PART FISHERS, PART FARMERS: LIVELIHOOD STRATEGIES AND DIVERSIFICATION IN A FRONTIER COMMUNITY

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This paper analyzes the various livelihood strategies in a coastal barangay in Governor Generoso, Davao Oriental, where fishing and farming are the most common forms of livelihood. In a landscape marked by environmental degradation caused by natural and humaninduced calamities and overexploitation of marine resources, community members are compelled to supplement their primary work (fishing) with other sources of income in order to make ends meet. In this paper, I take a closer look at the key motivations for livelihood diversification and the important factors that affect the community's decision-making processes. Key findings show that assets, access to resources, as well as knowledge and skills, are the key determinants of an individual's choice of livelihood. The study also shows that Governor Generoso is a frontier community, consisting mostly of Visayan migrants coming from different cultural backgrounds. By looking at the ethnohistory and ethnoecology of the research area, this study presents an understanding of the changes involved in the livelihood strategies of a frontier community. I highlight narratives from ethnographic interviews with informants who are engaged in a myriad of economic activities, especially fishing and farming.

Keywords: Livelihood strategies, frontier and coastal communities, environmental changes, adaptive strategies

Introduction

Maayo gyud ang pangwarta sa panagat pero wa lagi kasiguruhan. Mas maayo nang mang-uma pud ka aron depensa sa bawod bawod ba! Fishing is a good source of income but unreliable. That's why it is better if you also have a farm to minimize the risks and uncertainties in fishing.

- Nelson, 68 years old, fisher/farmer

On a daily basis, people set off to engage in different livelihood activities and earn money in order to meet their basic needs. In this paper, I document the different livelihood strategies of the people in a coastal community in Davao Oriental. I use livelihood strategies in this paper to refer to the combination of activities that people choose to undertake in order to achieve positive livelihood outcomes. It includes production activities, investment strategies, and reproductive choices (Alinovi et al. 2010, Ellis 2000).

In most coastal communities, livelihood strategies are closely embedded in the environment and are very vulnerable to the impacts of the changes in weather patterns. Unfortunately, coastal ecosystems are one of the most exploited ecosystems, and the Philippines is ranked as the most vulnerable in Southeast Asia (Yusuf & Francisco 2009).

In the context marked by environmental degradation due to a series of natural and human-induced calamities, together with a sharp drop of the fish price in the market and a decline in farm harvests, people in the coastal areas are faced with great economic challenges. As a result, they have strategized and supplemented their primary work with other sources of income in order to address the demands of everyday life. In this paper, I present that there has been a considerable livelihood diversification and occupational multiplicity in Barangay Montserrat in the municipality of Governor Generoso in Davao Oriental. Residents of Montserrat maximize their resources and supplement their main source of income with other alternative income-generating activities.

Fishing and farming are the key livelihood strategies of the people in Montserrat. I do not wish to imply, however, that farming and fishing are the only livelihoods in the community. Rather, these two are the most common activities because of the geographic features and strategic location of the research area. Ideally, residents farm at daytime and fish at nighttime. Sometimes they concentrate on farming during the *habagat* (southwest monsoon) in the months of June to October and go back to fishing when the winds and waves are gentle during the *amihan* (northeast monsoon) in the months of January to May.

The combination of these economic activities is also widely documented in other coastal communities in the Philippines. For instance, in describing village life in Siquijor, Dumont (1992) reports that over 77 percent of the residents are engaged in agriculture or fishing or both. He observes that all men are actively involved in fishing. Even those who farm also fish. Not all fishers are farmers, however. Mangahas (2004) also describes how copra farming complements fishing on Samal Island in Davao del Norte. Since coconut harvest occurs quarterly, the rest of the year is spent on other income-generating activities, like fishing.

Drawing on ethnographic observations, Eder (2003) also emphasizes the relationships between fishers and farmers in a coastal town in Palawan. He argues that there are significant associations between ethnolinguistic background and occupation in San Vicente, i.e., the people who are of Palawan origin are actively involved in farming, while migrants from the Visayas emphasize fishing. In everyday life, however, these two livelihoods are combined by both groups in several ways. Similarly, suggesting that this is common among other coastal communities, Fabinyi (2010), in his study about the Calamianes islands in Palawan, mentions that while government has made efforts to promote tourism as an alternative livelihood, agriculture and fishing remain the most common livelihoods despite the declining profitability in fishing.

While the side-by-side presence of fishing and farming is widely recognized in Philippine coastal communities, the interrelationship between these major livelihood activities is seldom problematized. In this paper, I thus focus on the livelihood diversification of and interdependence between farmers and fishers in the coastal community of Montserrat.

Barangay Montserrat, the research area, is one of the 20 barangays in the municipality of Governor Generoso in the province of Davao Oriental (Fig. 1). Of all the municipality's barangays, 14 are classified as coastal and six are landlocked in the town's interior areas. The cove of Montserrat, facing the Pacific Ocean, is surrounded by mountains with vast coconut and banana plantations. Davao Gulf, its major fishing ground, provides residents with various economic opportunities. These distinctive geographic features and the abundant resources of Barangay Montserrat offer a good vantage point from which to view the different livelihood strategies in the area and how people maximize these resources. The fieldwork for this study was carried out in 2015.



Figure 1.
Barangay
Generoso is in the municipality of Governor Generoso, province of Davao Oriental.

[Source: Municipal Planning and Development Office of Governor Generoso, Davao Oriental]

Matute and the Visayan migrants: the conquest of Montserrat

To better understand the social processes and changes involved in the social and ecological landscapes of Montserrat, it is worthwhile to look at ethnohistory and ethnoecology. Using these approaches, this paper explores the formation of Montserrat as a coastal frontier from the perspective of the people of Montserrat. They have described it as a frontier or a wilderness, and almost geographically isolated from state intervention. Because it is seen as a "land of economic opportunities," many migrants have been enticed to transfer and settle here (Austin 2003; Mangahas 2001).

Situated in the southeastern part of Mindanao, Montserrat was a originally untouched forest, with only a few Manobo inhabitants scattered in the interior part of the cove. Montserrat experienced significant changes with the arrival of a Spanish businessman in 1910 and a logging concessionaire in 1950. Thus, I use the term 'frontier community' to emphasize the significant number of Visayan migrants in the total population of Montserrat and highlight the diverse cultural backgrounds that greatly shape contemporary life in this coastal area. At present, the Manobo consist of only 10% of the total population of the barangay, while the remaining 90% is composed of Visayan migrants from the provinces of Cebu, Bohol, Negros, and Leyte.



Figure 2. The church where the statue of the barangay's patron saint, Nuestra Señora de Montserrat, is enshrined. This is widely considered an important marker and infrastructure in the community, located along the national highway.

By the time Amadeo Matute, a Spanish entrepreneur, set foot in *Sitio* Bacung¹ in 1910, he had acquired 50 hectares of land and claimed it as his hacienda. The forested community was then turned into a vast coconut plantation and a cattle ranch. Matute retailed goods from Spain. When the local Manobo population failed to pay their debts, he took their lands from them as a form of payment. With this, he acquired an additional 30 hectares of land, displacing majority of the local Manobo population.

I gathered from interviews that Matute regularly visited Spain to get men to work as *piniyalan* or trustees of his hacienda. He came back in 1928, bringing with him these Spaniards, whom he put in charge of his plantation. He also brought with him the statue of Nuestra Señora de Montserrat from Montserrat, Spain, who Matute firmly believed had performed miracles. He then renamed Bacung after the saint and proclaimed her the patron saint of the place (Fig. 2).

Aside from the few Manobo households, residents have identified the eight families who first lived in the area. These families, however, together with the Manobo, were not allowed to live inside Matute's hacienda. Thus, they resided in the interior part of the cove, subsisting mainly on various crops that they farmed in their lots. One of my key informants narrated: "Ang katsila isog man, parehas kaisog sa iyang baka, wala gyu'y laing makapuyo diri sa una." (Because the Spaniard [referring to Matute] was very ferocious, just like his cows, nobody was allowed to live here [referring to present-day Montserrat] before.") At present, descendants of the original Spanish piniyalan families continue to live in Montserrat; they own large portions of the land.

The most prominent structure inside the hacienda was the *casa*, an important figure in the history of Montserrat. The *casa*, which means 'house' in Spanish, was central to the lives of the people as it was the only store in the area before recent ones were established. Corazon,² 69 years old, a granddaughter of one of the first families who established residence in the area, recalled her unforgettable experience in coming to the casa:

Mahinumdum gyud ko sa una ba, suguon mi sa akong nanay mupalit ug asin, asukal, diha anang casa. Nah! Mubalibad gyud mi kay hadlok man kayo ng mga baka, pagkadaghanang baka

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¹ The *sitio* is the smallest administrative unit of the barangay (village). Sitio Bacung is the former name of Montserrat. It was part of Barangay Surop before it officially became an independent barangay in 1961.

² Names of the informants are pseudonyms.

diha sa hacienda uy! Manggukod na. Labi na'g nakapula ka'g sinina.

I remember my mother would ask us to buy salt and sugar in the casa, but we would refuse because there were too many cows in the hacienda. Those cows would chase us, especially when we wore something red.

The casa was built sometime in the 18th century. It was a two-storey building where Matute's administrators and piniyalan lived. It was unfortunately destroyed in 2006 for unknown reasons. Some say that people were hunting for treasure here, but found none. Others say that someone ordered it to be taken down.



Figure 3. Montserrat residents in front of the *talyer* beside the *casa*, circa 1968. [Photo by Corazon, one of the author's informants.]

From the narratives of my informants, the casa had seven or eight rooms—each room, they said, as big as a typical house which could accommodate an entire family of six. The rooms were located upstairs. The center, which served as the living room, was spacious. The casa had a long, spiraling staircase. The floors, made of an expensive hardwood called *kamagong* (mahogany, *Diospyros philippinensis*), were shiny. The floor was

like a chessboard, consisting of red and yellow, and black and white floor tiles. The windows, made of *tipay* (mother of pearl, *Pinctada maxima*), were very beautiful. The roof of the casa was very thick and durable, to which people remarked: "*maskin pa'g latayan ug tricycle di gyud maguba!*" (Even if a tricycle passes on it, it won't break down!). The walls were piled stones from the sea. There was also a veranda facing the beach.

The casa also served as the warehouse for the copra, and housed the only store in Montserrat where various goods were sold. It had a long and beautiful railing outside. On both sides of the pathway were benches, similar to those in the public park. Kids would playfully ride on the wagon that carried the copra from the casa to the seaport. There were rumors that there was an underground passageway, but no one had ever seen or found it.

I was able to get a photo with the casa on the background (Fig. 3). Beside the casa was the *talyer* (machine shop or repair shop) that my informants often failed to mention. But I found out that the talyer had a big role in their lives. There was also a reservoir, which was the only source of water, aside from the *balon* (well) at the seashore that was accessible only during low tide.



Figure 4. Cesario, 86 years old, a sakada in Matute's hacienda.

As Matute continued operating in the area, more people were brought in to work as *sakada*, seasonal plantation workers, in his hacienda. A large batch of plantation workers came from the Visayas in 1947, making Montserrat a new settlement site by Visayan migrants. Most of them were

from the provinces of Cebu, Bohol, Negros, and Leyte. Cesario used to be one of the sakada in Matute's hacienda (Fig. 4). He was originally from Negros, and after getting married in 1946, he went to Montserrat where he eventually established his own family.

Quirico Luga, a logging concessionaire, came to Montserrat in 1950. His logging area covered five hectares of the land. The concession drew in more settlers, mainly from the Visayas who were in search of better economic opportunities. The population of Montserrat began to increase during this period. The migrants cleared the forests where they settled and planted the land with corn, coconut, banana, and root crops.

The settlers' relatives were also enticed to move in to Montserrat because of the attraction of the area's geographic features and its rich resource base, which provided them with steadier sources of income. The presence of kin network in the area eventually transformed Montserrat into a frontier community, which consisted mostly of Visayan migrants.

Serapion Basalo: in the time of martial law

When martial law was declared in 1972, the government sequestered the hacienda because Matute failed to pay his taxes. Serapion Basalo, a godson of President Ferdinand Marcos' mother, Doña Josefa Edralin Marcos, immediately took over the hacienda (Barangay Montserrat 2003). Montserrat underwent a lot of social and environmental changes, one of which was the establishment of the first school of fisheries put up by Agro Foundation, whose president was Basalo himself. Classes were held in the casa. The school, however, ran for only three years, from 1974 to 1977, as it was later transferred to Sta. Cruz in Davao del Sur.

One major change was the permission granted by Basalo for the migrants and the Manobo to move closer to the shore. Upland communities were abandoned because of the low income generated from the desolated farmlands caused by a series of successive catastrophes, details of which I discuss in the next section of this paper.

During the same period, there was an attempt to construct a road along the shore to make movement to and from a place easier for the residents. The only mode of transportation then was by boat, which they call *suba-on* − to cross a *suba* or river. From Davao Oriental to Davao City, the fare was about ₱4. In short-distance travels, such as going to school and the market in Tibanban, people had to walk along the shore, which was possible only during low tide. People had to get back home before the high tide or else they

would not be able to move across the big rocks found along the shore (Fig. 5).



Figure 5. Corazon (center) with her friends walking on the pathway of big rocks along the shore, circa 1975. This is the path they had to pass to reach and come back from the school and the market in Tibanban, which is six kilometers from Montserrat. [Photo by Corazon.]

The road was finally completed in the late 1980s, giving the residents more opportunities and easy access to the market and nearby places (Figs. 6 and 7). It also offered new economic opportunities for others. With the availability of paved roads, motorcycles started plying the route from Montserrat to Tibanban, the socio-economic center of Governor Generoso. With an easy mode of transportation, Montserrat residents could now buy all kinds of goods in the center and retail them in the local stores. During our

fieldwork for this study, construction work was underway for the expansion of the road.



Figure 6. Dynamite blasting during the construction of the road, supervised by Barangay Captain Villaplaza, circa 1980. [Photo by Corazon.]



Figure 7. Some Montserrat residents, headed by the barangay officials walking on the newly constructed road in 1986. [Photo by Corazon.]

In spite of the drastic changes, copra-producing farms continued operating under Basalo's supervision. Majority of the population, however, continued to experience declining yields from these crops, and opted to engage in new and different livelihood activities. The inhabitants who resettled near the coasts learned to engage in new economic activities, especially in fishing, trading, and setting up small business enterprises.

CARP and the migrant settlement: owning lands, losing crops

When Marcos was removed from power in 1986, Basalo's rule over Montserrat was also put to an end. The new government under President Corazon Aquino implemented the Comprehensive Agrarian Reform Program (CARP). Included for redistribution to farmers were the agricultural lands of Montserrat. Privileged recipients of the program in Montserrat were the farmers who first settled in the place. The 50-hectare hacienda of Matute was distributed among the residents in Montserrat (Fig. 8), while the remaining untitled 30 hectares of land that he had seized from the Manobo were put on hold by the Department of Agrarian Reform. The vast coconut plantation and cattle ranch were transformed into a community of Visayan migrants and a few Manobo families

The availability of CARP lands to farmers, however, remained insufficient to improve life for the farmers in Montserrat. The production of corn, a major crop in the area, was in decline, partly due to negative changes in the condition of the soil, e.g., aridity, and significant changes in weather patterns that disrupted the traditional planting season of the crop. In the past, the best time to plant corn was in April when the weather was usually fair. Lately, however, weather conditions in April have become unpredictable, unfavorable for a good harvest. Moreover, the use of fertilizers is seen as having contributed to the drop in corn production. Farmers could not afford the high cost of fertilizers, which forced many to stop growing the crop.

The Department of Agriculture (DA) has encouraged the farmers to plant coconut trees instead because of possible long-term benefits that could be derived from the crop, considering that the crop requires less maintenance effort and cost. The DA launched in July 2015 the farmer's field school for cacao growers in which the agency taught farmers of different barangays of Governor Generoso the ways of growing and harvesting cacao (Fig. 9). Cacao is a highly valued crop that the agency expects to provide farmers with a good source of income. Farmers were given cacao seedlings for free.

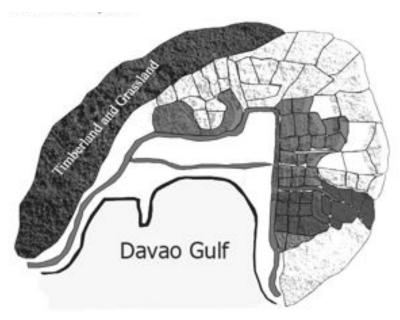


Figure 8. Land use map of Barangay Montserrat drawn by the author's informants. Light areas are owned by individual families. Dark areas along the coast are under CARP.



Figure 9. Farmers attended the Department of Agriculture's orientation on cacao farming in July 2015 in Poblacion, Governor Generoso.

Today, farming requires less time and labor because farmers only have a few coconut and fruit trees in their farms. Coconut harvests have a threemonth interval, and fruit trees and other plants produce yield only once a year, except for the *latundan* bananas (*Musa sapientum*) which bear fruit every 15 days. However, harvesting banana does not require intensive labor, and can be done by any family member. The father works in farm-related chores, usually assisted by the wife and their children, especially in harvesting and in trading the produce.

The worst of times: flash flood, typhoon Titang, and El Niño

Although Montserrat is a coastal community, people were more into farming, especially of coconut and corn, than into fishing prior to the 20th century. People occasionally went out to sea only to catch fish for family consumption. They got involved in fishing as regular work with the advent of commercial fishing companies that explored their shores and because of the successive failures in the production of their farm crops.

In this section, I examine the residents' various economic activities amidst environmental changes. The modifications in the people's livelihood strategies can be narrated within the frames of three destructive natural calamities, namely: a flash flood, typhoon *Titang*, and an El Niño occurrence, all of which greatly disrupted their farming activities and compelled them to engage in fishing ventures and other livelihood strategies.

While the cove of Montserrat is said to be the safest place among the 14 coastal communities in Governor Generoso, especially during typhoons, it was never invulnerable. In 1968, a strong earthquake shocked the whole community, followed by a flash flood that eroded the rich topsoil from their farmlands. The said flood had only two casualties, but its damage on agricultural crops was devastating, and had huge negative consequences on the economic security of the residents.

Just when the community was recovering from the impact of the earthquake and the flash flood, typhoon *Titang*³ came in 1970 and devastated again the farms in Montserrat. The typhoon felled the coconut and fruit trees that had survived the flash flood. Corn, coffee, and cacao – highly valued crops – were all uprooted by the dreadful storm.

³ Typhoon Titang's international name is Kate. It struck southern Mindanao on October 14, 1970. It was the deadliest typhoon in the country at that time, with over 631 casualties.

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A decade later, the residents were confronted by a great tragedy for the third time. An El Niño, which lasted for nine months from 1982 to 1983, destroyed all their crops and fruit trees, especially corn and coconut trees. Even root crops were affected. People in the upland communities evacuated and settled temporarily near the coastline. A key informant recalled his experience of queuing up for food rations of the Philippine Red Cross.

Since then, the farmlands have been considered *umaw* (infertile) for corn and other valued crops. Even coconuts and fruit trees were difficult to grow, partly because of the impact of the calamities mentioned above. The people started looking for alternative sources of income because the returns from their investments in agriculture were constantly declining. For the people of Montserrat, these were the most difficult times in the history of their place. It was difficult for them to accept that farming was no longer sustainable and viable as a steady source of income.

The Boholanon quest for *bangsi* and the advent of commercial fishing companies

While some of the residents dedicated much of their time to recovering their denuded farms, others started engaging in and investing in other activities, especially in fishing, which, before the series of calamities, was not a main source of household income. Oftentimes, they fished only for the consumption of the household. Residents, however, have had constant interaction with fulltime fishers from Bohol since the early 1970s. The Boholanon are seasonal migrants who practice fishing as their main source of cash income. Declining marine resources and an increasing competition for fishing grounds prompted Bohol fishers to migrate to other Visayan islands and some parts of Mindanao (Guieb 2008).

From the narratives of the residents, the Boholanon were the first to introduce intensive fishing in the community even before commercial fishing companies came in 1993. Starting in the early 1970s, the Boholanon seasonally came to the area and later influenced the people to engage in fishing. During the lean season or *pigado*, which means that the site has been 'used up', these Boholanon fishers carried out *pangayaw*, which means to travel across seas, fish in new fishing grounds, and temporarily settle in areas near these fishing sites (Guieb 2008).

The Boholanon are branded as *mamangsihay* – fishers who specialize in catching *bangsi* (flying fish, *Exocoetidae sp.*). The Cebuano from Dalaguete, who are known experts in *pamarongoy* (flying-fish fishery) and acknowledged as having been the first to engage in this type of fishing in the

Visayas (Martin 1938, cited in Seki 2000), occasionally visited Montserrat. Nonetheless, the practice of catching flying fish flourished in 1970 when nine groups of Boholanon mamangsihay came to Montserrat. While the old hookand-line fishing method is carried out by one or two people, *bangsihay* or *pamarongoy* is a type of large-scale net fishing. It is labor intensive and requires up to 10 boats and around 25 to 30 fishers (Seki 2000). During these years, while the farm harvests were in a constant decline, the people of Montserrat, influenced by the mamangsihay, realized that fishing could be a good source of income.

The presence of commercial fishing operations in 1993 also encouraged majority of the residents to shift to the fishing industry. Just a year after the arrival of the first of these fleets, a number of farmers shifted their investments to fishing ventures by acquiring basic fishing gear and small nonmotorized and motorized boats. Those who had no boats and fishing gear sought employment in the commercial fishing companies. A single *lantsa* (commercial fishing vessel) employed up to 40 people, from the *arais* (captain of the boat) down to the *kusinero* (cook). The rank depends on one's skills and abilities in the *lantsa*.

At present, several households are largely dependent on these commercial fishing companies, which, on the one hand, benefit the community because they offer job opportunities, especially to those who lack assets and resources, but, on the other hand, disadvantageous to small-scale fishers who had to compete with these big operations. Commercial fishing is also viewed by residents as contributing largely to the overexploitation of the marine resources.

Why farm? Why fish?: seasonal work and occupational multiplicity

The shift of the focus of livelihood from farming to fishing by Montserrat residents was not to completely abandon the former for the latter. Instead, residents combined these economic activities in several ways. In this section, I present the considerable livelihood diversification and occupational multiplicity in Barangay Montserrat. Each household constructed a varied portfolio of livelihoods in order to survive and cope with environmental changes, as well as to improve their standard of living (see Ellis 2000).

Drawing on census data, the three main sources of income in Montserrat are fishing, farming, and driving (Table 1). In this paper, I have only recorded the primary source of income of each household head. By primary work, I mean the occupation that requires the greatest portion of their time and that which provides the family's main source of cash income (see also

Guieb 2008). It is also important to note that carpentry is also one of the top livelihoods in the community because of the strategic location of Montserrat where fishing vessels are dry-docked for repair and maintenance.

In everyday life, majority of the residents supplement their main source of income with other livelihood strategies. In the case of Montserrat, where small family farms are full of coconut trees that yield fruits quarterly, farm labor becomes the supplementary income of the residents. Thus, in this paper, I put emphasis on 'farm labor,' along with farming and fishing, as part of the residents' livelihood strategies.

Table 1. Various livelihood activities by household heads in Montserrat.

LIVELIHOOD	Purok	Purok	Purok	Purok	Purok	Purok	TOTAL
	1	2	3	3-A	4	5	
Fisherman	45	31	9	23	39	23	170
Farmer	4	5	22	26	16	8	81
Laborer	2	6	5	6	1	0	20
Carpenter	5	2	6	0	10	1	24
Driver	3	5	6	9	5	1	29
Teacher	2	2	0	0	0	0	4
Businessman	2	1	0	0	1	2	6
Government	1	2	0	1	0	2	6
OFW	0	1	0	1	0	1	3
Others	1	0	2	1	1	2	7
N/A	1	3	7	2	4	15	32
TOTAL	66	58	57	69	77	57	384

[Source: Barangay Census Data 2014]

I have identified 10 key informants, five of whom identified themselves as inclined more in fishing than farming and the other five in farming. Nine of them stated that they combine farming and fishing in their everyday routines. There are no exact and fixed schedules when to engage in farming and in fishing since these are dependent on the weather condition that changes every day. They said that they dedicate much of their time on the farms during the habagat season when it is very difficult to fish.

⁴ Due to the limited time spent in the community, I was not able to conduct an intensive household survey and was not able to get an exact figure of how many farmers fish and how many fishers farm at the same time.

I also classify these occupations into three. Instead of treating fishers and farmers as homogeneous groups, the complexities and factors affecting their decision-making processes on which livelihood strategy to pursue should also be taken into consideration. I argue that assets and access to resources are crucial factors in looking at the differences, for instance, between an independent fisher who is simultaneously employed as a fishworker, as well as between a farmer and a tenant.

There are fishers who fish on their own using their own small boats and fishing gear. These fishers usually shoulder the expenses in every fishing trip. The starting capital for small boats usually ranges from ₱500 to ₱2000, depending on the duration of fishing time. There are also fishers who cast a line as a group. They are composed of a boat owner, an operator, and a pasahero (passenger) − usually fishers who do not have a boat and do not fish regularly. The boat owner usually finances the entire fishing venture and gets his share that is twice higher than that of the operator and passenger.

The profit sharing also depends on the type of fish caught. If the boat owner catches the tuna, he gets all the profit to himself and decides on how much he would give to his operator and passenger. If the boat operator catches the tuna, the profit is divided into two: he gets half of the share and the other half is given to the boat owner. If the pasahero catches the tuna, the profit is also divided into two; one share goes to the boat owner, but the second share is divided further into three. The boat owner and operator get 30% and the pasahero 70% of half the total share. However, for small pelagic fish catch, the share is equally divided among the three.

Lastly, fishermen who are employed in commercial fishing operations (Fig. 10) perform a specific task in the commercial boat depending on their rank. The rank starts from *arais* (captain of the boat) down to the *kusinero* (cook). Most of the residents in Montserrat are employed as *pukotero* (one who hauls the net), who ranks at the bottom of the hierarchy of jobs in the lantsa or big boat. They get a *tinga*, a weekly grocery worth ₱300 and receive their wage at the end of the month. The average income of a pukotero employed in a commercial fishing vessel is in the range of ₱1500-2800. Deducting from this their weekly tinga (₱1200/month), they get a net income of only ₱300-1600 a month.

Interestingly, farmers can be divided into three classifications, too. There are farmers who have their own farmlands – assets that they bought or have inherited, or acquired through CARP. CARP beneficiaries in Barangay Montserrat were able to acquire at least a hectare or two in what was previously Matute's hacienda. These farms are now owned by families and are planted with coconuts and bananas. There are also farmer-tenants who do

not own land, but who till someone else's farm lot. They often get 40% share from the harvest; the 60% goes to the landowner. Last are the seasonal farm laborers, usually called *manghornalay*, who work on a daily basis in a landowner's or tenant's farm. A farm laborer's work includes weeding, broadcasting fertilizer, and harvesting agricultural crops. At present, this is the most common parttime job of the residents of Montserrat.

The degraded quality of agricultural lands in Montserrat today make growing coconut and other fruit-bearing trees an uninviting economic activity. Also, the intervals in farm harvests allow residents to engage in other income-generating activities, like fishing. Interestingly, fishing complements the rhythm of copra farming, which allows copra farmers to engage in the former (Martin et al. 2013, Mangahas 2004).



Figure 10. Boy, 66 years old, is employed in a commercial fishing company. In this photo, he has just received his weekly *tinga* − groceries worth ₱300.

Living in uncertainty: environmental challenges and unfair marketing practices

Pait kaayo ning managat ka uy. Usahay nilibo imong kita. Usahay wa gyud maski piso. Kani pung mang-uma, maayo gud unta pero tulo ka buwan pud lagi kang maghuwat usa maka-kwarta.

Fishing is highly unreliable. Sometimes you earn thousands. Sometimes you earn nothing, not even a penny. Farming is good. However, you have to wait for three months before you can earn money.

-Gary, 62 years old, fisher

It is widely recognized that fishing is just one of the myriad livelihood strategies for many coastal and rural communities (Allison & Ellis 2001). I enumerated above the various economic activities engaged into by residents of a coastal community. I now turn to a discussion of why people do what they do (e.g., fish or farm) in the coastal community of Montserrat and how these, in turn, help them cope with the challenges of everyday life.

People have characterized the top three major sources of income in the area, namely, fishing, farming, and farm labor. Fishing is described as risky, unreliable yet an easy way of making money, especially when fishers get to catch tuna and other highly valued fish. Farming, in contrast, is said to be labor-intensive, tedious, but stable. Farmers have to wait for the harvest season before they can generate money. Lastly, farm labor is always considered the people's last recourse. In times of need, most fishers and farmers work parttime in coconut plantations owned by their relatives or neighbors. It is available all-year, and described as the quickest way to earn money. Although these livelihood strategies are described distinctively, these are combined in several ways in the people's everyday lives.

Farmers generate income on a variable schedule depending on the variety of crops they have (see Table 2). In Montserrat, farmers earn money quarterly from the coconuts and twice a month for latundan bananas. Fishers, in contrast, generate money on a daily basis after every successful fishing trip.

Each household head has a primary source of income (e.g., fishing and/or farming). The risky nature of fishing and the interval in farm harvest are seen as one of the main reasons why people engage in more than one economic activity. In order to reduce the seasonal income variability, people participate in other income-generating activities which are not synchronized with their primary work's own season (Alderman & Sahn 1989, cited in Ellis 2000). For instance, fishers engage in agricultural activities during the habagat season in which they cannot fish due to unfavorable weather conditions. Similarly, farmers seek alternative sources of income while waiting for the next harvest. In this sense, income diversification is directly associated with seasonality (Ellis 2000).

Agricultural crop	Harvesting Season	Price Range
coconut	every three months	P4 - P7/pc (beker or whole coconut); P27 - P28/kl (copra)
latundan banana	every 15 days	₱7- ₱9
mango	once a year	n/a
lanzones (Lansium domesticum)	once a year	n/a
marang(Artocarpus odoratissimus)	once a year	n/a
cacao	year round	n/a

Table 2. The common crops planted in Montserrat. Only two of these are sold for cash income, the rest are for family consumption.

The risk and vulnerabilities of these livelihood strategies also drive the residents to diversify their economic activities. Vulnerability is defined as a high degree of exposure to risk, shocks and stress, and proneness to food insecurity (Chambers 2006). It refers to the external threats to livelihood security, such as climate, sudden disaster, and fluctuations in market prices. In Montserrat, fishers are vulnerable to unpredictable changes in weather conditions that determine their ability to fish. Agricultural crops are also exposed to the dangers of typhoons and drought, as well as the fluctuating market price of the produce (Ellis 2000).

People's livelihood and food security are made less vulnerable by engaging in a variety of income sources with different risks (e.g., fishing to weather and farming to fluctuations in the market value of crops). This is a translation into practice of the wisdom "not to pull all your eggs in one basket." For example, when the fishing venture fails, one still has income generated from agricultural produce.

Aside from the environmental threats that confront both fishers and farmers in the coastal community, they have little agency when it comes to the pricing of their produce, making them susceptible to exploitation by the *comprador* or middlemen (Castillo 2009). Marine and agricultural products are bought by these middlemen at very low prices which can barely cover their starting capital and expenses. Such a situation prompts people to look for supplementary livelihood. Isko, 62 years old, who visits his farm regularly and fishes occasionally with his brother, said, "Mao ng maengganyo gyud ko mangisda kay among kuha paliton ra'g \$\mathbb{P}40\$ unya ibaligya sa palengke ug \$\mathbb{P}70!\$ Unsaon pa namo'g palit ana nga haska na

mang mahala?!" (That's why I really want to go fishing because they usually buy our catch here for ₱40 and sell it on the market for ₱70! How can we be able to afford that expensive fish?!)

I do not wish to imply that the fisher-middleman relationship is always exploitative. In Samal, for instance, Mangahas (2004) mentions that fishers have developed a "preferential exchange" relationship or a *suki* system with the comprador, who plays a central role in the conversion of exchangeable natural materials (e.g., fish, copra) into goods or money.

Middlemen started flocking to Montserrat beginning in the late 1960s with whom residents traded their farm produce, such as bananas and root crops, and highly valued fish catch, such as tuna. Not much fish trading was happening then as fishers were not into catching a variety of fish species, other than tuna, because of the absence of market for these resources. There were also no trading support services, such as good farm-to-market roads to transport their catch and produce. In short, market conditions did not allow the residents to engage in a robust exchange economy.

In 1968, a buyer docked in the port of Montserrat and bought *bariles* (tuna) for ten centavos per kilo. Residents came to know that they could generate income from their fish catch. The new market player prompted residents to engage in different types of fishing to catch a variety of species.

A negative type of relationship between fishers and middlemen, however, has emerged in Montserrat. Compradors who came to Montserrat after each fishing trip accommodated fishers on a first-come, first-served basis, or fishers tended to sell their catch to those who offered a better price. Fishers also often sold their catch to the financiers of their fishing trips, who often bought their catch at low prices. Under these conditions, fishers were not able to find alternative buyers to whom they could establish good and stable trading relations similar to the suki system in some fishing economies (Russell 1987).

As a result, residents continued to seek better ways to deal with these problems, i.e., by engaging in diverse livelihood activities. While income diversification often implies a trade-off between one livelihood with another (Ellis 1999), I reiterate in this paper that the people of Montserrat did not abandon or replace their key livelihood strategy. Rather, they supplemented it with a variety of livelihood options. Although there were certain compromises between fishing and farming in terms of time and investment, fishing and farming remained equally stable sources of income (see Martin et al. 2013).

In Montserrat, farm income is intended for large expenditures, such as school enrolment, house repair and maintenance, livelihood assets (e.g., farm tools, livestock, fishing gears, boats), and other expensive needs that are not considered urgent. In contrast, the daily income generated from fishing is spent on *konsumo* or day-to-day expenses, which include food, school allowance of the children, and the starting capital for another fishing trip. At times, when the catch is abundant and there is extra money, the whole family gets a treat, either by buying clothes and appliances or having a sumptuous meal. However, unlike in Samal where people consider fishing as a side-line job due to its dependence on weather conditions and variable returns (Mangahas 2004), fishing in Montserrat, albeit unreliable, is often considered a primary source of income because of the significant amount of money they get from it.

When weather and sea conditions are not good and the copra harvest season has yet to come, residents resort to wage labor employment. *Manghornal* (farm labor), which is the most common parttime job of the people in Montserrat, is readily available year-round, particularly given that the agricultural land in Montserrat is planted mainly with coconut.

Coconut harvesting and processing require a lot of work and time, and a number of people. Often, this serves as the last recourse for both fishers and farmers, especially when fishing ventures fail and the income generated from farms is not enough.

Let me now present, briefly, the economy of the *manghornal* to provide an understanding of how this work makes it easy for farmers and fishers to engage in to supplement household income. With the help of my informants, I have identified seven different jobs needed to produce copra, the dried coconut meat transported and sold in the market. In every copra harvest, the farm owner first needs the *tig-galas* or the one who cleans the area and cuts the weeds. The *tigkaret*⁵ cuts the fruit from the tree using a sickle attached to a long bamboo pole or stick. Then there's the *tigtapok*, who gathers the coconuts and pile them in one area for the *tigbunot* or those who remove the coconut husks (Fig. 11) using a tool called *bunotanay*, a knife-like tool attached to a wood. After the coconut husks are removed, the *tigbuak* breaks the coconut and the *tigtapa* scrapes the coconut meat and dries it under the sun. Finally, the *tighakot* loads the dried copra for transport to accessible markets

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⁵ One of my informants from Bohol shared that they do not have the *tigkaret*. Instead, they have the *tigkatkat* who climbs up the coconut tree and picks the fruit using his hands, a job considered more laborious and risky.

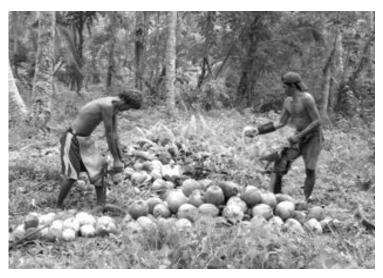


Figure 11. Farm laborers removing the coconut husks.

However, when a farmer needs quick cash, he may instead opt to sell the beker⁶ (whole coconut), which requires only the tig-galas, tigkaret, and tigbunot, making labor cost much lower than copra production. However, the beker is sold at a lower price, which usually ranges from P5-7 per piece, compared to copra which is bought at P27-28 per kilo. The return in one's 'investment,' however, is faster by selling beker than copra. The general term for all the jobs described above is manghornal or inadlawan. Farm laborers are paid on a daily basis for P120-150.

By choice or by chance?: assets, skills, and knowledge

Wala gyu'y kasiguruhan, pero sa panagat, didto gyud mi nakakaon ug klase-klaseng lami nga sud-an ug nakapalit ug mga sinina. Kaning sa uma, makapalit ra man mi'g sanina ug mananggi, pero wala gyud. Lisod pa'g sud-an. Sige ra'g kaon anang reject na bangsi.

⁶ '*Beker*' could be attributed to the name of a private company, Franklin Baker in Sta. Cruz, Davao del Sur, who buys whole coconut fruits.

⁷ It is called *inadlawan* because laborers are hired and paid daily; *inadlaw* means 'daily.'

Fishing is really uncertain, but it is only when I fish that we are able to buy and eat different kinds of delicious food and buy clothes. Now that I am farming, we can buy clothes only during good harvests. We cannot even eat the food we want, we always settle for rejected flying fish.

- Nelson, 68 years old, fisher/farmer

...di gyud unta ko gusto mapareha sa ako akong anak pero kasagaran kung unsa gani imong ginikanan, ing-ana pud gyud imong kapadulngan.

...I really don't want my children to be like me, but oftentimes, one will become what one's parents do.

- Arjay, 35 years old, fisher

While some learn to make a living from their own experience, most of the people with whom I had a chance to discuss these issues said that they acquired from their parents the knowledge and skills in the form of livelihood into which they engaged themselves. As early as seven years old, most of the children in Montserrat are already trained by their fathers in farming or fishing. As they age, they are given bigger tasks until they eventually learn how to grow valuable crops and catch fish using different gear.

Fishers describe their first fishing trip as very exciting, especially in pulling up the hook and finding fish baited by the gear. Having the same occupation with their parents, they get to hone their skills as they grow up, observing and learning from what their parents are doing. Some say that most of the things they know now are not directly taught to them, but which they learned through observation and experience.

While it is true that it is easier to earn money in fishing, there are still cases of people that left fishing in favor of other livelihood strategies that they found more certain and stable, such as farming.

Niundang gyud ko'g panagat katong naabtan nako akong anak nagsud-an ug asin. Maglima na mi ka-adlaw sa lawod pero wala gyu'y kuha. [I decided to stop fishing when I came home seeing my child eating nothing but salt. We went out to the deep sea for five days but did not catch any fish at all.]

- Nono, 38 years old, fisher/driver

Based on the narratives of some of my key informants, it is clear that fishing is not prioritized and chosen over other livelihood strategies all the time because of its risks and uncertainties. While most parents work hard in order to raise their children and to give them a brighter future that would take them away from the coastal community, their children, more often than not, end up doing the same job as theirs. Although this is common among the residents of Montserrat, there are those who said they treaded a different path from that taken by their parents. They associate this to their notion of *linya*, inclinations or what one wants to do (cf Eder's discussion [2003] of *hilig*). Fishing requires skills, while farming needs patience and effort.

The notion of *linya*, in this sense, does not only refer to an individual's inclinations but also to one's skills and capabilities to do tasks in fishing and farming. While it is common that one inherits the parents' occupation, there are some who did not follow in their parents' footsteps because they are not fit enough to do it. "*Dili gyud na ko linya*" (Not my thing, or not my line of work), as one informant relayed. I view this as a personal preference. Some endure a hard day's work in the farm, while others prefer to sail and face the dangers of the sea. Some say they would rather till their farms all day than drown in the sea. Others say they cannot take the extreme heat and intensive labor that farming requires. They prefer to go fishing where they can at least 'relax' in the deep sea and feel the excitement of catching fish.

One day during my research, I ran into a young man who was fixing his boat. He has been fishing for almost seven years. His parents own a land in Montserrat, which has been entrusted to him. He has tried farming, but found himself not fit for the work. He tried fishing and found his calling there. He now owns a motorized boat, while his siblings manage the farm.

I heard another story from a young fisher who was repairing his new boat when I got a chance to meet him. He has just sold his nonmotorized boat, and with his savings, he was able to acquire a bigger, motorized boat. When I asked him how long he has been fishing, he stopped for a while and looked down: "Mang-uuma man gyud ko day, pero gibaligya sa akong mama akong yuta." (I used to be a farmer, until my mother sold the farmland I was tilling.) At first, he said he was really disappointed for what has happened, especially that it was very hard for him to engage in fishing with no boat, gear, and the skills. However, with the help of his friends, he eventually learned how to fish and realized that there is more money in fishing than in farming.

While there are many stories of how an individual becomes a fisher or a farmer, the most important factors that inform one's livelihood options are an

individual's or a household's assets, access to resources, and skills needed to perform the tasks. Apart from one's priorities and inclinations, access to resources, such as land and livestock for farmers, and boats and fishing gear for fishers, is a crucial factor in directing the individual's choice of livelihood strategies to pursue.

Getting by in hard times: the land-population ratio and economic opportunities

Just as the people in Montserrat are confronted with environmental changes and economic challenges, so are the people in most coastal communities all over the Philippines. People depend on a combination of different economic activities as survival strategies to meet the basic needs of their household members (Guieb 2008). These supplementary sources of income, however, vary due to the different ecological features of coastal communities, i.e., not all communities are equally blessed with good fishing grounds or with land suitable for agriculture (Eder 2003).

While fishers in Montserrat seek employment in the agricultural economy of their community, people in the islands of Bohol and some in Palawan have no other choice but to migrate to nearby cities and municipalities due to the lack of economic opportunities in the villages, which is brought about by the depletion of resources and the poor or economically unfavorable geographic features of the place (Castillo 2009, Castillo 2011, Eder 2003, Guieb 2008). Also in Bohol, the sudden or gradual decline in or degradation of marine and terrestrial resources, coupled with unfavorable or unpredictable changes in the weather and limited sources of income, have prompted compressor fishers in Bohol to migrate to neighboring cities or town centers to seek better economic opportunities that would provide them with a stable income, which they no longer find in their coastal or island villages (Castillo 2011, Guieb 2008).

The case study site of Batasan Island in Bohol is a small island, but with a high population density resulting, partly, from the increase in the number of compressor fishers from elsewhere settling on the island beginning in the early 2000 (Guieb 2008). The case study site of Puro, also in Bohol, offers another good contrast to Montserrat (Castillo 2011). Based on 2015 statistics, Puro's 1,839 individuals live on a 1.7-hectare island, while Montserrat's population of 1,864, which is almost equivalent to the size of Puro's population, live on 511 hectares of land, obviously a much bigger place than Puro. Moreover, terrestrial resources in Montserrat offer a variety of sources of income than found in Batasan and Puro. Such conditions have not

compelled Montserrat residents to move elsewhere, at least at the time of the study.

Castillo (2011) raises the issue of the carrying capacity of an island's resources to meet the growing demands of such a growing population and an increasing demand for their resources by the market. These factors, I agree, are crucial considerations to examine to understand the adaptive strategies of the people in a specific community.

To summarize, people in Montserrat seasonally engage in fishing and farming, which help them get through the 'hard times.' They survive by seeking temporary employment in the coconut plantations, working as farm laborers when their primary work fails. For instance, in the months of June to October, during the habagat season or southwest monsoon, fishers can hardly go on fishing trips due to the big waves and strong winds. Thus, during these months, they work as laborers in the farms of their neighbors. They clear the area, fertilize the crops or help in harvesting coconuts for a paid wage labor of \$\mathbb{P}120-150\$ a day.

In other words, Monserrat residents find a little measure of success in coping with the several challenges they face as a community: uncertainties in weather conditions, unproductive farm resources, depleted marine resources, and unfair market relations that tend to negatively impact on fishers and farmers. They have found alternative sources of income that are available in the community, which supplement the requirements of their daily *konsumo*.

Part fishers, part farmers: two case studies

I present in this section two cases of fishers to illustrate specific examples of how island or coastal residents, under differently situated place-specific conditions, make their choices of livelihood options and strategies.

Farmer-fisher or fisher-farmer? Nelson, 68 years old, came from Kabankalan in Negros Occidental in the Visayas. He moved to Montserrat in 1979. Married at the age of 24, Nelson tried almost every kind of odd job to raise his family, in the town proper of Kabankalan, and in Iloilo City and parts of Palawan, which are far from where his family was residing. He wanted to live separately from his wife's family. He found it, however, difficult to always keep on leaving his wife and new-born child.

A neighbor, named Boy, heard stories of relatives who had gone to Mindanao and found ways to improve their lives there. Boy persuaded Nelson to try new opportunities in the new settlements of his relatives. The

two, together with their families, moved to Montserrat in 1979, whose residents at that time worked as farmers in Basalo's hacienda or were into fishing. Nelson was allowed by the barangay captain, who happened to be a friend of his father, to work on a two-hectare *galas*, a parcel of land for cultivation.

In our conversation, Nelson would always say "nangapa pa ko adto" (I was still adjusting [to this whole new kind of living]). With the help of his neighbors, he eventually learned how to grow his own root crops, vegetables, corn, and coconut and other fruit-bearing trees. He would later have a carabao of his own. After having learned the techniques of good farming, especially understanding the crops' seasons, he began to have more time for other things.

He joined his fisher friends during weekends for simple gatherings, their stories would later on prompt him to reflect on his life: "Matay! Maayo man kayo ni'g barog akong mga amigong mananaga tmintras ako haskang hagoa sa uma unya pait pa gyud!" (My fisher friends seem to be fine with life, while I am barely getting by in spite of the hard work I do in my farm!) That was when he decided to try fishing. One of his friends taught him basic fishing techniques. He became a part farmer and a part fisher at the same time

Manayming man ko managat, basta managat manayming man gyud na. Sugo man nasa panahon, basta dakong buwan, istambay, paspas surko kay lain biya ang yuta diri.

I manage my time well. If you're a fisherman, you should have a perfect timing. Fishing is determined by the weather. If I can't go fishing, if it is full moon, I would immediately work on my farm and till the land.

Nelson soon acquired a motorized boat and concentrated on fishing. This was when farming was experiencing a decline, perceived by residents as having been caused by negative changes in the environment. Nelson, like most fishers of the barangay, enjoyed a period of affluence in fishing. But such was not to last. They noticed a decade later that the number of fishers was increasing and felt that commercial fishing operations were unfairly competing with them in accessing fishery resources. They noticed the gradual depletion of their marine resources. All this, they believe, contributed to the decrease in their fish catch. Revenues from fishing could not recover the expenses they incurred in going out to sea.

Luckily, Nelson had a farm that helped him get by. He said he had to work harder, often giving up time that he should have spent for his family. "Dapat planuhon gyud nako'g maayo kay walay laing ibuhi sa akong mga anak." (I have to plan my work well or else my children will have nothing to eat.) Some friends, who were living by fishing alone, would often go to his farm for a provision of food. "Maayo man ning uma depensa sa bawod bawod." (Farming is good; it secures you from the uncertainties in fishing.)

Three of Nelson's children were in high school. Catch was dwindling. He realized that he could no longer risk his limited resources on fishing, and decided to devote most of his time back to farming. Though fishing remained a good source of income, the risks and uncertainties in this type of work were becoming higher, as there were days when he earned thousands from fishing and there were days when he got home with little or no catch at all. This was becoming more the pattern rather than the exception. He had already sold his motorized boat, and had replaced it with a small, nonmotorized one, to lessen the expenses in fishing, which in recent times, has become a source of food for family consumption, no longer a source of supplementary household income.

The landless pukotero (net fisher). Unlike Nelson, Reymond, 28 years old, is employed in a commercial fishing company. He does not own a farm lot. While doing fieldwork for this study, he just got married. His wife was then five months pregnant. I ran into him and his wife in a waiting shed one day when I was out for a walk. He said he was waiting for someone who might ask him to work for their farm. "Naghulat hulat lagi ko, basig nay magpatrabaho karon." (I am just waiting, hoping there's someone who might be in need of a laborer today.) He added he was hired the previous day by a neighbor to cut the weeds (manggalas) in their coconut plantation.

It was the season of the habagat; fishing was intermittent. Reymond had no other sources of income. He had to pay his house rent soon. He used to own a house, but his mother had sold it when he worked in another city. He was also worrying on how to save money for the birth of their baby. His work as a *pukotero* (one who pulls the net) in a commercial fishing vessel owned by someone from another barangay was not enough to meet his family's daily needs. He said his job as a pukotero required him to work from 5:00 am to 11:00 am, after which he had to look for someone who may be in need of *manghornalay* (farm laborer).

An examination of his income as a pukotero in a commercial fishing operation, without any other source of income, reveals the limited scope that his money could afford to buy. He advances his weekly tinga of ₱300 worth of groceries, which he takes from the store owned by the boat owner himself. This is deducted from his monthly salary, given every end of the month. His monthly pay, however, depends on the volume of the catch of the fishing operation. He averages a monthly pay of ₱3000, netting him, after deducting his four-week tinga, an average ₱1800, an amount not enough to meet the other needs of his family.

Pait uy! Pait gyud, kami pa lang gani ning duha. Unsaon na lang ug manganak na ni akong asawa. Mao ng musaydlan gyud ko'g panghornal, labi na karon nga pait na kaayong panagat. Gagmay na lang kaayo mi'g ma-uling bahin kada bulan.

It's already very difficult even if there's just the two us, how much more if we already have a child? That's why I really have to find a job on the side, especially now that our fish production is very low, we don't have enough income every month.

Like many fisherworkers who have no other sources of income, Reymond is is barely surviving with the little income he gets from fishing. Every day, after his regular work, he needs to seek wage labor jobs in any neighbor's coconut farms from which he could earn an additional ₱150 a day, indeed a small amount but something that could definitely help him and his family get by.

Conclusion: livelihood diversification as an adaptive strategy

This paper has argued that livelihood diversification is a community's adaptive strategy, specifically during significant changes in the environment and in conditions characterized by the degradation of a community's resource base, both of which may have been caused by natural and human-induced calamities. Adaptive strategies refer to the ways in which individuals, households, and communities change their production activities, and modify their community rules and institutions over the long term in response to economic or environmental stresses or shocks in order to meet particular livelihood needs (Davies 1993). Diversification is the household's tactic for spreading the risks and reducing the vulnerabilities to impacts of changes by engaging in several livelihood activities (Brugère et al. 2008).

The case of Montserrat, whose residents subsist on fishing and farming, is an illustrative case in point. The community's coastal and terrestrial ecosystems are threatened by degradation and depletion, with gradual or

acute changes in weather patterns impacting on these resources and livelihood options, thus making dependence on fishing or farming alone not sustainable in the long run. In addition, fluctuations in the market and existing trading patterns and relations contribute to the already vulnerable conditions of those dependent on these strategies for their subsistence. Such a scenario prompts Montserrat residents to tap a combination of a diverse set of supplementary livelihood strategies that are dependent on the limited options offered by the contemporary conditions of their resource base, without necessarily abandoning the current major source of household income. In many cases, communities derive a certain level of economic stability amidst conditions of uncertainty by engaging in the two major available sources of income, e.g., fishing and farming in Montserrat.

While some groups are able to secure alternative or supplementary sources of income from within their community, others are left with no choice but to migrate and seek new economic opportunities elsewhere (cf. Castillo 2011, Guieb 2008), a move that demands higher risks, investments, and social costs, and, in many cases, the acquisition of new sets of skills and knowledge (Barrett et al. 2001). Community members generally tend to resort to moving elsewhere only when current opportunities from within seem to not work in favor of individuals or households undergoing tremendous economic pressures.

By engaging in different income-generating activities, by diversifying in a wide range of available livelihood strategies, and by exchanging economic opportunities with each other, the people of Montserrat are able to adapt to environmental changes, cope with a myriad of economic challenges, and mitigate the risks of and the vulnerabilities to food insecurity and economic instability. As Isko, 62 years old, part fisher and part farmer, aptly puts it: "Kinahanglan kabalo gyud ka magpa-ilin ilin. Sabay sa dagan sa panahon, kay kung dili, a! wa gyud kay kan-on." (You have to be flexible. You have to go with the ebb of time, or else you will have nothing to eat!)

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