.

Hines et al. (1986/87) pointed out that the model (Appendix B) they established indicates several areas that are amenable to change with the effects of external factors such as effort in environmental knowledge distribution. It can approach internal factors such as both affective and cognitive experience to enhance and develop skills that to lead pro-environmental behaviour. They concluded that components of knowledge and skills in knowledge distribution can be addressed via issue identification and investigation.

Despite the numerous theoretical frameworks developed by scholars to comprehend pro-environmental behaviour, the theoretical frameworks presently used are less successful in explaining pro-environmental behaviour itself. However, from these previous influential frameworks, including numerous other studies, many scholars posit that the current best framework to explain pro-environmental behaviour would be the combination of internal factors and external factors (Bamberg, Moser, 2006).

In this study, we also employ a framework synthesized from both internal and external factors (Appendix C) to identify the determinants of fishermen's individual pro-environmental behaviour (non-destructive fishing practices) to evaluate the acceptability of the foundation of CBCRM by individuals under the social dynamics arising from uncertainties such as market force or the environmental change of the CPR itself.

3. Methodology

This research mainly utilized a quantitative approach. Additionally, a qualitative approach was utilized for the key informants and local government officials.

3.1 Population

The research population of this study includes all individual fishermen in the municipality of Coron, who number 4,498 and compose 11.2 percent of the total population (40,006 in 2007). In this survey, four barangays were chosen as subject areas: Tagumpay, Bintuan, Lajala (islet) and Banuang Daan (islet). The local government categorizes barangay into urban and rural areas depending on population density and urbanization level. The population living in the rural areas of the municipality is estimated at 24,176, which is 60 percent of the total municipal population, while the population living in the urban center is estimated at 15,831, which is 40 percent of the total municipal population. In 2007, the census showed that barangay Tagumpay is categorized as urban and the most populated barangay among the 23 total barangays. Other barangays are categorized as rural areas. The total population of fishermen in these four barangay is 9690 (see Table 1).

3.2 Unit and sampling

The research unit is the individual fishermen, since they are the primary users of CPR, which is the fishing ground. Among nonprobability sampling methods, snowball sampling was utilized for 59 respondents. The number and percentage of the sampling size was decided based on the limited time and availability of access to the research sites (see Table 2).

Table 1 Population Distribution and Sampling Size

	Tagumpay	Bintuan	Banuang Daan	Lajala
Category	Urban	Rural	Rural, islet	Rural, islet
Individuals	5655	2146	700	1189
Households	1041	479	129	255
Fishermen	692	237	50	226
Percent of sample	4.6%	6.8%	14%	3.1%
Sampling size	29	16	7	7

Source: Municipality of Coron, Office of the agriculturist, n.d.

3.3 Definitions of terms and variables

- *Knowledge*: The information that fishermen have about fishing practices which cause deterioration of the marine environment;
- *Attitude*: Personal positive or negative feelings of socio-economic constraints for environmental concerns;

- *Pro-environment Behaviour*: Behaviour that consciously seeks to minimize the negative impact of one's actions on the marine environment. In this study, we translate the term *Pro-environment Behaviour* into non-destructive fishing practices depending on the context and the contents of this report.

In this study, the following variables were utilized to measure the knowledge, attitude and non-destructive fishing practices (pro-environmental behaviour) based on the general issue identification of fishing practice and the marine environment. They are: 1) species of the fish; 2) amount of the fish; 3) size of the fish; 4) size of the mesh of the net; 5) use of destructive substances (e.g. dynamite and cyanide); 6) use of anchors on coral reefs; 7) targeting and collecting spawning aggregations; and 8) controlling boat engines in MPAs. However, for the analysis of their non-destructive fishing practice (pro-environmental behaviour), "size of the fish" and "size of the mesh of the net" were emphasized because of the limitation of accurate measurement. For the "the size of the fish", 28cm is the indicator specifically for lapu-lapu, since its reproductive size and cycle are identified in the fishing ground of Coron through the research done by Padilla, Mamauagu, Braganza, Brucal, Yu and Morales in 2003. For the "the size of the mesh of the net", 7 cm is the indicator based on the local regulation. The tested variables regarding socio-economic, demographic and institution-based seminars are shown in the questionnaire (Appendix D).

3.4 Data collection

A structured questionnaire was utilized in the survey. The questionnaire was divided into four parts. The first part was composed of questions regarding the socio-economic and demographic profile of the respondents and their experience of having attended seminars through the coordination of ICM. The second part consisted of questions measuring the respondents' knowledge. Respondents were asked "yes", "no" or "do not know" questions designating a corresponding level of knowledge. The third part was composed of attitude statements and respondents were asked whether they agreed or disagreed with the statements using a 5-point Likert scale. The fourth part was composed of questions on the behaviour of the respondents. Open-ended and multiple-choice questions were asked and scores indicated the level of pro-environmental behaviour. A semi-structured interview questionnaire was utilized with the key informants among fishermen. Additionally, government officials were interviewed to understand the current situation of ICM and CBCRM.

3.5 Analysis

To answer research question 1.a., chi square (χ^2) was used to analyze the impact of seminars as a part of ICM on fishermen's knowledge acquisition, attitude improvement and its translation into their behaviour. Generally, chi square (χ^2) is utilized to examine whether there is a significant difference between variables. As mentioned above, the emphasized variables are size of the fish and mesh of the net. The analysis followed this formula:

$$\chi^2 = \sum \frac{(\text{Observed} - \text{Expected})^2}{\text{Expected}}$$

- *Null hypothesis 1:* there is no relationship between learning specific knowledge in seminars and fishermen's knowledge acquisition in the total sampling.
- *Null hypothesis 2:* there is no relationship between the knowledge acquisition and behaviour.

Given the observed distribution of values for the two separate variables, the conjoint distribution was computed as if there were no relationship between the two variables. The result of this procedure is expected frequency for all the cells in the contingency table. Then, this expected distribution is compared with the distribution of cases actually found in the sample data, which determines the probability that the discovered discrepancy could be a result of sampling error (Earl, 2010).

Second, Spearman's rank-order correlation was used to analyze the relationship between knowledge-attitude and attitude-behaviour, since the non-parametric data observed in the collected data assumes that there is a monotonic relationship. Spearman's correlation coefficient measures the strength of association between two ranked variables. The analysis followed this formula:

$$\rho = 1 - \frac{6\sum d^2}{n(n^2 - 1)}$$

- *Null hypothesis 1:* the ranks of knowledge do not covary with the ranks of the attitude.
- *Null hypothesis 2:* the ranks of attitude do not covary with the ranks of the behaviour.

Third, to answer research question 1.b., a Mann-Whitney test was used to determine if there is a significant difference between the socio-economic and demographic variables and destructive fishing practice.

The analysis followed this formula:

$$U_a = n_a n_b + \frac{n_a(n_a + 1)}{2} - \sum R_a$$

$$U_b = n_a n_b + \frac{n_b(n_b + 1)}{2} - \sum R_b$$

In the data processing and based on previous literature, the following variables were identified, and are shown in the following null hypothesis.

- *Null hypothesis 1:* the distribution of primary income is the same across the categories of the type of the boat (paddle / pump).
- *Null hypothesis 2:* the distribution of size of lapu-lapu (cm) is the same across the categories of the type of the boat (paddle / pump).
- *Null hypothesis 3:* the distribution of the size of lapu-lapu (cm) is the same across the categories of personally owned pump boat.
- *Null hypothesis 4:* the distribution of primary income is the same across the categories of the size of the mesh of the net (over 7cm / less than 7cm).

For measuring the level of primary source of income and size of lapu-lapu based on market outlet, both the Mann-Whitney test and Mood's median test were used for testing more than two variables.

- *Null hypothesis 5:* the distribution of size of lapu-lapu (cm) is the same across the categories of the market outlet (neighbour community / public market / broker).
- *Null hypothesis 6:* the distribution of primary income is the same across the categories of the market outlet (neighbour community / public market / broker).

For all analyses, SPSS and Microsoft Excel were utilized.

3.6 Schedule

Seven days were allocated to conduct the survey. The first two days were used for gathering the current overall picture of coastal resource management, especially information about seminars conducted by multiple stakeholders such as the local government, NGOs, international organizations and the private sector. Also, a pilot test was conducted in Tagumpay. Based on the interview with officials and the pilot test, the contents of the questionnaire were revised. After the revision, the group conducted questionnaire surveys with fishermen in Tagumpay, Bintuan, Banuan Daan and Lajala. On the last day, the team was divided into an analysis group and NGO visiting group (Table 2).

Table 2 Schedule of activities

Date	Place	Who	What	
MON	Sep.14	Local government, PCSD	Officials	Interviews
TUE	Sep.15	Tagumpay	Fishermen	Pilot survey
		Legislative council, Local government	Officials	Interviews
		Public Market	Merchants	Survey on fish species, price and market size
WED	Sep.16	Tgumpay	Fishermen	Survey
THU	Sep.17	Bintuan, Tagmpay	Fishermen	Survey
FRI	Sep.18	Banan Daan	Fishermen	Survey
MON	Sep.21	Lajala	Fishermen	Survey
TUE	Sep.22	ECOFISH	NGO worker	Interviews

Source: Authors

4. Results and Findings

4.1 Summary of statistics (all respondents)

Table 3 Summary of socio-economic and demographic data (all respondents)

	Number	Minimum	Maximum	Mean	Standard Deviation
Length of Stay in the village (years)	59	1.0	60.0	28.263	13.2113
Age	59	21.0	70.0	40.153	11.6216
Sex	59	0 = female	1 = male	.847	.3626
Indigenous People	59	0 = non IP	1 = IP	.288	.4568
Educational Attainment (years)	59	1.0	14.0	6.966	2.8221
Civil Status	59	1 = single, 2 = married, 3 = separated, 4 = widow		1.983	.4731
Bantay Dagat	59	0 = not bantay	1 = bantay	.220	.4180
Position of the fishermen	59	0 = no position	1 = position	.288	.4568
Primary source of income	59	0 = others	1 = fishing	.780	.4180
Primary income (Pesos / month)	59	450.0	16000.0	5084.463	4141.1648
Secondary source of income	59	0 = none	1 = others	.763	.4291
Secondary income (Pesos / month)	59	0.0	12000.0	2165.468	2451.8282
Years fishing	59	2.0	54.0	18.153	10.1825
Fisher Association	59	0 = not belonging 1 = fishers association		.136	.3453
Own gear	59	0 = not own	1 = own	.932	.2536
Own boat	59	0 = not own	1 = own	.576	.4984
Paddle or pump	59	0 = paddle	1 = pump	.678	.4713
Valid N	59				

Source: Authors

4.2 Summary of Statistics (fishermen catching lapu-lapu)

Table 4 Summary of Socio-economic and Demographic Data (fishermen catching lapu-lapu)

	Number	Minimum	Maximum	Mean	Standard Deviation
Primary income (Pesos / month)	28	450.0	15000.0	4644.643	2884.1951
Type of boat	28	0.0	1.0	.750	.4410
Own boat	28	0.0	1.0	.500	.5092
Size of lapu-lapu (0 = under 28cm; 1 = above 28cm)	28	0	1	.61	.497
Size of lapu-lapu(cm)	28	13.0	40.0	28.250	7.2604
Knowledge	28	0	1	.18	.390
Attitude	28	1	5	2.86	1.208
Attend seminar	28	0.0	1.0	.464	.5079
Attend seminar and learned about size of fish	28	0.0	1.0	.286	.4600
Valid N	28				

Source: Authors

4.2.1 Effectiveness of ICM in the stage of knowledge distribution (issues of catching juvenile lapu-lapu) in terms of translating knowledge into behaviour

To measure the effectiveness of ICM in the stage of knowledge distribution (seminars) to fishermen in terms of translating knowledge into behaviour, a chi square test was utilized. The first assumption is the attendance in seminars and learning about the size of fish has a positive impact on knowledge acquisition. The survey showed that fishermen attended institution-based seminars and learned about issues related to the size of fish. As the first step, the following hypotheses were tested.

- H_0 : there is no relationship between learning about issues of catching juvenile fish in seminars and fishermen's knowledge acquisition.
- H_1 : there is a relationship between learning about issues of catching juvenile fish in seminars and fishermen's knowledge acquisition.

Table 5 Rate of Knowledge Acquisition among Fishermen Attending Seminars and Learning About the Size of Fish

			Knowledge		Total
			0	1	
Attended seminar and learned about issues of catching juvenile fish	.0	Count	16	4	20
		% fishermen who learned about juvenile fish	80.0%	20.0%	100.0%
		% with knowledge	69.6%	80.0%	71.4%
fish	1.0	Count	7	1	8
		% fishermen who learned about juvenile fish	87.5%	12.5%	100.0%
		% with knowledge	30.4%	20.0%	28.6%
Total		Count	23	5	28
		% fishermen who learned about juvenile fish	82.1%	17.9%	100.0%
		% with knowledge	100.0%	100.0%	100.0%

Source: Authors

The chi-square test shows no statistical difference between the fishermen's attendance and learning about issues of catching juvenile fish and the likelihood of knowledge acquisition ($\chi^2=.219, df=1, p=.640>.05$).

As the second step, the assumption that knowledge acquisition in seminars has a positive impact on fishermen's behaviour was to be tested. However, the result of the first step revealed that there was no basis for this premise because of the statistically significant low tendency of knowledge acquisition regarding juvenile fish, specifically about lapu-lapu, through seminars. Besides, because a limited number of fishermen learned about the issues (See Table 5), the total sample size of fishermen catching lapu-lapu ($n=28$) was employed to measure the following hypotheses.

- H_0 : there is no relationship between knowledge acquisition and behavioural improvement.
- H_1 : there is a relationship between knowledge acquisition and behavioural improvement.

This resulted in rejecting H_1 and accepting H_0 ($\chi^2 = .949, df=1, p=.330>.05$). No statistical difference was found between the fishermen who acquired knowledge through seminars and their behavioural improvement.

For the analysis of the interrelationship between knowledge and attitude toward catching juvenile fish, Spearman's rank-order correlation was used. However, the result showed little relationship between knowledge and attitude ($r = -.176, n = 28, p = .370 > .05$).

For the analysis of the relationship between attitude toward catching juvenile fish and behavioural improvement, Spearman's rank-order correlation was used. However, no relationship was found ($r = .081$, $n = 28$, $p = .682 > .05$).

4.2.2 Discussion: External factors which curtail the effectiveness of ICM in the stage of knowledge distribution (issues of catching juvenile lapu-lapu) in terms of translating it into behaviour

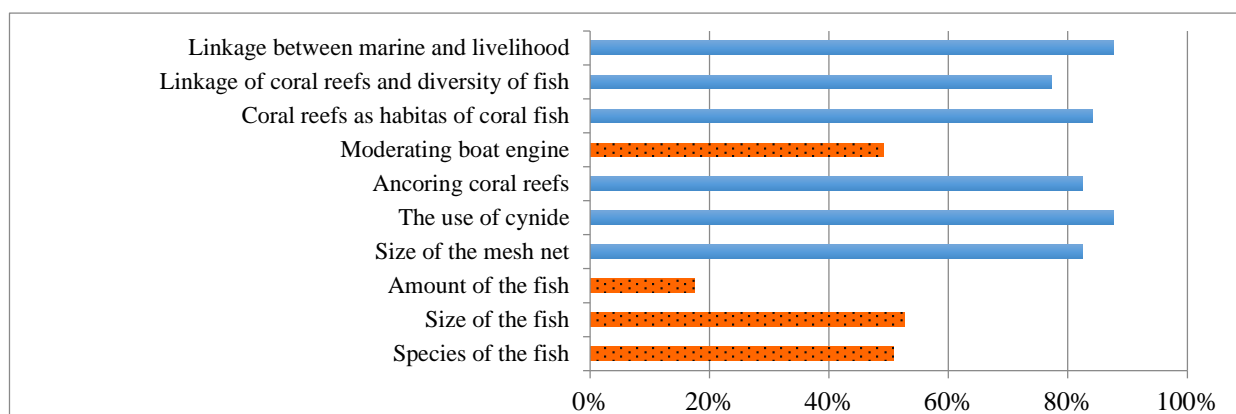
The tested hypothesis 1.a., which is the knowledge and attitude are two key internal factors that predict pro-environmental behaviour, was rejected for the issue of catching juvenile lapu-lapu. Why is this phenomenon happening in Coron in spite of seminars conducted by multiple stakeholders? Based on the findings, there might be a lack of specific content and information about the issues of catching juvenile fish in the fishing ground of Coron as a focus of the seminars. As Table 5 shows, 28.6 % of fishermen catching lapu-lapu learned about the issue of catching juvenile fish in the seminars and only 12.5 % of total fishermen catching lapu-lapu have correct knowledge about the reproductive cycle of lapu-lapu. This is attributed to the objective and the priority of those seminars, which is to inform fishermen about regulated fishing practices mentioned in Republic Act 8550, local regulations (such as size of net mesh) and ordinances for MPA management as a basis for collective action for monitoring each other. There is a possibility that this limitation of content, which mainly focuses on fishing codes, is limiting knowledge acquisition among fishermen (See Figure 2 and Table 6). This should be changed to address the current issues for sustainable resource management.

Other reasons the lack of specific content about the reproductive size and cycle of lapu-lapu are uncertainties such as fish depletion and the increasing demand for lapu-lapu in the global live reef fish market, making this issue a low priority for institutions and individuals. These remaining uncertainties are also affecting the establishment of a local fisheries code in Coron, despite serious concerns about fish depletion. As mentioned by Dr. Geoffrey Muldoon, Live Reef Fish Strategy Leader for WWF's Coral Triangle Program, surveys undertaken show that 60 percent of all fish taken from the reefs around Palawan are now juveniles, which indicates that the adults have been removed from the ecosystem and that it has been highly overfished.

In this situation, the improvement of individual fishermen's behaviour will be the key to address the problems of resource extraction for sustainable coastal resource utilization. For this purpose, first, research and development need to be done to investigate and identify the uncertainties, especially fish depletion and the overfishing of juvenile lapu-lapu. Then, the translation of the identified knowledge into ICM as shared strategies will have the possibility to improve the effectiveness of ICM through the transformation of the

uncertainties to certain knowledge, which will be the basis for the content of the seminars. Also, awareness should be raised among the institutions about the necessity of updating the knowledge of individual fishermen, as they are the agents of managing resources.

Figure 2 Accuracy of the Knowledge Test Scores Across the Variables of Destructive Fishing Practice and Its Linkages to Their Livelihood.



Source: Authors

Table 6 Comparison among Official Regulations and Level of Knowledge Acquisition

Destructive fishing	RA 8550	Local regulation	Knowledge level
Species of the fish	×	×	×
Size of the fish	×	×	×
Amount of the fish	×	×	×
Moderating boat engine for corals	×	×	×
Size of the mesh of the net	○	○	○
Use of cyanide and dynamite	○	○	○

Source: Authors

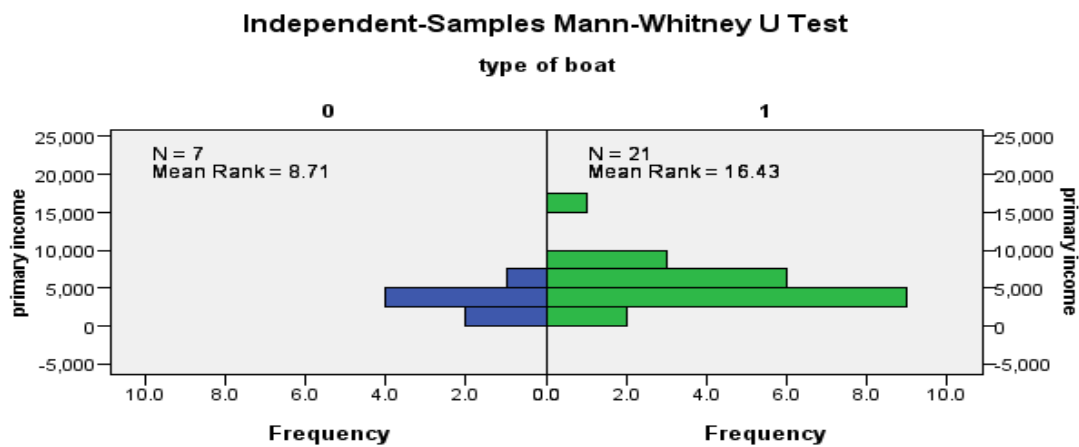
4.2.3 External factors as predictors of destructive fishing practice (catching juvenile lapu-lapu)

To measure the external factors which encourage fishermen to catch juvenile lapu-lapu, a Mann-Whitney test was used to determine if there was a significant difference between two categorical variables. The assumption was that there is a relationship between the level of primary income and access to resources (e.g. use of pump boat and owning a boat). The capacity to access the resource has an impact on the size of lapu-

lapu harvested. The size of lapu-lapu harvested differs according to market outlet, which may differentiate the income level generated from fishing.

- H_0 : the distribution of primary income is the same across the categories of boat type (paddle / pump).
- H_1 : the distribution of primary income is different across the categories of boat type (paddle / pump).

Figure 2 Mann-Whitney Test Result 1



Source: Authors

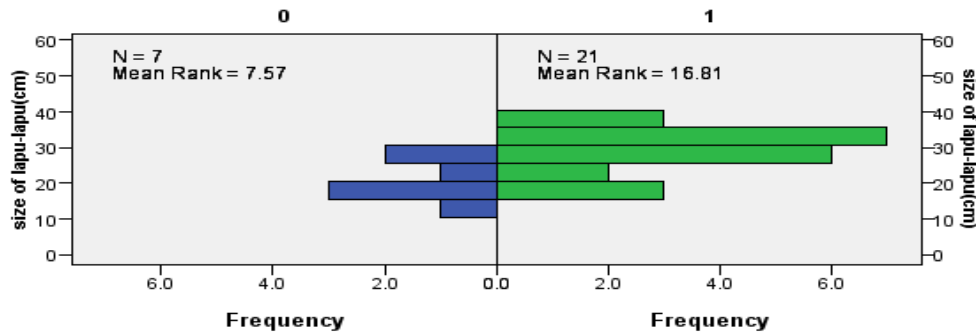
0 = Paddle, 1 = Pump

The result of Mann-Whitney test shows that distribution of primary income is significantly different across the categories boat type (Paddle / Pump) ($U=151$, $n = 28$, $p=.031 < .05$). The median of the income generated from fishing by paddle boat users is 3000 peso per month, but for pump boat users it is 4750 peso per month. This result shows that there is a relationship between the capacity to invest capital (income level generated from fishing) to fishing activities and the type of boat. .

The second assumption was measured through Mann-Whitney test, which is that the capacity to access the resource (type of boat) affects the size of lapu-lapu that fishermen harvest. The following hypotheses were tested.

- H_0 : the distribution of size of lapu-lapu (cm) is the same across the categories of boat type (paddle / pump).
- H_1 : the distribution of size of lapu-lapu (cm) is different across the categories of boat type (paddle / pump).

Figure 3 Mann-Whitney Test Result 2
Independent-Samples Mann-Whitney U Test
type of boat



Source: Authors 0 = Paddle, 1 = Pump

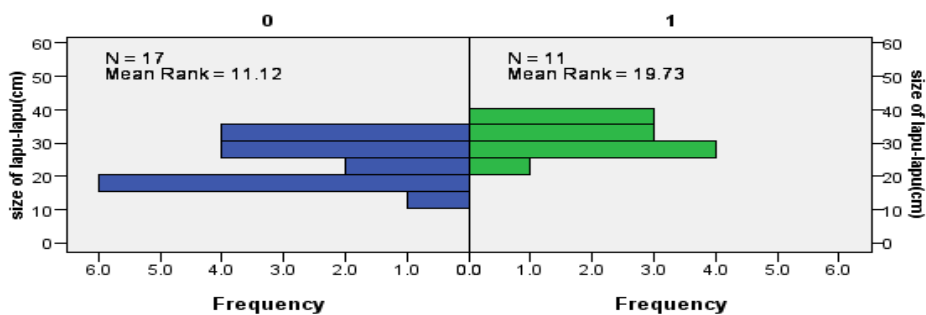
The result of Mann-Whitney test shows that distribution of size of lapu-lapu (cm) is significantly different across the categories of boat type ($U=122, n = 28, p = .008 < .05$). Also, the median size of lapu-lapu for paddle boat users is 20cm, while for pump boat users it is 30cm. This result shows that the capacity to access the resource has an impact on the size of lapu-lapu that fishermen harvest.

Additionally, the following hypotheses were tested under the premise that there is a significant difference in the size of lapu-lapu that fishermen harvest across the categories of fishermen’s ownership of the pump boat and others.

- H_0 : the distribution of the size of lapu-lapu (cm) is the same across the categories of owning a pump boat.
- H_1 : the distribution of size of lapu-lapu (cm) is difference across the categories the categories of owning a pump boat.
-

Figure 4 Mann-Whitney Test Result 3

Independent-Samples Mann-Whitney U Test
own pump boat



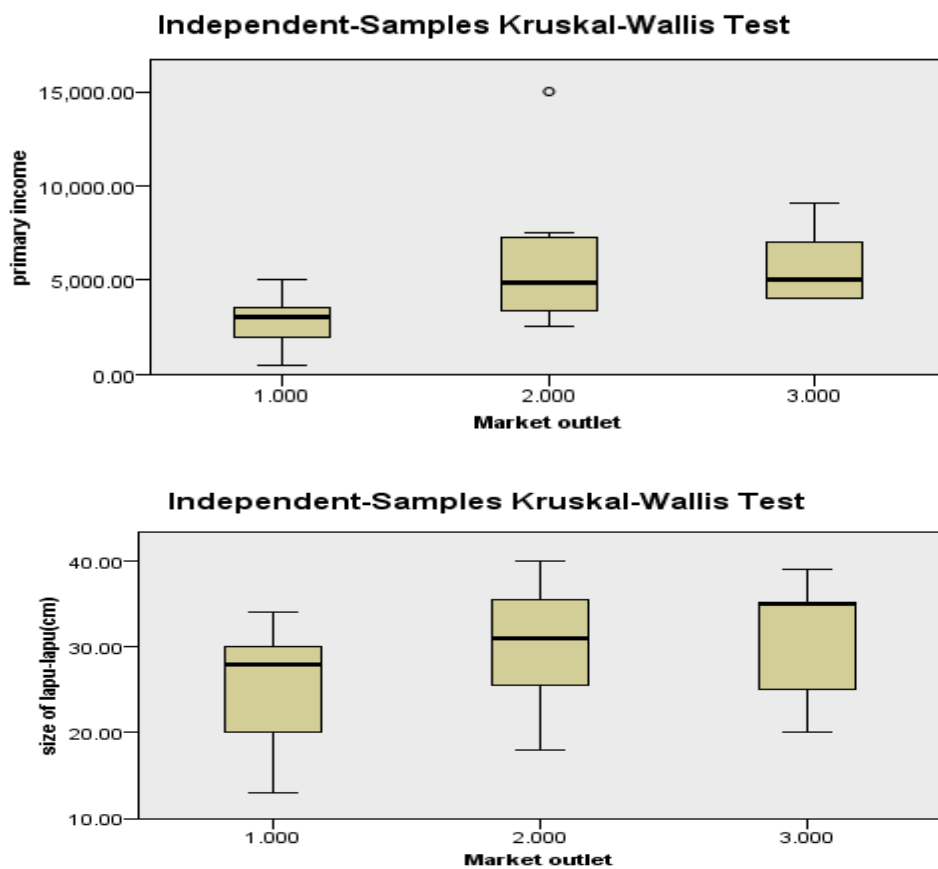
Source: Authors 0 = Others, 1 = Own pump boat

The result of Mann-Whitney test shows a significant difference in the distribution of harvested size of lapu-lapu across the categories of pump boat ownership and others ($U=151, n = 28, p < .05$).

Finally, whether the size of lapu-lapu harvested and income generated from fishing differs according to market outlet was measured by the Mann-Whitney test and Mood's median test was utilized to test the following hypotheses.

- H_0 : the distribution of the size of lapu-lapu / primary income is the same across the categories of market outlet (neighbouring community / public market / broker).
- H_1 : the distribution of size of lapu-lapu / primary income is difference across the categories of market outlet (neighbouring community / public market / broker).

Figure 5 Mood's Median Test Result

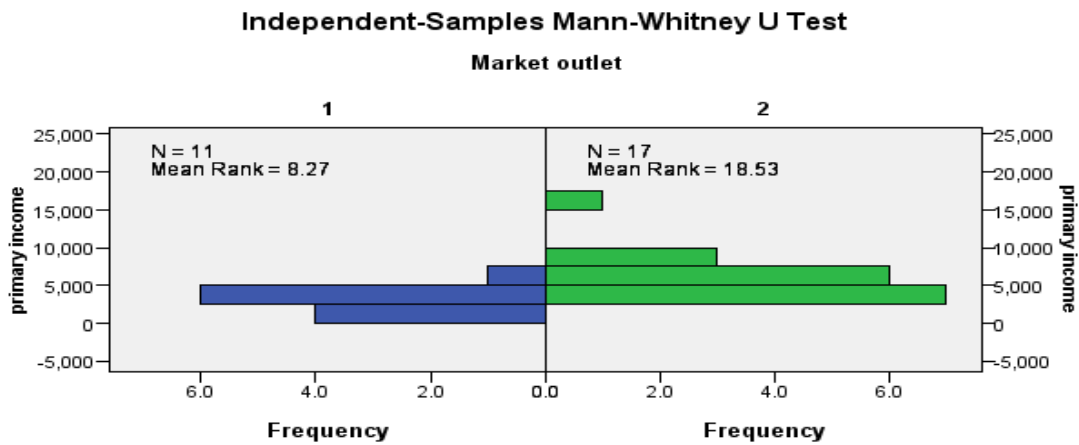


Source: Authors 1 = Neighbouring community, 2 = Public market, 3 = Broker

The result of Mood's median test shows a significant difference in the distribution of primary source of income across the market outlet (median: neighbouring community; 3000P / public market; 4750P / broker;

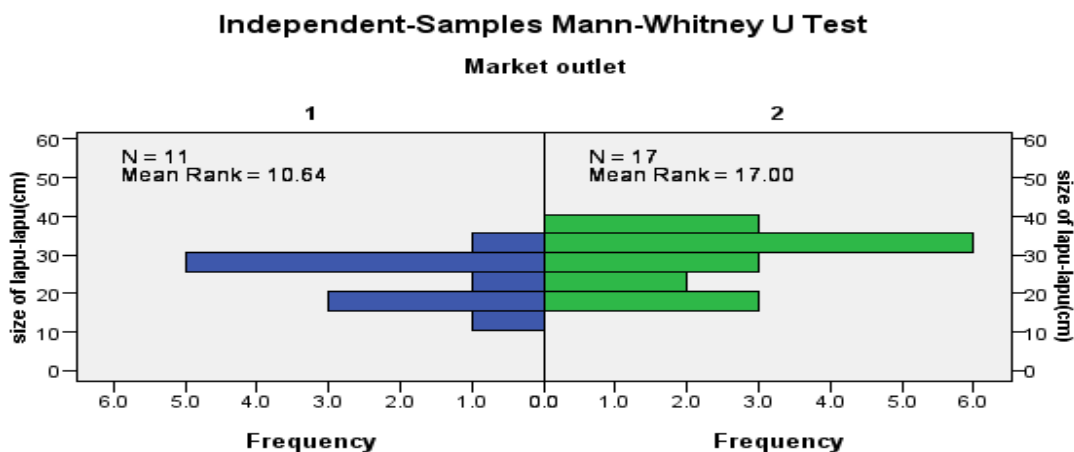
5000P) ($n = 28, p = .004 < .05$). Though there is no significant difference in the size of lapu-lapu (cm) across the categories of market outlet ($n = 28, p = .128 > .05$), the median shows that those who sell their products in the neighbouring community have a greater tendency to catch juvenile fish than those who are selling to the public market and brokers (median: neighbouring community 26cm / public market 32cm / broker 35cm, 26cm is under the reproductive size.) However, between the neighbouring community and both public market and broker, we see a statistically significant difference in the income level generated from fishing ($U=162, n=28, p=.001 < .05$) (Figure 6) and size of lapu-lapu ($U=136, n = 28, p=.047 < .05$). The following is the summary (Figure 7)..

Figure 6 Mann-Whitney Test Result 4



Source: Authors 1 = Neighbouring community, 2 = Public market and broker

Figure 7 Mann-Whitney Test Result 5



Source: Authors; 1 = Neighbouring community, 2= public market and broker

4.2.4 Discussion: External factors which encourage fishermen to use destructive fishing practice (catching juvenile lapu-lapu)

Tested hypothesis 1.b., which is external factors (e.g. socio-economic and demographic factors) predicting pro-environmental behaviour (catching mature lapu-lapu) was accepted. Though the various demographic and socio-economic variables were tested as mentioned in the methodology, statistically significant variables are mobility (type of boat and boat ownership) and level of primary source of income (income from fishing).

For mobility, the possibility of fish depletion inside Coron Bay, especially of matured lapu-lapu, requires fishermen to make efforts to move to alternative fishing ground to maintain their livelihood, if they are rational. In addition, the establishment of MPAs and the closing of areas are also limiting their fishing zones. This suggests that those who have capital to invest in pump boats may find it easier to move to an alternative fishing ground, while for those who do not have enough capital to invest may have more difficulty to access an alternative zone. This, in turn, limits their capacity to access the resources to maintain their livelihood. Hannesson (1998) suggested that marine reserves and limited mobility may result in extreme hardship to communities or individuals to access the resources by forcing fishermen to travel much farther to unfamiliar grounds, which also increases the risks to those with smaller vessels.

The results show that the majority of fishermen who have access to pump boats are catching mature size of lapu-lapu and tend to have more connection to brokers and the public market, since their products can meet the market size requirement. However, those who do not access to pump boats tend to end up with catching juvenile lapu-lapu before reaching the alternative fishing ground due to the depletion of the mature lapu-lapu inside Coron Bay. After the harvest, they sell it in the neighbouring community, since the fish are not market size.

Therefore, mobility is not only a predictor of the destructive fishing practice of catching juvenile lapu-lapu, but also indicates the de-equalizing effects of the capacity to access the market. In consequence, it is affecting how much some fishermen can earn from fishing. During the survey, one of the informants mentioned the reason why he is earning much more than other fishermen. He stated that engagement in the live reef fish trade by catching large-size lapu-lapu, which meets the global market size requirement, is the key factor to differentiate his income level. His answer obviously shows that the capacity to access the resource is the necessary condition to participate in the market economy, which generates a high level of income from fishing (Fishermen [005-0003], Lajala, September 21, 2015).

The situational factor of fish stock depletion and the socio-economic constraint of access to the resource are leading to the destructive fishing practice of catching juvenile lapu-lapu, which also has de-equalizing effects on the capacity to access the market economy and the level of income generated from fishing. This is the vicious cycle ecologically and socially in Coron. The risks the fishermen might face by traveling to alternative fishing grounds potentially encourage those fishermen to harvest juvenile fish within their mobility capacity rather than facing the risks. This attitude and destructive fishing practice will accelerate the deterioration of marine resources, while making their livelihood more vulnerable with the increasing uncertainties of the sustainability of the resource itself.

4.2.5 Discussion: The relationship between the capacity to access the resource and destructive fishing practice as a basis for collective action

Though the great body of CPRs literature provides the mechanism for collective community action toward management strategies, the examination of its foundation to foster the collective action are little discussed, especially as many communities adopted the mechanism of community based resource management without questioning how to efficiently manage by reducing the costs of monitoring. This rapid adoption has the potential to overshadow the capacities of individuals to support the mechanism, which is affected by social dynamics and uncertainties such as market forces or environmental changes. Therefore, identifying the capacity of individual fishermen to implement provision activities expected in the mechanism of community based resource management could serve as a key to address the complexities and failure of ICM by elucidating the root causes.

To reach the root causes, the question which should be asked is whether individuals in a community have the basis to accept the principles and mechanism of CBCRM. About the basis, Ostrom (1990) mentioned the necessity of a fair, orderly, and efficient method of expected long-term resource allocation, such as fishing methods or technology to access the resources, without which fishermen have little motivation to contribute to the continued protection of the resource system. Also, Ishikawa (1990) explained the importance of the basis of collective action in the area of agriculture, which is an emancipation of landless farmers from uncertainties about whether they can earn tomorrow or not.

When this rationale of collective action as a mechanism of CBCRM is applied to Coron, we could not say there is the basis of collective action. This is strongly attributed to individual fishermen's capacity to access the resources and maintain their livelihood. Ostrom (1990) also pointed out that in a particular CPR, if problems associated with the appropriation of subtractable resource units become severe, local appropriators

may refuse to undertake provision activities. This statement also suggests the reason for the ineffectiveness of ICM in the stage of knowledge distribution in terms of translating it into their behaviour. There is a great possibility that correct knowledge acquisition does not necessarily lead to behavioural improvement, because of the external factors threatening their livelihood. This is examined in the next section.

4.3 Summary of Statistics (fishermen using net)

Table 8 Summary of Socio-economic and Demographic Data (Fishermen using net)

	Number	Minimum	Maximum	Mean	Standard Deviation
Size of mesh (cm)	27	2.0	10.0	5.630	1.8324
Primary income (Peso) / month	27	500.0	15000.0	3788.270	3063.7985
Secondary income (Peso) / month	27	0.0	8000.0	2026.207	2012.8873
Knowledge	27	0	1	.96	.192
Attitude	27	1.0	5.0	3.222	1.1209
Attend seminar	27	0	1	.63	.492
Attend seminar and learned about net	27	0	1	.81	.396
Valid N	27				

Source: Authors

4.3.1 Effectiveness of ICM in the stage of knowledge distribution (size of the mesh of the net); translating knowledge into behaviour

To measure the effectiveness of ICM in the stage of knowledge distribution (seminars) to fishermen and translating it into their behaviour, a chi square test was utilized. The analysis and assumption taken here are the same measurement as the one for the size of lapu-lapu. As the first step, the following hypotheses were tested.

- H₀: there is no relationship between learning about the size of the meh of the net in seminars and fishermen's knowledge acquisition.
- H₁: there is a relationship between learning about the size of the meh of the net in seminars and fishermen's knowledge acquisition.

Table 7 Rate of Knowledge Acquisition among Fishermen Who Attended Seminars and Learned About the Size of the Fish

			Knowledge		Total
			.0	1.0	
Attended seminar and learned about net	0	Count	1	4	5
		% fishermen who attended seminar and learned about net	20.0%	80.0%	100.0%
		% with Knowledge	100.0%	15.4%	18.5%
1	Count	0	22	22	
		% fishermen who attended seminar and learned about net	0.0%	100.0%	100.0%
		% with Knowledge	0.0%	84.6%	81.5%
Total	Count	1	26	27	
		% fishermen who attended seminar and learned about net	3.7%	96.3%	100.0%
		% with Knowledge	100.0%	100.0%	100.0%

Source: Authors

The chi-square test shows that there is a statistically significant difference between those who attended seminars and correct knowledge acquisition about the use of the net. ($\chi^2=4.569, df = 1, p=.033 < .05$). This result indicates that the seminars are effective for generating knowledge.

Then, the next question is whether it is translated into their behaviour or not. For this measurement, a chi-square test was used to test the following hypotheses.

- H₀: there is no relationship between knowledge acquisition and behavioural improvement.
- H₁: there is a relationship between knowledge acquisition and behavioural improvement.

A statistically significant relationship was found between the high level of knowledge acquisition and low level of its translation into their behaviour ($\chi^2 = 4.569, df = 1, p > .05$). The majority of the fishermen who have correct knowledge about the size of the mesh are using fine mesh, which is under 7cm, although

they are not catching small fish such as anchovy. In spite of the successful knowledge generation through the seminars, why are fishermen not translating knowledge into behaviour?

To answer this question, the interrelationship between knowledge and attitude toward using fine mesh was also measured through Spearman's rank-order correlation. However, the result shows little relationship between knowledge and attitude ($r = -.136, n = 27, p = .497 > .05$). Also, the result of the measurement of the relationship between attitude and behaviour was not significant ($r = .020, n = 28, p = .922 > .05$).

4.3.2 Discussion: External factors which curtail the effectiveness of ICM in the stage of knowledge distribution (size of the mesh of the net) and translating knowledge into behaviour

Though the result (Table 7) shows that the seminars are effective in generating knowledge about the effects of the use of fine mesh on the marine environment, it was found that the knowledge does not necessarily improve either their attitude or behaviour toward using fine mesh to catch as much as possible. The result shows that it is common practice for the fishermen to use fine mesh under the size of the local regulation of 7cm. The mean of the size of the mesh is 5.63 cm in the summary of statistics table.

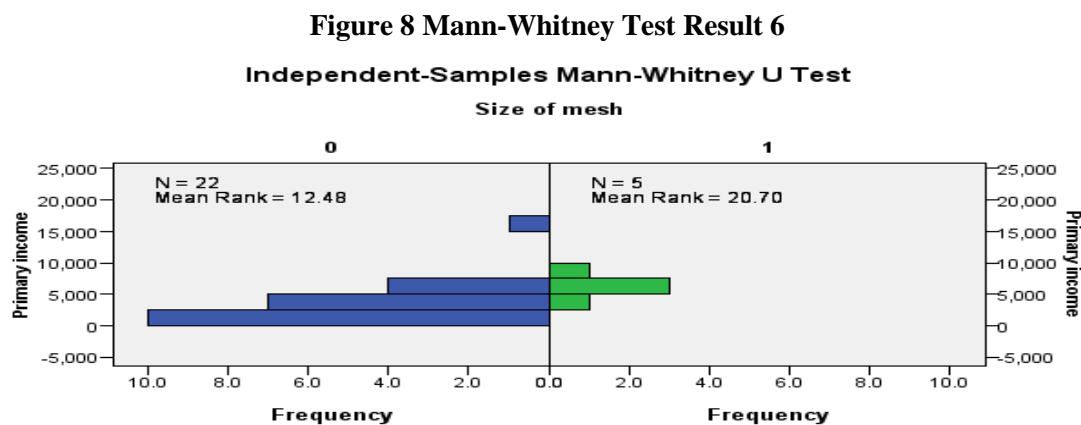
The findings suggest that knowledge from the seminars is not enough for fishermen to comply with the local regulation. Besides, it was not enough to foster the mutual monitoring among fishermen as an outcome of knowledge acquisition. This indicates that there is an absence of design disciplines of community based resource management defined by Ostrom (1990). That is, monitoring by individuals accountable to local appropriators (design principle 4), which results in a system of sanctions using graduated punishments (design principle 5).

Thus, the direct cause of the failure of compliance seems to be the lack of a monitoring system, as it is not reflecting the principles. However, there is a need to investigate the root causes that explain why the fishermen are not following the principles, in spite of institutional arrangements to prepare fishermen to follow the law. Regarding the basis of collective action as a mechanism of community based resource management, Ostrom (1990) claimed that if people in a community are similarly situated to make their livings, they are expected to follow these principles towards collective long-term gains (Ostrom, 1990). This suggests that, in Coron, there might be some individuals in a community who are not similarly situated to adopt the same commitment as others, which is related to the lack of capacity of individuals to access the resource and generate income from fishing as discussed in a previous section. If so, there might be a lack of ground for collective action as a mechanism of CBCRM, which should be investigated as an area of intervention or policy amendment.

4.3.3 External factors as prediction of destructive fishing practice (using fine mesh)

To measure the external factors which encourage fishermen to use fine mesh under the regulated size, a Mann-Whitney test was used to determine if there was a significant difference between two categorical variables. The assumption is that there is a relationship between the level of primary income and the size of the mesh.

- H_0 : the distribution of primary income is the same across the categories of mesh size (over 7cm / less than 7cm).
- H_1 : the distribution of primary income is different across the categories of mesh size (over 7cm / less than 7cm).
-



Source: Authors 0= Mesh size: less than 7cm, 1=Mesh size: over 7cm

The result of the test shows that distribution of primary income is statistically different across the categories of the size of the mesh ($U=88.5, n = 27, p=.033 < .05$). The median of the income generated from fishing for those who are using illegal mesh size is 2875 pesos per month. On the other hand, for those who are using the legal size it is 5000 pesos per month. This result clarified the relationship between the low level of income generated from fishing and the tendency to use illegal mesh size.

4.3.4 Discussion: The relationship between the capacity to access the resources and destructive fishing practice as a basis for collective action

As a basis of the collective action, Ostrom (1990) mentioned that in a particular CPR, if problems associated with the appropriation of subtractable resource units become severe, local appropriators may refuse to undertake provision activities. When this rationale of collective action as a mechanism of CBCRM is translated into the situation of Coron, we can say that if fishermen's livelihood problems, such as income

reduction, become severe because of complying with the regulated mesh size, which is spurred by the situational factor of the fish stock depletion inside the Coron Bay, the fishermen refuse to undertake provision activities. In other words, knowledge generated through the seminars about the size of the mesh are not successfully internalized as the fishermen's shared norm among a certain group, who are generating relatively low income from fishing compared to those who are using legal mesh size. This phenomena, in turn leads to an absence of mutual monitoring, in spite of the expectations of the institutions arranging the seminars.

5. Conclusion and Recommendation

5.1 Conclusion

The examination of PEB by triangulating the norm-activation model and the Theory of Planned Behaviour in the area of coastal resource management revealed the strong attribution of external and situational factors, in spite of the successful cognitive realization through correct knowledge acquisition and attitude improvement in the seminars. The findings of this study disproved the norm-activation model because of the failure of the internalization of a collective view among certain groups of small-scale fishermen in terms of translating knowledge into behaviour.

The norm-activation model presumes that a group has a basis of shared norms. In the case of coastal resource management, that is the optimal utilization of coastal resources by the individuals of the community in the name of common property. Therefore, to identify the internal or external factors which curtail the effectiveness of ICM in the stages of knowledge distribution and behaviour modification, it is essential to identify if the group has shared collective norms before discussing the improvement of the contents of the seminars in the area of coastal resource management.

To examine the basis of sharing norms, we examined hypothesis 2, which is that without fair, orderly and efficient methods of resource allocation, such as fishing methods or technology to access the resource, fishermen are encouraged to use destructive fishing practice. For the fishermen harvesting lapu-lapu, this hypothesis was affirmed through examining the relationships of the variables such as access to the resource, the size of lapu-lapu harvested, the size of lapu-lapu harvested relative to the market outlet, and income generated from fishing. The findings showed that those who do not have enough access to the alternative fishing ground because of using paddle boats tend to harvest lapu-lapu under reproductive size and sell the juvenile lapu-lapu in neighbouring communities and end up earning only half the income of those who are using pump boats and selling their products to public market and brokers. Also, for the fishermen using the net, hypothesis 2 was affirmed. The findings showed that those who are using the illegal mesh under 7cm,

regardless of their correct knowledge acquisition, generate income from fishing only half of that of those who are using the legal mesh size. Therefore, there is a possibility that those who do not have a fair, orderly and efficient method of resource allocation are having difficulty sharing norms, because harvesting juvenile lapu-lapu and using fine mesh are their forms of coping strategies toward environmental change in the CPR itself, which is the fish depletion inside Coron Bay spurred by market forces.

To examine the effectiveness of the seminars, hypothesis 1.a., which is that knowledge and attitude are two key internal factors that predict non-destructive fishing practices (pro-environmental behaviours) was examined. However, it was rejected because of the issue of catching juvenile lapu-lapu. The findings showed a low level of knowledge acquisition regarding the reproduction of lapu-lapu. There is a possibility that the prioritized content, mainly regarding fishing codes and MPA ordinances, is limiting the knowledge acquisition about lapu-lapu reproduction, which should be updated to address the current issues by creating new consciousness among fishermen for sustainable resource utilization. The low priority of this issue in the seminars is largely due to uncertainties such as fish depletion, along with the increasing demand for lapu-lapu in the live reef fish trade of the global market. Without research and development these remaining uncertainties might cause the deterioration of marine resources, which eventually damages not only the livelihood of the small-scale fishermen but also the fishing industry and the tourism industry in Coron because of its large dependency on coastal resources.

What should be done to support fishermen to become the agents of the change for sustainable coastal resource utilization? The first priority is that development agencies need to recognize that there is a lack of collective action currently in the coastal communities for the coordination of ICM. This has the potential to overshadow the capacity of individual fishermen to accept the rationale of collectivity, which is a foundation of CBCRM. We pose a question on this point because the fishermen in Coron are facing the environmental change of the CPR itself spurred by market forces, which is creating unfair, non-orderly, and inefficient methods of long-term resource allocation, thus making certain group of small-scale fisheries vulnerable. Ostrom (1990) claimed that such individuals have difficulty following the rules to manage coastal resources while maintaining their minimum level of livelihood, especially when compliance with the rules has de-equalizing effects on their household production. That makes it difficult for certain groups of fishermen to become the agents of change for sustainable coastal resource utilization. Therefore, emancipating the vulnerable individual fishermen from uncertainties about whether they can earn tomorrow or not is the first key to address the issues of destructive fishing practices. This is a basis for collectivity as a preparation for

effective seminars on ICM coordination, which will encourage fishermen to translate their cognitive improvement into non-destructive fishing practices, thus utilizing coastal resources at an optimal level.

After this, the coordinators of seminars should recognize the need to update the knowledge acquired among the fishermen to create new consciousness about the current issues of fish depletion. Raising awareness among the coordinators of the seminars is expected to be the engine to foster research and development investigating marine biodiversity and sustainable resource utilization. The identification of destructive fishing practices and the ineffectiveness of ICM in the stage of knowledge distribution are expected to highlight the capacity of individual fishermen to accept the rationale of collective action, which might be overshadowed by the name and expected mechanism of CBCRM focusing on community-level analysis. Through this study, we expect to contribute to helping small-scale fishermen to become the agents of change for sustainable coastal resource utilization by creating a space for them to participate in coastal resource management as members of the community and emancipating them from uncertainties about whether they can earn tomorrow or not. This positive change is expected to support the livelihood of all the people in Coron who increasingly depend on coastal resources with the promotion of tourism development.

5.2 Recommendations

Based on the findings of this study, we provide the following recommendations for sustainable fisheries and marine resource utilization.

5.2.1 Local government

1. **Foster research and development to update the knowledge of fishermen:** the findings of study indicate the low level of knowledge about the reproductive cycle of lapu-lapu among fishermen in spite of the increasing concerns about the stock's depletion and the rapid decline of its availability in all of Palawan. This might be due to the remaining uncertainties, such as how much lapu-lapu are exploited and endangered in the fishing ground of Coron. The knowledge discovered through research and development should be shared as a basis for the seminars among coordinators of ICM (local government, NGOs, private sectors and international organizations) to update the knowledge of fishermen, creating new consciousness and moving toward sustainable resource utilization.
2. **Develop a local fisheries code in Coron:** there is a possibility that the lack of research and development is resulting in the delay of the establishment of a local fisheries code, except for the mesh size of the net. The findings showed that there is a great possibility that the existence of a local fisheries code could

contribute to enhancing knowledge and improving attitudes toward optimal resource utilization. However, there needs to be deep examination of the effects of establishing new regulations, such as the regulation of the landing size of lapu-lapu, which might bring about other issues such as post-harvest losses.

3. **Coordinate the monitoring and reporting system by providing incentives:** this study recommends intensifying the monitoring and reporting systems of illegal and destructive fishing practice, since the limited effects of mutual monitoring because of the lack of the basis of shared norms were identified. Also, the information about how and where to report should be distributed to all the fishermen since we found that only those who have positions in the institutions tend to have such awareness and information. Those who do not have positions should be encouraged to acquire the information and participate in the monitoring process. Therefore, in the case of Coron, there needs to be government intervention and coordination to prepare the individual fishermen to participate in the effective monitoring system. Incentives should be considered as a means of effective monitoring.

5.2.2 Institutions as providers of the seminars (local government, NGOs, the private sector and international organizations)

1. **Develop strategies to target the participants of job diversification programs:** this study recommends targeting and prioritizing small-scale fishermen who do not have enough access to alternative fishing grounds and resources, which is characterized by the use of paddle boats and often selling their products only in local communities. Current strategies, which involve the fishermen who own pump boats entering the tourism industry by providing them opportunities to be tour guides, is not addressing the issue of excessive fishing, since those who do not have enough access to the resource are more likely to harvest juvenile fish and use fine mesh to harvest as much as possible within their limited capacity.
2. **Intensify job diversification programs with skill development of small-scale fishermen:** this study revealed that a majority of fishermen who responded to this survey has been fishing as their livelihood after they finished their education (mean of education attainment: elementary graduate). Therefore, the livelihood programs should be concerned with how to develop employment for securing and sustaining the source of income of their household from the alternative jobs. If not, there is a possibility that they will continue fishing in spite of the limited access to the resources which has the potential to perpetuate poverty and encourage excessive fishing practices, such as harvesting juvenile fish and using fine mesh.
3. **Create content for the seminars reflecting the specific issues in Coron beyond the contents of the fisheries code and MPA ordinances:** in particular, the knowledge of the reproductive cycle of lapu-lapu

and its current endangered status should be updated with fishermen to create new consciousness for sustainable resource utilization.

Acknowledgements

Our deepest gratitude to all the people who supported OFW 2015 in order for us to learn from the field research and lessons and prepare ourselves for future work. These include:

1. Nagoya University

Assistant Professor Liu Jing

Professor Naoko Shinkai

Associate Professor Isamu Okada

Assistant Professor Yuki Shimazu

Associate Professor Yoshikazu Oshima

Assistant Professor Francis Peddie

2. University of the Philippines

Dean Josefina Dizon

Dean Dong Camacho

Director Rowena Bacongus

Professor Aser B. Javier

Assistant Professor Ephraim C. Quinones

Ms. Almira Lumbres

3. Local government

Mayor: Ms. Clara C. Espiritu-Reyes

Vice mayor: Mr. Jim Gerald L. PE

Environment officer: Mr.Reynario R. Labrador

Planning officer: Mr. Michael Adran

Agriculture officer: Mr. Gerry Gevela

Information officer : Mr. Lyle Coruna

Legislative Council Chair Person on Fishery

Ms. Dorcas Besa from Palawan Council for Sustainable Development

Mr. Marco Sacle

4. ECOFISH

5. Respondents in each village (Tagumpay, Bintuan, Banuang Daan and Lajala)

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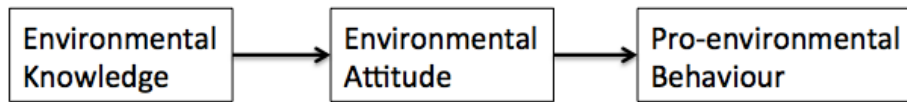
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Appendices

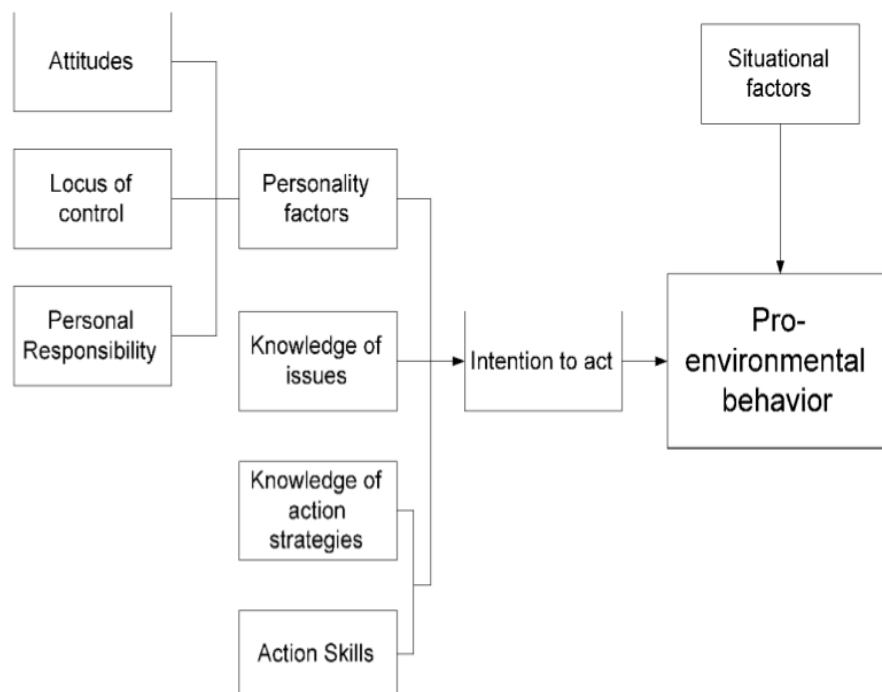
Appendix A

Linear progression models



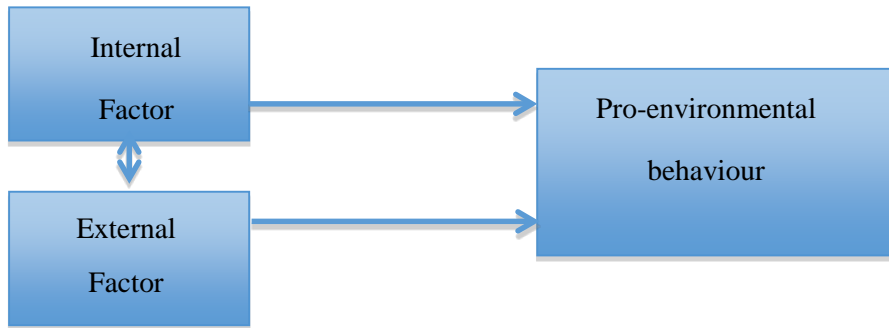
Appendix B

Hines, J.M., Hangerford, H. R., & Tomera:, A. (1986/87)



Appendix C

The framework synthesized both internal and external factors



Appendix D Questionnaire

Background & Knowledge Questionnaire by OFW (Working group 3: Education) Control Number: _____

1. Name	2. Village	3. Age	4. Sex	5. IP (Y/N)	6. Educ Attainment	7. Civil Status (A)	8. Number Children	9. Bantay Degat (Y/N)	10. Position of the fisherman	11. primary source of income (B)	11.1. income /month	12. Secondary source of income (C)	12.1. income /month
13. Year started fishing	14. Fisher Association (Y/N)	15.1. Own gears (Y/N)	16.1. Paddle or pump (E)	17. Market outlet (F)	18. Chance to access the information (Y/N)	19. Source of information (Top3) (G)	19.1. If in school (H)	19.2. If inst. Based (I)	19.3. If media (J)	20. Number of times attend seminars & programs	21. issues learned (K)	22. What did you learn about fishing practice? (L)	23. Do you think seminars and programs are effective? (Y/N)

Knowledge	1) TRUE	2) FALSE	3) DONT KNOW
1. Groupers such as, squaretail coral grouper and humpback grouper are common fish species (not in danger).			
2. Overfishing of the target fish population has possibility to lead to behavioral change of other fish.			
3. It takes 2 to 3 years for groupers, parrotfish and snapper to be mature enough to breed.			
4. Catching juvenile fish with small mesh reduces the natural productivity of the fish.			
5. Influence of cyanide deteriorate the health of coral reefs.			

Knowledge	1) TRUE	2) FALSE	3) DONT KNOW
6. Anchoring coral reefs have risk of destroying coral reefs and marine habitats.			
7. Boat engine has possibility to injure and break coral reefs.			
8. Live coral fish can live in the areas with dead coral reefs.			
9. Bleaching of coral reefs often causes increase of abundance and diversity of coral fish.			
10. Degradation of coral reefs and marine ecosystem has possibility to decrease food supply, which will also reduce the income of the fisherman.			

Code
(A)
1 = Single
2 = Married
3 = Separated
4 = Widower

(B)
1 = Fishing
2 = Tour guide
3 = Others

(C)
1 = Fishing
2 = Tour guide
3 = farming
4 = none
5 = others

(D)
1 = Spear fishing
2 = Hook and Line
3 = Net
4 = Fish and trap
5 = Others

(E)
1 = Paddle
2 = Pump

(F)
1 = Restaurant or bar
2 = Hotel
3 = Market
4 = Broker
5 = Neighbor
6 = Tourist
7 = Others

(G)
1 = Family
2 = Community
3 = School
4 = Eco-seminar
5 = Fishing training
6 = Media
7 = Others

(H)
1 = Elementary
2 = High school
3 = Vocational
4 = College

(I)
1 = ECOFISH
2 = Malampaya Foundation
3 = PCSO
4 = BFAR
5 = Company the fishermen working as tour guide
6 = Fishers Association
7 = Boat Association
8 = Coron Initiative
9 = Others

(J)
1 = TV
2 = Internet
3 = Newspaper
4 = Radio
5 = Books
6 = Magazine
7 = Others

(K)
1 = Destructive fishing practice
2 = Destruction of coral reefs
3 = Destruction of marine ecosystem
4 = Risk of food
5 = Risk of income
6 = MPA management
7 = Targeting & collecting spawning
8 = Capturing boat engine
9 = Others

(L)
1 = Species of the fish
2 = Amount of the fish
3 = Size of the fish
4 = Size of the net used
5 = Use of cyanide/dynamite
6 = Use of the anchor on coral reefs
7 = Targeting & collecting spawning
8 = Capturing boat engine
9 = Others

Attitude Questions	1) Strongly Agree	2) Agree	3) Neutral	4) Disagree	5) Strongly Disagree
1. Fishermen can catch any kind of fish regardless of species to increase their income.					
2. Daily quota for fishermen should be imposed to maintain the balance of marine species.					
3. Growing the juvenile fish in cages until they reach the market size has an influence on marine environment.					
4. It is better to resort in using net with small mesh in fishing rather than having no catch in a day.					
5. I find dynamite fishing is effective to increase fishermen's income.					
6. Capturing fish through cyanide is convenient and more reliable.					
7. I feel that anchoring coral reefs is normal practice of fishing.					
8. Targetting and gathering spawning aggregation is effective to increase fishermen's income.					
9. Moderating boat engine is important to keep the healthy condition of coral reefs.					
10. Protecting marine environment increases future income of the fishermen.					

Behavior Questions	1st Species	Ave Size	2nd Species	Ave Size	3rd Species	Ave Size
1. What kinds of species do you catch? (Top3) (M) / How large are their body length ? (cm)						
2. How many kilograms do you catch per day ?						
3. Do you fish where in or near spawning areas? (Y/N)						
4. Do you practice hook and line fishing?						
4.1. If yes, how many hooks do you use per fishing ?						
5. Do you practice spear fishing? (Y/N)						
5.1. If yes, do you practice compressor fishing? (Y/N)						
6. Do you practice net fishing? (Y/N)						
6.1. If yes, what is the size of the mesh of the net you use?						
7. Have you ever seen Coronian fishermen using cyanide or dynamite?						
7.1. How many times have you seen cyanide or dynamite fishing?						

Code (M)

- 1 = Alimango
- 2 = Alimasag
- 3 = Alumahan
- 4 = Balo
- 5 = Bisugo
- 6 = Dategangu Bukid

- 7 = Danggit
- 8 = Galunggong
- 9 = Hipon
- 10 = Kanuping
- 11 = Labahita
- 12 = Lapu-lapu (Red)

- 13 = Lapu-lapu (other than 19 = Lobster)
- 14 = Mangagat
- 15 = Matambaka
- 16 = Maya-maya (Snapper)
- 17 = Parrotfish
- 18 = Tuna
- 19 = Lobster
- 20 = Others

Working Group 4

Tourism and Culture

The Coexistence of Indigenous Culture and Tourism: A Case Study of the Tagbanua of Northern Palawan

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Abbreviations

ADSDPP	Ancestral Domain Sustainable Development Protection Plan
CADC	Certificate of Ancestral Domain
FPIC	Free Prior and Informed Consent
ILO	International Labour Organization
INDISCO	Interregional Programme to Support Self-Reliance of Indigenous Tribal Peoples through Cooperatives and Self-Help Organizations
IP	Indigenous People
IPRA	Indigenous People's Rights Act
LGU	Local Government Unit
NCIP	National Commission for Indigenous Peoples
NGO	Non-Governmental Organization
PRO 169	Project to Promote ILO Policy on Indigenous Tribal Peoples
UPLB	University of the Philippines, Los Baños
UNDRIP	United Nations Declaration on the Rights of Indigenous People

Acknowledgments

For all their support in helping us achieve our research objectives, our sincere appreciation goes out to the Local Government Unit of Coron, Mayor Fems Reyes, Vice Mayor Jim Pe, the Department of Fisheries and Agriculture, the Department of Food and Nutrition, the Department of Planning, the Department of Tourism, the Department of Health, the Saragpunta, the Tagbanua tribes of Balisongan and Banuang Da'an, the homestay families of Caluit, Coron Initiative, and the University of the Philippines Los Baños.

1. Background to the Research

The Calamian Islands are a group of limestone islands in the northern part of Palawan province in the Philippines. The island group is 310 km southwest of Manila, the capital city of the Philippines. Busuanga is the largest of these islands, followed by Culion Island and Coron Island. The municipality of Coron covers the eastern half of Busuanga Island, the whole of Coron Island, and several other smaller islets. The Municipality of Coron is politically subdivided into 23 *barangays* (villages), which are the smallest administrative divisions in the Philippines. Coron has a land area of 689 km² and a population of over 42,000 people, according to the 2010 census (Census, 2010: 31).

Coron Island and its surrounding islets are part of the ancestral dwelling of the indigenous Tagbanua people, who are also one of the oldest indigenous groups in the Philippines (Bernardo et al, 2014). According to folk history, the Tagbanua had an early relationship with Brunei, and formal settlement of Palawan began from 1521 (Diaz, 2014). Presently the Tagbanua make up around 40% of the total population of Coron, with about 18,000 people living within the municipality (Okazaki, 2008: 518; Diaz, 2014). The Tagbanua language is the third most common spoken language at 12% of the population of Coron, behind Cuyunon at 32% and Tagalog at 31% (Javier, 2015).

The Municipality of Coron is part of the ancestral domain of the Tagbanua people. This term indicates that the Tagbanua's relationship with the land is based on ancestry as well as spiritual and cultural aspects that are often not acknowledged in colonial systems of individual property ownership and land title. The Tagbanua people of Coron thus invoke a mutual responsibility and relationship between land, people, and ancestors, and they often prefer to be described as custodians or guardians of their ancestral domain rather than 'owners', in the modern sense of the word (Lightfoot, 2008).

In 1997 the Tagbanua were recognized as an indigenous people and were protected by the national government and the international community under the Indigenous Peoples' Rights Act (IPRA), which also granted them the right to either give or withhold consent for development projects (Hill et al, 2010). In addition, in 1998 they were awarded the Certificate of Ancestral Domain Claim (CADC) (Rimban, 1998), which extended environmental protection into the waters. After consultation with the municipal government in 2001, the Tagbanua decided to open the islands and natural sites to tourism (Ranada, 2014).

2. Problem Statement

The Tagbanua essentially own the land and water rights to their ancestral domain in and around Coron and have explicitly allowed tourism to develop. Since 2001 tourism has flourished. In the year 2000 there were

only 28 recorded tourists to the island, and in 2001 this number jumped to 1,158, after which it continued to increase at such a rate that in 2013 there were 91,590 tourists (Javier, 2015). However, to date no studies have been done that determine the role of the Tagbanua culture in tourism promotion to Coron and whether tourism and culture can coexist in a mutually beneficial way. Therefore, the purpose of this study is to determine how the culture of the Tagbanua can promote sustainable tourism to Coron and how tourism can contribute to preserving that culture.

3. Literature Review

3.1 What is culture?

Culture encompasses many aspects of life and society and can also be representational. It is rooted in anthropology, and it is socially constructed and symbolically represented (Linnekin, 1997). Geertz (1973: 5) says that “[b]elieving, with Max Weber, that man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law but an interpretive one in search of meaning”. Culture is therefore the attitudes, customs, characteristics, and beliefs that define a group of people and distinguish them from another group. Culture can be defined as shared patterns of behaviours and interaction, cognitive constructs, and affective understanding that are learned through socialization and allow members to form an identity as part of a group while distinguishing themselves from other groups (CARLA, 2015). Culture includes knowledge, art, morals, beliefs, customs, and other capabilities and habits acquired by individuals in society (Said, 1974). There are both visible and invisible aspects of culture. For instance, Nakamura (2011: 106) says that food, art, architecture, and fashion are visible parts of culture, while ethics, religion, communications, values, and relationships are invisible. Rather than inherited, culture is learned within and from society. Hofstede (1997: 5) says that culture is derived from one’s social environment and not from one’s genes, and that it should be distinguished from both human nature and individual personality. Although there are numerous definitions of and approaches to culture, they all explain that it is strongly related to our daily life and is transmitted throughout history. Urry (1990: 83) also notes that tourism is intrinsically part of the contemporary experience of culture, and thus cannot be separated from wide-ranging cultural developments in contemporary society.

For the purpose of our study, drawing on the previous definitions, we will look at culture as daily life activities as well as concealed elements that create meaning in the Tagbanua’s lives. By daily activities, for instance, we refer to practices and customs that are in a sense ‘traditional’. By this we mean what types of practices, routines, and rituals are unique to the Tagbanua that have been passed down over generations and

are not part of the larger Filipino culture. These may be farming practices, fishing techniques, planting rituals, wedding rituals, or feasts and festivals that are not practiced by the wider Filipino society and have been in existence in the Tagbanua community before colonial times. By hidden elements of culture we have identified culture as based on beliefs and spiritual meanings that have permeated into society. In some ways these beliefs are directly related to daily life activities. For example, a crop planting ritual may be based on a belief that by doing so in a certain way a crop will produce abundantly, or the appearance or sound of a certain animal signifies the impending arrival of harm or misfortune.

3.2 Cultural change

In an era of mass communication, today's cultures have come to be characterized by postmodernism. A postmodern definition of culture involves a dissolving of boundaries between separate cultures, such as through contact with 'outsiders', and also among different cultural forms, such as art, sport, education, and architecture (Urry, 1990: 82). Based on these descriptions, it is possible then to discuss culture as a concept that is fluid in nature and always evolving, either naturally or as a result of external influence. It is after all widely agreed that culture is inevitably subject to gradual change (Spenser-Oatey 2012). Cultural change can be seen as both a process and as a modification in the way of life of a given society. Cultural processes and changes are classified as growth, disintegration, reintegration, acculturation, and diffusion (Spindler and Spindler, 1959: 38).

The theory of cultural change has been an initial attempt at explaining clear patterns of how culture changes. Developed by Julian Steward between 1902 and 1972, this refers mainly to the adaptation of human beings to their changing environments, thereby identifying changes in the natural environment as a cause of cultural change (Steward 1955). Spenser-Oatey (2012) also identifies innovation, discovery, invention and diffusion as causes of cultural change. Cultural diffusion can be described as "the spreading of cultural items from one culture to another" and is considered the main cause of cultural change (Spenser-Oatey 2012: 13). Consequently, diffusion should be examined more closely when carrying out studies on cultural change, particularly in relation to tourism development in previously remote areas. A key attribute of cultural diffusion is that it is a two-way process, meaning that both sides of the exchange are in a position to gain and lose elements of their own culture, although not necessarily equally. Also important to note is that it is not often that borrowed aspects of culture are transferred into another culture in their original form, and some cultural traits are more easily diffused than others (Spenser-Oatey 2012). Through the process of diffusion elements of culture will be adopted and adjusted to fit into the host society. With this fluidity, the word 'traditional' is also

open to debate, since culture is always changing in response to modernization, globalization, and external contact.

Even though there are interactions between the host society and tourists, it is usually understood that cultural changes occur mainly in the host society's lives, customs, traditions, and values, rather than in those of the tourists. As Valangendonck and Leman (2007: 127) say, "peoples and places, ways of life and past narratives (cultural heritage) are increasingly created, packaged, shaped or transformed fostering and nurturing mass tourism in confrontation with mass tourism." Since tourism has a very wide scope of human interaction, it provides many opportunities for the outcome of cultural processes and for positive changes through new forms of cultural expression. Today more people are able to travel and have opportunities to encounter different cultures, which mean travelers will have an effect on the community and indigenous people's culture and way of life.

3.3 Cultural tourism

Tourism is a major source of employment and economic gain worldwide and easily translates into billions of dollars a year (Chavez, 1999). It is seen as a shortcut to rapid development and a useful tool for debt-ridden countries. Tourism affects culture in many areas, such as lifestyle, language, social practices, and rituals. Tourism affects culture in both positive and negative ways. Hall, Gossling and Scott (2015: 180) show some positive impacts, such as putting a spotlight on local communities and their culture, the strengthening of cultural identity, cross-cultural exchange, and mutual education. They also mention some negative impacts, such as loss of cultural identity, standardization of culture, staged authenticity and dilution of cultural traditions.

Cultural tourism is a form of tourism that is marketed to the public by highlighting the customs of indigenous and exotic peoples in distant or remote places (Yang, 2011: 562). Thus it has been seen as an important strategy for regional socio-economic development, and images of ethnic people are often used to attract tourists to local places. Urry states that this can be harmful to indigenous people, since tourism then runs the risk of becoming organized around 'staged authenticity' of cultural traditions, practices, rituals, performances, dances, and dress, in order to appeal to the tourist gaze (2008: 9). In ethnic tourism 'culture' may imply the commodification and exploitation of indigenous peoples for tourism promotion (Capistrano, 2010:2). For instance, ceremonies that were once considered important and sacred may become commercialized and enter the realm of the profane, for example when individuals allow themselves to be photographed in their traditional clothes, or when the original meaning and importance of a song is lost

(Chavez, 1999). This detracts from their symbolic and spiritual significance and can result in a loss of cultural identity and understanding.

Due to the Tagbanua's animist beliefs there are also taboos attributed to certain areas that foreigners do not know about, thus causing offence to the local people. For example, tourists have bathed nude in waterfalls in Coron, which is discouraged by the local community (Chavez, 1999). Traditional clothes, dances, and rituals thus are at risk of losing their value and cultural importance when these sacred practices become profane. Unfortunately, under the influence of tourism there may be a loss of authenticity and identity of traditional cultures, such as food, folklore, ceremonies, and entertainment, among others, as well as a tendency to mimic foreigners, in order to satisfy the desires of the mass tourists (Dogan, 1989: 217-218). It is therefore necessary to discover if and how tourism and culture can coexist in a mutually beneficial way by providing income and employment to the area without eroding indigenous cultures.

3.4 Indigenous people in the Philippines

While a number of attempts have been made to define exactly who is indigenous, indigenous peoples in the Philippines can be defined as having historical continuity with a pre-colonial society and consider themselves distinct from other dominant groups of society; they thus form a non-dominant part of society and are determined to preserve their culture in spite of modernization processes (Doyle, 2009: 45).

The International Labour Organization has recognized a long history of discrimination against and exploitation of indigenous peoples of the Philippines, who are usually farmers, fishers, hunters, or forest dwellers (Candelaria, 2007: 1), and has thus developed two projects: the Project to Promote ILO Policy on Indigenous Tribal Peoples (PRO 169) and the Interregional Programme to Support Self-Reliance of Indigenous Tribal Peoples through Cooperatives and Self-Help Organizations (INDISCO). The aims of these projects are to protect the cultures and traditional lifestyles of indigenous peoples who are often marginalized and experience increasing poverty due to tourism and development.

The Free Prior and Informed Consent Act (FPIC) is a component of the United Nations Declaration on the Rights of Indigenous People (UNDRIP), and article 8.1 states that "Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture" (United Nations, 2008: 6). This means that any changes that are planned on indigenous peoples' land or domain must pass through the residing indigenous group and receive their approval. This has been an important step in providing indigenous people around the world with the voice to speak up against 'development' projects that could potentially become a source of cultural exploitation. While other groups of indigenous people live in Coron and the

Calamianes, presently the Filipino Government has only officially recognized the Tagbanua as indigenous people. According to the Indigenous Peoples' Rights Act (IPRA), 'indigenous people' is defined as

A group of people or homogeneous societies identified by the exploitation and ascription by others, who have continually lived as organized communities on community-bounded and defined territory, and who have, under claims of ownership since time immemorial, occupied, possessed and utilized such territories, sharing common bonds of language, customs, traditions and other distinctive cultural traits, or who have, through resistance to political, social and cultural inroads of colonization, non-indigenous religions and cultures, become historically differentiated from the majority of Filipinos (Cariño, 2012: 2).

Based on this definition, along with their claims of ancestral domain over their land with regard to tourism development, the Tagbanua people and their culture were the main subjects of our research. The Tagbanua also are part of the Saragpunta, which is an umbrella organization for indigenous peoples in Coron that helps to protect the rights of local indigenous and minority peoples. The Saragpunta is also involved in formal documentation of the Tagbanua culture, arranging indigenous schools for children to learn about their traditional culture, working with individuals who would like to study English, arts and crafts production and distribution, financial management training, and working with NGOs for the betterment of the Tagbanua. For the purpose of this study, unless specified otherwise, the term 'indigenous people' will be used to refer to the Tagbanua only.

3.5 The Tagbanua and their culture

The last few decades have been marked by several important turning points for the Tagbanua. After the IPRA was granted in 1997 and the CADC was granted in 1998, the Tagbanua subsequently decided to open their island to tourism. Tourism has since been recognized as a powerful resource to stimulate the economic growth of Coron Island while sustaining the health and beauty of the natural environment. The local municipal government, elected in 2004 and re-elected in 2007, has made tourism a top priority, building new hotels and guesthouses, while reconstruction of the airport has also succeeded in bringing investors and tourists to the island (Fabinyi, 2010: 421-422). Fabinyi (2010) also suggests that in the Philippines, and in Palawan province in particular, 'ecotourism' has become the new buzzword as governments try to both cash in on the financial windfall of tourist profits and to emphasize various forms of ecotourism as a way of shifting local engagement

with marine resources away from purely extractive uses. However, this also means that there is the challenge for the Tagbanua of dealing with outside stakeholders and in their relationships with others (Mayo, Grizelda, and Antonio, 2006)

Traditionally a seafaring people, the Tagbanua mainly gain their income and sustenance from fishing, while hunting, farming, honey extraction, and seaweed cultivation practices have also been employed (Dressler, 2005: 21). They subscribe to a deeply animist belief system, which attributes souls to plants, inanimate objects, and natural phenomena, and a belief in a supernatural power that organizes the universe. There are four main deities in Tagbanua beliefs: Mangindusa, the lord of the heavens; Polo, the benevolent spirit of the sea; Sedumunadoc, the god of the earth; and Tabiacoud, who lives deep within the bowels of the earth (Diaz, 2014). Many local places are sacred to the Tagbanua and are believed to be guarded by spiritual beings and deceased ancestors, and if you enter a taboo area without the spiritual beings' approval you will start to 'get a bad feeling' (Ranada, 2014). It is currently unknown if and to what degree the influence of cultural tourism may cause a loss of cultural authenticity and identity in areas such as traditional food, folklore, ceremonies, entertainment, and language utilized in order to satisfy the desires of large numbers of tourists (Dogan, 1989: 217-218).

4. Research Objectives

1. Identify the impacts of tourism on Tagbanua culture;
2. Determine the role of the Tagbanua culture in tourism promotion; and
3. Examine how the Tagbanua are responding to tourism activity.

5. Research Questions

To achieve our research objectives, we devised the following main research questions and sub-questions to guide us in collecting the necessary information.

1. What initiatives are currently being employed within tourism to promote the Tagbanua culture?
 - 1.1 Are the Tagbanua involved in these initiatives?
 - 1.2 How is the Tagbanua culture being used as a tourist attraction?
 - 1.3 What do tourists understand about the Tagbanua and their culture?
2. How is the Tagbanua culture responding to tourist activities?
 - 2.1 How does tourist activity contribute to the preservation or erosion of the Tagbanua culture?
 - 2.2 What is effect of tourism on cultural awareness among the Tagbanua?

6. Methodology

6.1 Research framework and research site

Our research was case study in design as we chose to focus as deeply as time would allow on the Tagbanua people living in and around Coron and Busuanga. The main site for our fieldwork was in Coron town, including the *barangay* Balisongan and also Banuang Da'an on Coron Island. We also went to the *barangay* Japnai on Calait Island in the northern part of Busuanga.

6.2 Data collections methods and participants

Focus group discussions – We conducted a total of five focus group discussions (FGDs). On 16 September we conducted two FGDs in Balisongan, consisting of five and eleven participants, respectively. 1) The participants in the first FGD were married or widowed women aged 46 to 67 who were all seaweed farmers and housewives originally from Balisongan. 2) The participants in the second FGD consisted of four men aged 26 to 56 and seven women aged 33 to 70. All participants were married, originally from the same *sitio* (a smaller subdivision of a *barangay*) of Balisongan, and were seaweed and root crop farmers. 3) We conducted a third FGD with council members of the Saragpunta consisting of nine participants. There were eight male participants aged 38 to 54 and one 36-year-old female participant. All were married and had come from various *barangays* throughout Coron and Busuanga. On 17 September we conducted two FGDs in the *barangay* Banuang Da'an. 1) The first consisted of six male participants aged 39 to 85 and three female participants aged 60 to 69. Seven were married except for one man and one woman who were each widowed, and they were mainly fishermen, while two men were identified as the village secretary and the village elder. One participant was from *barangay* Cabugaw, and the rest were from Banuang Da'an. 5) The second FGD was held with three men originally from Banuang Da'an. They were 48, 48, and 56 years old, married, and fishermen as well as council members.

Key informant interviews – We conducted a total of five interviews with individuals we believed were important to our research, including Local Government Unit (LGU) officials, the Municipal Agriculture Officer, the Tourism Officer, Planning Director, and a municipal doctor. We also conducted a group interview with Legislative Council members and a question-and-answer session with the founder and coordinator of the local NGO Coron Initiative.

Field observations – The nature of our research allowed us to participate in a tourist-targeted homestay program with a Tagbanua family from 19 to 20 September. Although a regular experience usually is about three days

and two nights, we went for two days and one night. The homestay was on the island of Caluit in the northern part of Busuanga in the *barangay* Japnai. This opportunity allowed us to experience a day in the life of a Tagbanua family. We were able to watch and experience rice harvesting, fishing, crab catching, cooking, and meal time, as well as visit a local school and jewelry maker.

Informal interviews and discussions – This was largely carried out during the homestay program, as we were able to spend a large amount of time in a relaxed setting. We had some questions prepared before the homestay, and many new questions arose throughout the weekend. The main informants were the family member with whom we stayed, Amie and Aliot Vergara, their son Gerald Vergara, and our boat driver, Armond. We could also get some information regarding schools and education as well as how jewelry is made, distributed, and sold.

Survey – Our survey was conducted with tourists in Coron. We spent two two-hour evenings on the top of Mt. Tapyas, as this is a popular tourist destination in Coron town. We conducted surveys with a total of 30 Filipino and foreign tourists to find out what information is already known about indigenous people, their culture, and the Tagbanua, as well as tourists' level of interest in learning about or experiencing indigenous peoples' culture and way of life.

6.3 Analysis

We did narrative analysis of our FGDs, formal and informal interview, and field observation findings and quantitative analysis of our survey findings.

6.4 Limitations

The most obvious limitation to our research was time, especially since we were conducting what could be classified as a cultural study. Since ethnographic studies typically take months or years to complete, we were not able to get such an in-depth analysis of the current tourism situation in only six days of fieldwork.

7. Results

7.1 The current tourism situation

7.1.1 Poverty and malnourishment

The tourism industry in Coron is made up of multiple individuals and corporate bodies, and we were able to identify the Tagbanua, the LGU, the National Council of Indigenous Peoples (NCIP), the private sector, and NGOs, including the Saragpunta. Despite the economic gains from tourism, it is difficult to ignore the poverty levels among the Tagbanua. In Balisongan, we witnessed one family receiving food rations from the Food and Agriculture Organization, while also still relying on their traditional root crops and seaweed production for nourishment (Photo 1). Poverty among the Tagbanua was further confirmed by the municipal doctor who identified malnutrition, parasitism, and poor sanitation as plaguing mostly the inland communities. In comparison, during the homestay, our host family seemed to have an abundance of food, including rice, bananas, fish, chickens, and crabs.

7.1.2 The Tagbanua's inclusion in tourism

Tourism activities are mainly concentrated in the two *barangays*, Banuan Da'an and Lahala, which has left the Tagbanua communities further inland both unexposed to tourism and unprepared for any form of interaction with tourists and the tourism sector. This is largely due to a lack of inclusive planning, an ineffective system of wealth redistribution, and insufficient community participation. It is important to note how ill-equipped the Tagbanua were in general for the introduction of tourism. One of the members of the Saragpunta stated that "There was no prior co-ordination between the IPs and the LGU and tourism sort of 'happened' to us. We lack the capacity to properly manage Kayangan Lake and maintain our culture. We have already

Photo 1 Root Crops and Cultivated Seaweed



Note: Corot (left) is poisonous unless soaked in saltwater overnight.
Source: Photos taken during focus group discussion in Balisongan.

compromised some of our beliefs for the sake of the wider community" (Saragpunta member A, Coron, 16

September 2015). This indicates to us that tourism seems to have been pushed on the Tagbanua without their full understanding or approval of what it might entail.

Concerning the LGU, the study revealed that there is largely a focus on environmental conservation, ecotourism, and developing a 'sustainable' type of tourism. A study was supposedly underway to determine the carrying capacity of Coron, or how many tourists, businesses, and investors the area is able to handle. Despite this focus on environmental sustainability, plans to expand infrastructure and other amenities to better accommodate tourists' needs seem to be prioritised over the needs of the Tagbanua, such as better health care, education facilities, and improved security in income generation. There are few working plans oriented towards the preservation of the Tagbanua way of life and culture, although a major challenge stated by the LGU is a general lack of funding for future plans. It was also revealed that while there are intentions to include indigenous peoples' culture in future tourism plans, the LGU and has no direct involvement with the Tagbanua community, which could make it difficult to see any cultural tourism plans to fruition. On the other hand, the private sector seems to be more aware of the potential for cultural preservation and cultural tourism, with Coron Initiative, for example, having created various packages related to cultural tourism. Other NGOs have also been involved in projects with the Tagbanua, but these projects are uncoordinated, and the lack of a screening has resulted in some cases of exploitation and abuse of some vulnerable members of the community, such as children.

While tourism in Coron is received with both optimism and reservation by the Tagbanua and other stakeholders, there seem to be conflicting ideas and a general lack of coordination about what 'development' should consist of, with the LGU focused on building a modern city and the Tagbanua focused on social, educational, and health benefits. According to a Saragpunta program coordinator, "Our idea of development is not expanding roads, big airports, and big malls" (Saragpunta member B, Coron, 21 September 2015). While both the LGU and the Tagbanua have been developing their own plans that include tourism – the Tagbanua with the Ancestral Domain Sustainable Development Protection Plan (ADSDPP) – there is no consultation between the two. The public sector seems to have conflicting interests as well, with the NCIP working closely with the Tagbanua, while at the same time not coordinating with the LGU where cultural preservation is needed. There seems to be a general lack of awareness regarding the importance and potential of the Tagbanua culture as a source of tourism promotion, with the need to conserve that culture going largely unrecognised. Many stakeholders appear to have very little information as to how a mutually beneficial approach to cultural tourism can be developed. While the few Tagbanua who are aware of the importance of their culture and its vulnerability to exploitation have taken some form of initiative to protect it, such as writing a book, partnering

with individual investors to manage a beach, or construct a mini museum, these initiatives do not always create income and social equality among the Tagbanua.

7.2 The Tagbanua and tourism

While many Tagbanua are interacting more with tourists and tourism activities, not all are. This is partly due to the fact that the Tagbanua have a history of being discriminated against, being called ‘primitive’ and depicted as having ‘uncivilized’ cultural practices, and not being respected or valued by those in tourism and decision-making activities. The Planning Officer of Coron stated that the tourism boom originating in 2001 began because of the Tagbanua deciding to open access to Kayangan Lake, and it was apparent to us that only the Tagbanua living in coastal areas and near tourist destinations receive monetary benefit from tourism. Respondents in Balisongan said that they have never met tourists within their villages, since they live inland and far from beaches and other attractive sites. Tagbanua living away from tourism activities were more visibly poor than those in coastal regions, and our observations were confirmed by the municipal doctor, who stated that many Tagbanua are still malnourished. Therefore, we were able to find that whether the Tagbanua benefit from tourism or not is related to their location in Coron and whether they live near tourism activities. Through our interviews with the Tagbanua living in different areas we found that tourism can be both helpful and harmful to the Tagbanua peoples’ lives and their culture.

7.2.1 Helpful features of tourism

The Human Resources Development Officer of Coron mentioned that tourism plays a critical role by providing jobs and income to families in many communities. For example, as more tourists come to Coron, more fish are sold in markets and restaurants, which creates employment opportunities for fisherfolk, boat owners, and restaurant owners. However, these beneficiaries are not necessarily Tagbanua, and we found no instances of Tagbanua owning their own business in the commercial sector of Coron.

The Tagbanua themselves expressed to us that they have felt economic benefits from tourism, as we asked focus groups in each village what their understanding of tourism is and what are their perceptions and opinions of it. For instance, many respondents answered that tourism is important and is good for the community, as it brings in money, and families can now send their children to school. One male respondent who works as a boat engine mechanic could gain new income by repairing boats more often, as well as by selling seaweed to restaurants. Another woman’s daughter now had the opportunity to go to university and study about tourism,

thanks to income from tourism. Respondents in Banuang Da'an also mentioned they have learned how to scuba dive and can perform rescue activities on the beach and in the ocean.

We found that the Tagbanua generally have a positive attitude when it comes to interacting with tourists with the only major exception being the language barrier. This was the main obstacle to achieving closer relations with tourists, and respondents in all focus groups with Tagbanua respondents stated that they would like to be able to communicate more effectively with tourists. However, despite this difficulty in communicating, many respondents said that they try their best to communicate with tourists using the English or Tagalog words that they know, as well as gestures.

7.2.2 Harmful impacts of tourism

Despite the positive attitude toward tourism and tourists, there are also negative impacts of tourism. When we conducted interviews in Balisongan, two respondents mentioned that tourism is not good because tourists bring drugs, and one respondent recalled a story of his son being punched in the face by a drunken tourist. Also, even though the Tagbanua are positive about the increase in income generated through tourism, there are also negative economic impacts. Preparing meals and food which could previously be done inexpensively or for free now requires money to buy ingredients due to the rise in market prices caused by the tourism industry. For example, the price of a coconut has gone up from 3PHP to 50PHP in the last fifteen years, and many Tagbanua in poorer communities of Balisongan cannot afford diesel for their boat or tricycle, which is a motorcycle with a sidcar attached to it.

Another drawback is in education. During our meeting with the legislative council, we discovered that there is a concern that the current method of educating the Tagbanua children will ultimately result in a complete erosion of their traditions and culture as they follow a mainstream Filipino curriculum. However, education, especially learning English, is important for employment in the tourism industry, so it will be necessary for the Tagbanua, the LGU, and those in education to reach an agreement on how to educate Tagbanua children to be competitive and valuable workers while retaining elements of their culture.

7.3 The Tagbanua and their culture

7.3.1 Food and rituals of the Tagbanua culture

The dietary habits of the Tagbanua are different from that of other Filipinos, and they eat mainly root crops as a staple food. They did not traditionally eat rice, but these days farm both upland and lowland varieties for their own consumption and to sell to markets. Some of their traditional root crops include *corot*, *camote*, and

cassava. Older generations mentioned that they do not enjoy eating onions and garlic, but younger generations do not seem to have a problem. Although their traditional rice wine and coffee is rarely made and drunk anymore, they mentioned that the consumption of beer and spirits has been increasing since the 1990s. Many of the Tagbanua we met, especially those who hosted us during the homestay, were living an entirely self-sufficient life. Their way of agriculture and seafood attainment is still conducted using traditional methods, such as slash-and-burn farming, harvesting rice and vegetables by hand, hand and line fishing, spear fishing, and crab cages placed in mangrove bushes.

We also found that the Tagbanua have many traditional dances and ceremonies. However, it is rare for the people to perform these now. One ceremony that is still practiced today is the traditional marriage ceremony with a hand and wine ritual between husband and wife¹. The Full Moon festival was started in 2011 at the request of tourists and is held yearly in the late summer. While a mix of traditional dances and songs, the festival itself is a recent creation targeted to tourists. Some rituals that are no longer practiced include agriculture rites related to planting and harvesting. For instance, before planting a crop the community elder would go out early in the morning and walk across the field naked while praying for a good harvest, and during harvest several people would cross the field one after the other in a line. It is also traditionally believed that planting two fields at the same time would not yield abundant crops, although this ritual is not necessarily practiced anymore.

7.3.2 The changing of the Tagbanua culture

The Tagbanua of Balisongan said that they have been experiencing cultural change since the 1960-70s, which is before the arrival of large numbers of tourists. The Tagbanua food culture is gradually changing because of the arrival of outside products, including rice, fruits, and soft drinks. Furthermore, their self-sufficient lifestyle is also changing, as it is becoming very easy to buy premade and ready-to-eat foods in the markets. However, this means that the Tagbanua need money to buy their food, which is an increasing concern among lower-income communities. NGOs, such as Coron Initiative and the Saragpunta, have said that one of the ways that the diet of the Tagbanua is changing is due to the decrease of fish compared to fifteen years ago. They pointed out this loss is a result of overfishing and excessive demand for seafood from the tourism industry. This also causes a change in the methods used to catch fish, with more need to use deep-sea fishing methods, since staying near the shore does not generate a large enough catch to feed or support families. Cultural change

¹ To respect Filipino laws on publishing indigenous rituals, we will not describe this ritual in detail.

may be inevitable now, but Coron Initiative has said that it has already started documentation of the traditional elements of the Tagbanua culture.

7.3.3 The Tagbanua people

Many Tagbanua seemed to be quite reserved but also proudly identify themselves as Tagbanua. In our interview with the Saragpunta, it was explained that the Tagbanua are generally very shy and quiet. This makes it difficult for them to communicate with others, especially tourists. But the Saragpunta also mentioned that the Tagbanua people are developing their communication skills and are becoming more confident through increased interactions with tourists. This indicates that previous social reservations may change as English is now taught to children, and the younger generation is becoming more able to speak English without hesitation. Easier communication between Tagbanua and tourists may be beneficial in helping the Tagbanua share their culture with outsiders. Although there are some aspects of their culture that they are not willing to share, and any sharing must receive approval by elders, the Tagbanua seemed to be happy to share their culture with those who are interested. During focus group discussions many Tagbanua described themselves as respectful, understanding of each other, able to empathize with others' experiences, and eager to share their blessings with others. During our focus group discussion in the *sitio* in Balisongan, our respondents said that until we asked them about their culture they had never considered it deeply, but being made to think about it during our meeting, it was obvious that they realized how proud they were to be Tagbanua.

7.4 Tourism initiatives to preserve culture

7.4.1 Festivals and events

We were able to discover several different ways in which tourism and the Tagbanua culture are apparently coexisting in Coron. Since our explanation of culture includes festivals and rituals based on the Tagbanua pre-Christianity belief system, we were interested in finding out what role these events play in tourism promotion today. One particular festival that we heard about several times was the Full Moon Festival or Full Moon Dance. Initially we believed that this had been performed for many years and was an indigenous dance and performance by the Tagbanua people. However, we eventually discovered that it was in fact only created in 2011 by Coron Initiative. The event is held once a year toward the end of summer and was started for the benefit of and upon request from tourists. It is held in Banuang Da'an, has a maximum of 50 guests, and displays elements of the Tagbanua culture, including a war dance and sung poems. While Coron Initiative provides the sequence and flow of the event, all dances, performances, and songs are done by volunteer

Tagbanua people, usually elders, who wear traditional clothes and festival costumes. The sounds are all natural, and no amplifiers, speakers, or technology is used, and the event is enjoyed by tourists, local people, and the Tagbanua. Unfortunately, due to timing, we were not able to observe and experience this event.

When speaking with the tourism officer of the LGU about any strategies to include the Tagbanua culture as a tourist attraction, we uncovered another event that will take place for the first time in 2015 and regularly in the future. It is called Coron Night at Coron Bay, which would include various dances and arts and crafts on display and for purchase. Currently this event is marketed mainly by private tour companies and NGOs, such as Coron Initiative. The event will be held at Coron Bay and there will be no entrance fee for viewers. The aim of the event is for indigenous people to showcase their culture, although it is unclear if 'indigenous people' includes other groups besides the Tagbanua. There are also plans to include a space for the Tagbanua to sell arts, crafts, and other goods at the local market.

In general, the Tagbanua who we spoke to seemed willing to share their culture with tourists, including festivals and dance performances. However, it became clear that although many in the younger generations do not see a problem with performing for tourists, many of our respondents stated that they must first receive permission from elders before sharing traditions and rituals with cultural outsiders. For instance, we were told some of the customs and formalities that take place within a Tagbanua wedding, and while our respondents were willing to describe these details to us, they expressed concern and were not willing to have them published or allow outsiders to attend a traditional wedding ceremony. We later found some exceptions or contradictions to this while, during our homestay observations, we heard a story about a Canadian couple who had been granted permission to be married in a complete Tagbanua ceremony, which is officially and legally recognized. Perhaps the Tagbanua did not see this couple as outside observers, or there are discrepancies among *barangays* regarding the desire to share sacred cultural elements.

7.4.2 Museums and restaurants

The *barangay* Lahala also holds the only mini museum that we could locate that is dedicated to the Tagbanua people and their culture. It is organised in collaboration with Coron Initiative and one local Tagbanua family in an effort to promote cultural tourism and preserve some aspects of the Tagbanua culture in addition to other guided tribal activities, such as bird watching. The purpose of these activities and enterprises in Lahala are to allow tourists to learn some of the history of the Tagbanua while interacting with local people. There is awareness of the cultural commercialisation that comes with museums, but the NGO has stated that it wants the Tagbanua to be proud of who they are and showcase their culture, although we did not

learn how the larger population of the Tagbanua feel about these initiatives and their opinions on whether their culture is being exploited for commercial tourism purposes. We did hear from many Tagbanua that tourism is generally perceived of as good, since it helps bring money into the community, though this may come at the expense of cultural integrity. Although not museums, there are several souvenir shops in Coron town containing wood carvings and woven goods. They are beautiful and interesting and clearly resemble what one would expect of 'indigenous arts and crafts', but we could not detect who was making the goods. Whether they are made by the Tagbanua, other indigenous people, non-indigenous local people, or mass made in Manila and shipped to Coron, the shops contained no signage or information explaining the crafters, the meanings of carvings, or any indigenous information for tourists.

There is one 'Tagbanua inspired' fusion restaurant in Coron that we could find called Kawayanan Grill Station, although we were not able to verify that the food was actually based on traditional Tagbanua dishes. Also, the interior of the restaurant did not seem to display or publicise that the meals contained elements of Tagbanua food, such as indigenous root crops, rice, and seaweed dishes. This is an area that the LGU may want to pursue further, as tourists may be interested in learning about indigenous food and culture during their vacation in Coron.

7.4.3 Homestay program

We were very fortunate to have the opportunity to participate in the homestay program that is organised by the Saragpunta with a family in the *barangay* Japnai off the northern part of Busuanga Island. Our stay was two days and one night, while a regular stay is usually three days and two nights, with the longest stays lasting for one week. Tourists do not come often, and the last guests that our family hosted was in December 2014. Guests are usually European. We were unable to find the information on the Saragpunta website and instead heard about it from one of our interview respondents, who also ended up being our guide and translator during the experience. The homestay program was started in 2010 with families hosting guests on Calauit, Malaowig, and Culion Islands. The only requirements for a family to open their home to tourists is the willingness and commitment to guide, feed, provide a place to sleep, and host their stay. They should have their own source of food and their own boats. In the village we visited, only four families have opened their households to tourists. Our family stated that the maximum number of people they would be able to comfortably host is ten – they once hosted fifteen guests, but this was too difficult to manage. The purpose of the homestay program is to allow tourists the opportunity to experience the Tagbanua way of life. All fees that tourists pay to participate in the stay go directly to the family, and the Saragpunta does not take any earnings but only helps facilitate.

Although we stayed with one family it is common for the entire community to take responsibility in keeping guests safe. Activities during the homestay include many daily doings, and guests usually just ‘tag along’ with the family as they do their regular tasks, such as fishing, hunting, and cooking.

On our first day we traveled by small boat through a mangrove forest to our village on Calauit. Once there we were welcomed by our host family and served lunch consisting of coconut water, rice, and fish, served in coconut shells and banana tree bark. We then learned the difference between the lowland wet rice that has been

Photo 2 Four Stages of Harvesting Upland Rice



Note: The rice stalks are cut by hand, stepped on to separate the leaves, pounded to remove the outer husk, and shaken to remove excess dust before cooking.

Source: Photos taken during the homestay program on Calauit.

introduced by the LGU and the upland dry rice that is preferred by the Tagbanua, although the farming style employs the controversial slash-and burn method. We then proceeded with our host, Gerald, to cut and collect the stalks of rice, separate the leaves from the grains, and remove the hulls to prepare for cooking (Photo 2). We also accompanied Gerald and Armond on their boats to go hand line and spear fishing, which are methods traditionally practiced by the Tagbanua. Upon returning to the household we checked previously set crab traps, although there was only one crab and the rest were empty. Our hosts mentioned that fish and crab catches have been decreasing in recent years, which is largely attributed to overfishing and illegal fishing by non-Tagbanua people. Over dinner we had informal discussions with our host family who was able to tell us some traditional beliefs and stories, although since the introduction of Christianity and modernization many of the younger generations are forgetting Tagbanua tales and legends. We spent the night in houses that are on raised stilts to prevent damage from termites and slept on traditional woven sleeping mats.

On our second day we visited a local school and spoke briefly with a grade three class and a grade eight class. We also visited a local crafter who makes necklaces and bracelets to sell in her small shop. The initiative to form a jewelry committee began two or three years ago, and the jewelry is bought by locals, tourists who come to the village, and is distributed to buyers in Coron. The items are made from seeds found in the

mountains, but there is only one hand crank drill used, so it is inconveniently rotated among villages. Lunch was spent with Gerald's family in the village, and we were served the fish caught the previous day as well as the rice that we had harvested. We also learned that although many people use Western medicine provided by a nurse in the community, many still visit traditional healers and rely on herbal medicines to treat some ailments, such as snake bites. During our stay we were fortunate to have several English, Filipino, and Tagbanua translators who could assist us with language difficulties, but it seemed that a regular homestay experience would not necessarily have a language facilitator. This has the potential to make communication quite difficult depending on the level of English of the host family as well as the guests.

The founder of Coron Initiative stated that the commercialisation of culture "is on its way whether we want it or not" but also that he does not want to create another 'tourist disaster', such as that on Borocay, with its beaches littered with souvenir shops and restaurants, crowds of people throughout the island, and harassment from locals (Coron Initiative member A, Coron, 22 September 2015). It would be nearly impossible to prevent some changes in the Tagbanua culture, especially since there have already been many changes with the introduction of Christianity and domination by Filipino society. And while 'progress' and 'development' in Coron may presently include tourism and tourism promotion, it is important to remember the indigenous people and cultures of the area. There currently seems to be a lack of balance between increased tourism and preservation of indigenous cultures. A middle ground has not been reached that does not trivialize, ignore, or capitalize on the Tagbanua culture to their disservice.

7.5 Tourists' knowledge of indigenous culture in Coron

7.5.1 General findings

We conducted a survey with tourists who visited Coron to find out their knowledge and understanding of Coron and its indigenous peoples by spending two two-hour evenings on the top of Mt. Tapyas, a popular tourist destination, on the 18th and 22nd of September. We spoke with a total of 30 respondents, sixteen of whom were Filipino and fourteen of whom were foreign tourists, to find out what information is already known about indigenous peoples, their culture, and tourists' level of interest in learning about or experiencing indigenous peoples' culture and way of life.

According to our survey, we found that tourists generally planned to stay three to five days in Coron, but if they could stay longer, many would like to stay for about two weeks. Most of the tourists we surveyed had found out about Coron through a website, such as blog, travel page, social media or through their friends. The reason why tourists chose to come to Coron is generally because of the beautiful nature and marine sports,

such as scuba diving and snorkeling. Tourists knew some information regarding the area before they actually came to Coron, such as the beauty of the island, sightseeing spots, and shipwrecks.

Regarding knowledge of indigenous peoples, only three Filipino tourists knew the indigenous peoples in Coron, and only one person knew the name Tagbanua (Chart 1). This means that 90% of the tourists did not know who the Tagbanua are. Despite this, 24 respondents, or 80%, were interested in learning about or experiencing indigenous peoples' culture during their vacation in Coron, including a homestay program, while 10% were not interested and 10% were undecided (Chart 2). Both Filipino and foreign tourists were equally interested in learning about indigenous cultures.

Chart 1 Tourists who know about the Tagbanua
Sample size 30

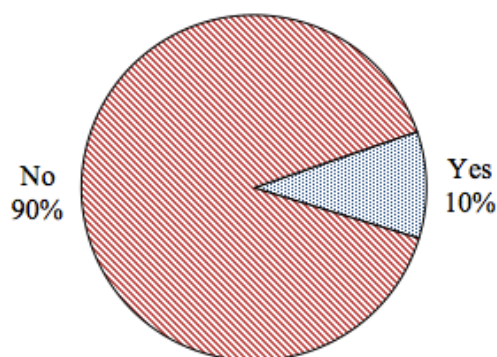
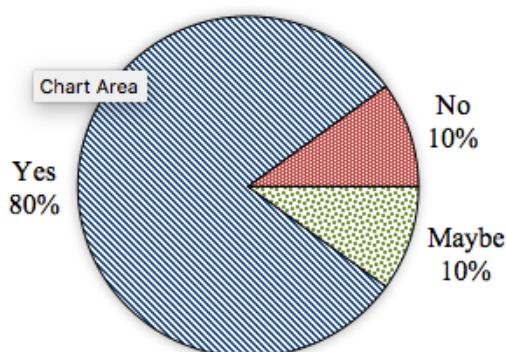


Chart 2 Tourists who want to experience the Tagbanua culture
Sample size 30



7.5.2 Increasing awareness of indigenous people

Based on what we have found through the survey, first it is possible to mention that there is a need to provide information about culture of indigenous people and the Tagbanua to tourists, since most of the tourists

did not know about any indigenous peoples but were interested. If the tourists can easily get information on the Tagbanua, such as on travel brochures or internet sites, more tourists might be interested in their culture, which would encourage them to participate in cultural activities such as a homestay program. Second, it is true that in general foreign tourists did not know about the existence of indigenous peoples, and even among Filipinos tourists only three out of 16 knew about the indigenous in Coron. One Filipino respondent mentioned that she knew about the Tagbanua because she learned about indigenous peoples in her school days, but this was a rare case. However, even though the tourists did not know who the Tagbanua are, as we have seen earlier most were interested in somehow participating in the culture of the Tagbanua, but they did not know about any program or activity that would provide educational activities regarding indigenous culture. This means that there is lack of connection between tourists' desires and programs which provide opportunities for learning about and experiencing the culture of the Tagbanua. For example, about one third of our respondents were interested in participating in a homestay program, and while there are some homestay programs on three islands, few tourists have experienced this. If the desires of tourists and the NGO which organizes the homestay program complement each other, it would mean that more tourists could not only learn about the culture of the Tagbanua but also share their knowledge with their friends. For example, in the homestay program organized by the Saragpunta, families provide participation in traditional activities of the Tagbanua, such as harvesting rice and fishing, and tourists can learn how to prepare traditional meals and then enjoy them. Thus, homestay programs can promote a wider range of experiences that tourists cannot experience normally.

8. Recommendations

We found that there are several challenges when considering incorporating Tagbanua culture within the tourism industry in Coron. These include lack of coordination among actors, educational limits among the Tagbanua that prevent them from actively participating, the risk of cultural exploitation and erosion, community cooperation, and differing opinions on future tourism development. In order to address these challenges, we identified four areas for improvement: capacity building, coordination and cooperation, incorporation of culture, and childhood education.

8.1 Capacity building

Aref and Redzuan identify that capacity building is essentially about empowerment and state that “[t]he success of tourism development requires that all stakeholders understand that investments in community capacities are necessary for development” (Aref & Redzuan, 2009: 24). Based on this understanding, the study

identifies a need for capacity building for the LGU, the Tagbanua, and NGOs. One of the main challenges of the Tagbanua suddenly finding themselves managing tourism businesses in their villages is the language barrier. Therefore, an immediate solution such as English language training courses is required to enable increased participation of adult Tagbanua in tourism activities. There is room for improvement in meeting and managing tourist expectations. While the LGU and the private sector may have adequate skills to manage various tourism activities, more education and training on the culture and the way of life of the Tagbanua will help in harmonizing future tourism development plans among stakeholders. The LGU would also benefit from providing training for the Tagbanua on how to manage and promote cultural tourism, while at the same time preserving their culture and avoiding exploitation. In Table 1 we propose several recommendations for capacity building, their target stakeholders, and the coordinating body.

Table 1: Recommendations for Capacity Building

Target Activity stakeholder recommendation	Tagbanua	LGU	NGOs	Co-ordinating body
English language training	o			LGU
Training on tourism and cultural tourism	o	o	o	LGU in partnership with the Saragpunta and NCIP
Safety practices; managing tourist expectations		o	o	Private sector and LGU
Business and financial management	o			NGOs in partnership with LGU
Community involvement and tourism development	o	o		

In recommending these training programs we do not ignore the likelihood of financial limitations. Development organisations such as the World Bank have previously supported cultural preservation efforts within the tourism industry. One such example is the US\$ 45 million Cultural Heritage Preservation and Tourism Sector Support Project in Haiti funded by the World Bank (Report no. PAD610, 2014). This project was targeted at conservation and management of cultural and natural sites that drive and service tourist demands, while supporting the tourism sector of development through community engagement, tourism planning, product development, and institutional capacity building. On a smaller scale, a tourism sector training budget could be established by the LGU to facilitate the programs, since capacity building is a key component for sustainable tourism development.

8.2 Coordination and cooperation

We identified a need for coordination and cooperation between the four main stakeholders in Coron, the Tagbanua, the LGU, the private sector, and NGOs, since several cultural tourism activities were planned but not effectively implemented. However, considering the danger of erosion and commercialization of the culture, coordination and cooperation between these stakeholders must make a significant effort to protect and promote the Tagbanua culture equitably. We have identified four specific recommendations to increase coordination and cooperation. The first is a regular meeting held by the LGU to discuss tourism development among stakeholders, since this can provide a space to share opinions and discuss cultural tourism plans. The second is to establish a separate governing body to increase coordination, accountability, and transparency among stakeholders. The third recommendation is positive protection policy as recommended by the World Intellectual Property Organization, since this would give the Tagbanua community the rights to their indigenous knowledge and empower them to promote traditional medicinal knowledge and prevent commercial exploitation. The final recommendation is the implantation of formal safety standards in the current homestay program, including a health insurance system. For instance, when we travelled to the homestay on Calauit and went fishing to a different island, there were no lifejackets on the boats in the event of the boat tipping. Also, the people on Calauit used both traditional and Western medicine, but there were not any hospitals and doctors available. The host of the homestay family has already committed to the responsibility of caring for tourists' safety, but this has not yet been achieved at an appropriate level.

8.3 Incorporation of culture

The promotion of the history of Coron and indigenous peoples' culture can play a positive part in tourism development. Although one third of the tourists we surveyed did not know about the Tagbanua, we found that most of them wanted to know about and experience the Tagbanua culture. One of the reasons that they do not know is that there is no place to learn about the history and culture in Coron, including the Tagbanua's festivals, feasts, music, crafts, and dances. If there is a space, such as a museum, Coron tourists may become more interested in the Tagbanua culture. If tourists are interested in the Tagbanua culture, the incentive to join a homestay program will also be increased. Moreover, the Tagbanua themselves have a generally positive opinion regarding promoting their culture as a tourism attraction. That is why incorporation of culture and traditions in tourism planning is beneficial for not only the preservation of culture but also tourism development in Coron. However, cooperation between the LGU and the Tagbanua is essential to achieve this goal.

8.4 Childhood education

We have identified three ways that education can be beneficial in promoting cultural tourism and preventing loss of traditional culture in Coron. First, we believe that the Tagbanua culture should be taught to non-Tagbanua Filipinos, since there are some people who look down on the Tagbanua and their way of life. Education of the local population on the Tagbanua culture, customs, and traditions should hopefully create a better understanding of the Tagbanua and a more positive understanding and attitude toward the uniqueness of their culture, rather than their culture be a source of ridicule. This would not only instill more pride in the Tagbanua and make them more willing to show their culture to outsiders, but it would also create an interest among the non-Tagbanua population to attend cultural events and shows. Since even Filipino tourists hardly know about the Tagbanua, this information should be taught as part of the regular school curriculum even outside of Coron. Second, incorporation of cultural classes targeted to Tagbanua children in formal education is needed. Particularly, education about the Tagbanua language, traditions, beliefs, and cultural practices can be incorporated into the regular education system and taught by trained Tagbanua instructors so that children and future generations do not forget their distinctive culture in the process of globalization and the increased diffusion of foreign cultural elements that comes from catering to tourists and tourists themselves. Third, early education taught in the Tagbanua language is important. Nowadays more children are studying in Filipino or English and not Tagbanua, but fewer opportunities to learn and use the Tagbanua language will eventually lead to the death of the language. Loss of the language would also result in a loss of traditional songs, stories, and knowledge, as well as communication with elders. Language loss may lead to a decrease of cultural knowledge and traditional ways of life, so in order to prevent this, early education in the Tagbanua language is important. Having people who can speak Tagbanua could also be incorporated into tourism, as Tagbanua tour guides could teach tourists original words and their meanings, or even hold Tagbanua language lessons prior to or as a part of the homestay program.

9. Discussion

It is unfortunate that the Tagbanua culture may be trivialized, ignored, or underestimated in its ability to promote tourism in a way that is also beneficial to the Tagbanua. Although there was some understanding of the need to preserve the unique culture of the Tagbanua, it often comes second to the needs of tourists, such as building infrastructure and more toilets. This lack of coordination for projects and communication with the Tagbanua is already creating tensions between stakeholders, and despite owning the land rights in Coron, the Tagbanua are still fairly powerless against big government and tourism development plans.

Only recently has the Tagbanua culture been recognized as a target of documentation, which is evident in the lack of information. Therefore, written and photographic documentation strategies are necessary in recording this information, since younger generations are starting to forget traditions, beliefs, stories, and knowledge. This not only benefits the Tagbanua themselves by helping them maintain their identity in the face of cultural change, but can also provide information for tourism planners who wish to collaborate with the Tagbanua to promote their culture as a tourist attraction. Of course this must be met with the complete approval and management of the Tagbanua so commercialization and commodification of culture does not occur. For instance, cultural tourism may be a way to preserve festivals, dances, and songs that would otherwise gradually be performed less and less frequently. However, in performing significant events and rituals there must also be efforts to maintain the original meanings behind them so that they are not forgotten or become just a show for tourists. In this way it is apparent that the idea of cultural tourism can create a type of tourism that is two-sided, and we are not endorsing the idea of unconditional cultural tourism. Rather, any tourism development that plans to include the Tagbanua culture must be managed by the Tagbanua themselves at all times, and all involved should be very aware of the dangers of cultural commodification, erosion, and staged authenticity. The Tagbanua must be given the power to permit any activities to take place and also prevent or interfere in activities that are or become exploitative.

Although at present the Tagbanua culture does not play a major role in tourism, there are some small initiatives and plans. However, reaching a mutually beneficial form of cultural tourism will have its challenges, especially with so many differing perspectives about the future of tourism in Coron. Also, different stakeholders must learn to work together, and the Tagbanua should not become the dominated stakeholder who is coerced into performing their sacred dances and songs. Instead the culture should be protected through education to appreciate its uniqueness and to eliminate discrimination against the Tagbanua. Like many other indigenous peoples, the Tagbanua are in a vulnerable position, which is why steps must be taken to preserve the culture and their traditional ways of life. Therefore, we can say that currently the Tagbanua culture is responding to tourism in that people are slowly becoming aware of the Tagbanua and their culture, and efforts are increasingly being made to document cultural practices. These efforts can be interpreted as a move to promote culture as a tourist attraction or as an attempt to preserve it in the face of future tourism development.

10. Conclusion

We have outlined that tourism can potentially contribute to cultural erosion; on the other hand, that culture need not exist in conflict with tourism. Instead, a balance must be found that benefits the Tagbanua while also

stimulating the local economy, thus improving the lives of the Tagbanua, non-Tagbanua, and tourists in Coron. The Tagbanua culture is a rich resource for tourism development if used fairly, and can be used to benefit both the tourism sector as well as the Tagbanua themselves. Therefore, tourism development in Coron should not overlook the Tagbanua culture and way of life as resource to promote tourism. However, the Tagbanua must also be actively involved in future decision making, cultural tourism planning, development, and management so as to prevent exploitive activities before they begin.

Appendices

Sample focus group discussion questions

1. What are your opinions about tourism?
2. How would you describe your interaction with tourists? If no interaction, please explain why, and do you want to interact more with tourists?
3. Have you noticed any changes in your culture since you started interacting with tourists?
4. How do you showcase your culture to tourists? Do you perform any special dances or ceremonies?
5. How do you feel about sharing your culture with? What aspects of your culture would you like to share with tourists?
6. Do you think tourism will help protect the Tagbanua way of life? Will it make the Tagbanua forget their traditions? How, or why not?

Sample key informant interview questions

1. What is the local governments' vision for tourism in Coron? What is your vision for tourism?
2. Do you think tourism is helping contribute to the social development of the indigenous people/
3. Do you know the Saragpunta and what activities they're involved in? Are you willing to work with them?
4. Have you considered including the indigenous peoples' culture as a tourist attraction?
5. Do you think tourism and culture can be mutually beneficial?
6. Would the LGU be willing to partner with the Tagbanua to develop a centre for making and selling crafts?
7. What are your opinions on tourism and the indigenous peoples' culture?
8. Are you contributing to the preservation of the indigenous peoples' culture? If so, how?

Sample survey questions

1. How did you find out about Coron?
2. What did you do or are planning to do in Coron?
3. What did you enjoy or not enjoy?
4. What do you know about Coron?
5. Do you know the indigenous people of Coron?
6. (If yes) Do you know their names? What do you know about them? Have you interacted with them?
7. Are you interested in learning about or experiencing their culture during your vacation in Coron?
8. What would you like to experience and how?

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