

## RESEARCH ARTICLE

## Post Covid-19 Insights: Building an Economically Sustainable and Resilient Ati Community in the Philippines through Community-Based Participatory Action Research (CBPAR)

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**ABSTRACT**

The Ati are indigenous peoples of the Philippines who live in Sitio Tagaw, Tamulalod, Dumarao, and Capiz. In this community, there are 353 Ati whose sources of livelihood are farming crops, raising animals, and selling their arts and crafts, which the middlemen bought at a meager cost during the peak of the COVID-19 pandemic. With these, the researcher conducted Community-based Participatory Action Research (CBPAR). This study aimed to empower the Ati community by building an economically sustainable and resilient individual amidst the pandemic. Specifically, it aimed to assess the needs of the Ati farmers in managing and marketing their farm products, design and implement the intervention activities that will address their needs in the management and marketing of their farm products, and ascertain the impacts of the intervention activities on the lives of the Ati beneficiaries. Community immersion, informal interviews, and observations were conducted while ethical considerations and health protocols were observed. The results showed that the participants encountered challenges in the value chain of their products and their children's education during this time of the pandemic. To address the issues on the value chain, the researcher implemented capacity-building activities on the management and production of their crops and animals and created social media to market their products on the digital platform. These intervention activities created positive socioeconomic impacts on the lives of the Ati community. Innovative marketing models are proposed to be adopted by other marginalized communities during and even beyond the pandemic. The strategies in this study that utilize social media platforms could also be applied to other marginalized and remote communities that need help accessing potential customers to improve their livelihood and income, even during calamities on a global scale.

**INTRODUCTION**

The COVID-19 pandemic has posed significant health and economic challenges around the world. As of

February 23, 2021, Region VI of the Philippines had 1289 out of its 803,083 population infected by COVID-19 since the start of its occurrence in the country a

year ago. Capiz, one of the provinces in the region, has 40 active cases, and 52 deaths have already been recorded (DOH, 2021). This situation rendered the 353 Ati families in Dumarao, Capiz, Philippines, immobile. They cannot bring their vegetable products and other goods to the market because they fear being infected by COVID. At times, they manually carry and sell their root crop produce as far as Passi, Iloilo City (almost one and a half days on foot). It worsened upon their arrival because the lowlanders bought their products at a nominal price. As narrated by an informant:

"During the lockdown, we always travelled on foot to Passi, Iloilo, while bringing our harvested peanuts to sell. But the people bought the peanuts at Php 5.00 per ganta (2.25kg). Our saba bananas were only sold for Php 5.00 per kilo. We thought of not selling them, but we had nothing to eat." Ati Informant.

The Ati People are indigenous people living in the far-flung area of Dumarao, Capiz, Philippines. They are classified as people who are below the poverty line. They prioritize their basic needs of food, water, and shelter rather than safety, health, and well-being. Due to quarantine policies, they couldn't fully access the market to sell their agricultural produce during the lockdown. Hence, this resulted in depriving their basic needs, especially food. This further resulted in their insecurity and, if prolonged, the consequences of hunger and poverty in the community. According to Maslow and Lewis (1987) theory about the hierarchy of needs, human needs must be fulfilled to get a sense of worthiness in life, or else it will give them a sense of isolation from other communities (Abulof, 2017; Manzoor et al., 2018).

The Ati's limited mobility and pandemic have resulted in unsold root crops and other Ati products. Moreover, their situation deteriorated because the intermediaries were buying their products at low prices and selling them at a high cost to the consumers. In this case, only the intermediaries reaped the profits from the Ati farmers' goods.

The problem of food security during the COVID-19 pandemic is evident almost all over the Philippines, even more so with the Ati community in Dumarao. The Consultative Group on International Agricultural Research, CGIAR (2020) published that the COVID-19 pandemic had exposed weaknesses in food

systems, economies, and societies worldwide. The organization reverberated that the impact of policies on social isolation, banning travel, and border restrictions had posed threats to food security and alleviated poverty and hunger, especially in third-world countries. The world must respond to the pandemic with swift and scientifically based knowledge measures. Upon analyzing the study of Goniewicz et al. (2020) in their review of the response management decisions of the European Union on the outbreak, the entirety of society's structure must embrace multidisciplinary and transdisciplinary levels of cooperation to mitigate the issues at hand. Therefore, the solutions must be holistic and coordinated among the implementors as an immediate and medium-term response, and assistance must be provided to those severely affected. The COVID-19 crisis brought an extraordinary opportunity for humankind to "build back better" food security systems during and even after the pandemic. The situation demonstrated how easily society can be ruined and how quickly a positive communal change in man's behaviour is being drawn.

A study of indigenous people in Bangladesh was conducted by Faruk et al. (2021), who stated that there were moderate up to severe levels of anxiety within the community. This had a crippling effect on their day-to-day lives during the pandemic, which, in turn, affected their efforts to sustain their livelihood. Factors such as cultural marginalization, discrimination, and other negative factors are widely present in the surrounding communities (Torres, 2019), which makes it a challenge for them to sustain their needs because it can become a health risk (Malek et al., 2020; Young et al., 2020). In addition to cultural and psychological factors that affect the indigenous people of Capiz, they are faced with little to no economic support to pursue their efforts in agriculture, foraging, and hunting. Their disadvantages are associated with lacking access to their physiological, social, and educational needs (de León-Martínez et al., 2020; Karunaratne and Karunadasa, 2021).

This trend pattern is prevalent among many other indigenous people across different countries whenever there are global crises and health risks (Lawal et al., 2021). Therefore, this study aimed to

assess the indigenous people's situation and empower their community by building economically sustainable and resilient individuals even during the pandemic. Specifically, the study aimed (1) to assess the needs of the Ati farmers in managing and marketing their farm products during the pandemic; (2) to design and implement the intervention activities that will address the needs of the Ati in the management and marketing of their farm products during the pandemic; and (3) to ascertain the impacts of the intervention activities on the lives of the Ati beneficiaries.

The intervention is envisioned to build an economically sustainable and resilient Ati community amidst this challenging crisis. These formulated interventions and strategies can be utilized in other indigenous communities in different countries. Through this study, the threat mechanisms identified by Lou et al. (2022) can be mitigated by providing for their material needs, which will overcome their health and cultural threat mechanisms.

"Innovation" refers to the inclusion and implementation of creative ideas. Innovation can occur in different ways. It takes place in the form of process innovation, position innovation, and paradigm innovation, which change how certain things work in an organization or a community to be more productive and to be able to solve modern problems in society (Bessant, 2013; Serah et al., 2020). In this study, the main actors in creating the innovation platform for the beneficiary are the different stakeholders, with the institution as the lead innovator in developing innovative strategies to address the problems of Ati.

Aside from the innovation platform, the review of related literature also drives the researcher to draw from the empowerment theory of Leibfried et al. (2019). The theory stipulates that empowerment is both a value orientation for working in the community and a theoretical model for understanding the process and consequences of efforts to exert control and influence over decisions that affect one's life, organizational functioning, and quality of life in the community (Vrontis et al., 2018). The researcher has adopted this theory because he believes that influencing their behaviour will empower the Ati community to embrace innovations in developing marketing strategies for their agricultural products even after the pandemic.

First, the conceptual design was anchored on the belief that implementing the new marketing strategies as interventions will effectively address the supply of goods and the value chain. Applying capability-building techniques will make them appreciate innovative ways for bountiful harvests while better market opportunities and profits are considered. Hence, despite the effects of the pandemic, the study ushered in opportunities. Kabeer as cited by Leibfried et al. (2019), posited that poverty and disempowerment go hand in hand. The ability to meet one's basic needs and become dependent on powerful others to attain those needs rules out the capacity for a meaningful life.

Secondly, the study is an opportunity to empower the Ati. The pandemic has brought a global problem in health and economic aspects, specifically in marginalized sectors such as the Ati. The researcher believes that identifying the problem and its causes have already empowered the Ati because it allowed the stakeholders and drivers to focus on innovative solutions.

Thirdly, the researcher has conceptualized an innovative strategy using the vernacular "kumbuyanay." It is a term referring to moving forward together. The Ati were given the knowledge and skills to manage their crops and produce. The supply and value chain issues were addressed by implementing snap-buying and group-buying marketing activities on the digital platform as the study's intervention activity.

Fourthly, an economically sustainable and resilient Ati community is the main driving force because the researcher wanted to implement the study. Marketing activities such as "Snap" and "Group Buys" using rural Rising PH's digital platform are potential tools for increasing sales and market coverage. However, there is still no research published in reputable journals focusing on "Snap Buys and Group Buys," but the principles of this approach are closely tied to scarcity marketing (Shi et al., 2020). The essence of scarcity marketing is that it creates a sense of urgency (increases the perceived value of the products), motivating people to buy limited goods at a low wholesale price (Koch and Benlian, 2015). Creating the digital market and linking the Ati community to the stakeholders willing to support the change would

stabilize them economically.

Lastly, the implementation of the research study to make a difference in the lives of the Ati is looking forward to an Ati that is more empowered, not only as an individual but as a community. They will restore the dignity that has been eroded due to societal marginalization. This is the ultimate impact that the study would likely attain. Empowering the Ati through behavioural changes, such as less dependence on government subsidies and grants from

the nongovernment, will challenge their self-respect. Empowering the Ati through this study improved their ability to make choices. They know better which programmes and services of government agencies are appropriate. Moreover, these empowerment and innovation strategies allowed the Ati to be actively involved and proactive in the decision-making activities that concern their community in partnership with the local government unit of Dumarao, Capiz.

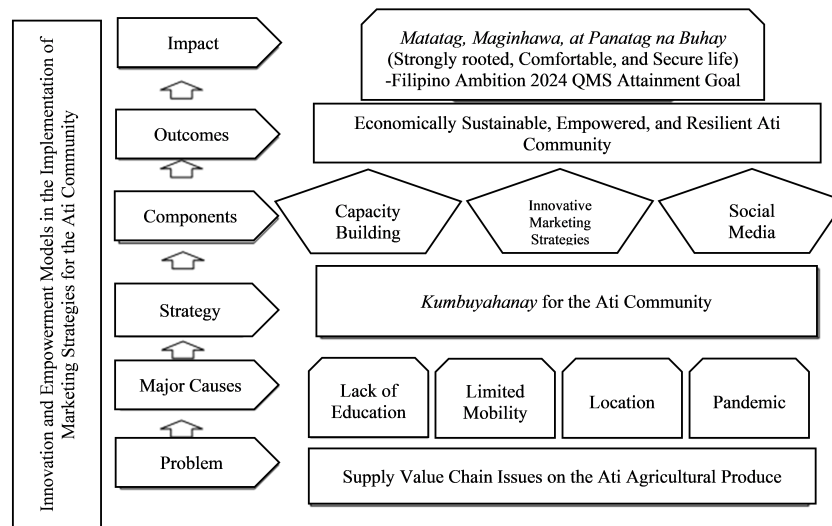


Figure 1: Conceptual Design of the Study

### LITERATURE REVIEW

Food insecurity affected 130 million people worldwide due to the COVID-19 pandemic. Animal-sourced food consumption has fallen to 37% (Harvey, 2020). The people's access to sustainable, affordable, secure, and nutritious animal-source foods is direly needed to lessen stunting, feed the globe with an adequate supply, and uphold economic stability. As a result, the world must adapt to the COVID-19 commotions by rebuilding more resilient and inclusive livestock food systems to effectively and efficiently supply food to the people (Harvey, 2020). In the case of the Ati, they, too, felt insecure in accessing the animals' food source available in the market. While the pandemic is going on, the Ati barter their chickens and other domesticated livestock for other goods such as rice and bread.

After COVID-19 was declared a pandemic in China,

the Ministry of Agriculture and Rural Affairs (MARA) initiated Extension Advisory Services (EAS) by providing training and technical support to ensure agricultural production during springtime. The government promoted using the Internet to deliver information on the best crops to grow in the spring to maximize economic benefits (Pu and Zhong, 2020). While the Ati have indigenous knowledge systems for planting their crops according to the season, they need to be equipped with science-based practices for managing and marketing their crops after harvest. Republic Act 11321, also known as the Sagip Saka Act in the Philippines, allows people to buy directly from farmers to support local production. This will significantly aid in the growth of the local fishery and agriculture sectors. With the support of the people, the local producers will also be able to sustain their livelihood, improve their production efficiency, and improve their living conditions. This also

opens opportunities for partner agencies and other government establishments to construct strategic plans and programmes to further support the farmers in their endeavours. On May 31, 2020, Pangilinan reiterated the role of Filipino farmers and fishermen in feeding the entire country over the months while the community quarantine was implemented. In his speech, Pangilinan stated that the pandemic had opened the eyes of Filipinos and made us realize that we could not survive without them (the farmers).

Further, he stressed that the people can show their gratitude to the farmers and fishermen by continuously and directly patronizing their products, like what had been done during this quarantine time (Kiko Pangilinan Press Release, 2020). Unfortunately, consumers need to be made aware of this legislative act. People and consumers do not buy the products Ati directly. The Visayans believed that if they bought the goods sold by the Ati, they would suffer from severe stomach aches. As a result, this belief resulted in cultural and social divides and a loss of economic opportunity and equity due to the Ati. As a result, consumers and farmers alike require more information and education about this law.

During this pandemic, the national government mandated the implementation of Enhanced Community Quarantine (ECQ) throughout the country. This is to safeguard the people from the transmissions of COVID-19. In this case, local travel and local goods were no longer transported from one municipality to another. This is also when local leaders can initiate programmes that will serve the needs of their communities. The situations where the Marikina LGU had set up its COVID testing facility before the approval or accreditation of the Department of Health in the national government and the buying by the LGU of local goods (fish and carrots) from the producers who could not bring or transport their goods to other municipalities are some of the initiatives that the LGUs had performed to help both their people and the producers of the local goods. This shows the local leaders and government's support for the Sagip Saka Act. The initiatives of these outstanding local leaders had spread all over the country and were thereby adopted and contextualized by other municipalities in fighting the increasing cases of COVID-19 in their respective places. Republic Act No.

7160, also known as An Act Providing for the Local Government Code of 1991 or the Local Government Code of 1991, has inspired and empowered local leaders. The law balances the equation between the centralization and decentralization functions of the government. While the national government gives the mandate for the welfare and benefits of the people, it also gives autonomy to the local government to exercise its powers to address the needs of the people, for they are visible at the grassroots and know the problems. However, in the case of the Philippines, the government is continuously projecting an image of decisiveness in the face of the continuing crises that our country is facing. Wherefore, the local government opposes the act by showing compassion and service for the welfare of the people. The uncoordinated efforts between the local government units and the national agencies imply that the local leaders are assertive in implementing their local authorities for the welfare of their constituents (Mossberger et al., 2013). While asserting their initiatives and responses, it must be clear that the national government must listen to local officials to generate public cooperation for public health and safety measures.

The recent unexpected and out-of-the-ordinary public health crisis caused by the COVID-19 pandemic is slowing the country's economy. As of January 2021, NEDA reported that the unemployment rate during the month was estimated at 8.7%, in contrast to the 10% reported in July 2020. Similarly, unemployment problems such as the Ati affected farmers' economic stability. The unemployment rate implies the inability of people to buy goods that they need, even local products. Hence, they affect the market stability of the producers, such as the farmers.

The increase in the underemployment and unemployment rates in many countries is not directly attributed to the rise in the number of COVID-19 patients only, but also the closure of companies (Corpuz, 2022). Thus, this unprecedented challenge creates a massive ripple effect on society.

To create innovations in the lives of the farmers, the Rural Rising PH, led by Andie and Ace Estrada, addressed the farmer's concerns about the oversupply of goods due to the global pandemic that has been rampaging throughout the nation. Rural Rising PH

is the couple's COVID-19-related advocacy, which started with a viral Facebook post featuring the distressed highland farmers in Benguet. The Rural Rising PH is paying the farmers the right price for their commodities to bring the latter to rural prosperity, giving customers access to fresh but cheap vegetable products and creating a new source of income for resellers. It aims to donate unsold vegetables to those severely affected by COVID in Metro Manila. There are now over 10,000 members, and that number is still growing. The group created "rescue buys" from the perturbed farmers in the northern part of Luzon.

Establishing a stable and sizeable market share in an "already established" market will be challenging. Rural Rising PH has been utilizing multiple marketing strategies to the point where it has become a self-sufficient and highly autonomous form of marketing driven by the local community. They posted gourmet-class cuisine and beautiful garnishes from the products that the local farmers were supplying. These presentations gradually enticed more and more people to join the online community, which led to the constant growth of their market share throughout Luzon. All of these feats branched out from one strategy currently practised regularly. They adopted the "urgency effect" using "snap and group buying" and integrated it into their marketing approach to jumpstart and sustain their market share. The "rescue buys" were implemented with borrowed trucks from the DA, Army, and private individuals. Rural Rising PH. Rescued over 500 tonnes of vegetables from farmers in six months. Plans for "group buys" on the farmers' products will be implemented to help stabilize the farmers' income and minimize price increases due to value chain activities (Rural Rising PH Facebook Page). Rural Rising PH structured it as "first comment, first served," replicating the urgency effect commonly used in online marketing. They would acquire several products from the farmers, set up a series of ordinal numbers (e.g., 1st, 2nd, 3rd, etc.), and the online community would have to comment as fast as they could for them to place an order on the products that are being showcased. All of this occurs in a short period.

This will create the FOMO effect, a subconscious psychological effect of having the "fear of missing out" on tremendous and affordable deals (Rozgonjuk

et al., 2021). After which, people in charge of the snap/group buying will contact each buyer and take care of the logistics, payment, and transportation of goods.

The Rural Rising PH is just one of the innovations that can bring about change and give farmers hope that they can still become economically resilient and meet the needs of their families in these difficult times brought on by the pandemic. There is a dire call for more drivers, actors, and innovators to bring innovations like Rural Rising PH in Luzon and throughout the nation.

While more innovations are to be implemented, the need to raise the Philippine economy needs to be heard. Hence, initiatives, policies, and programmes are to be implemented in these new normal operations to cope with the loss of economic opportunities for the people and the country.

Based on the discussed studies and initiatives, it was clearly stated that the food supply problem was among the issues that arose during the COVID-19 pandemic. Secondly, the problem of unemployment affected the supply and demand chains and processes.

The lockdown due to COVID-19 has resulted in an "oversupply" of agricultural produce among farmers because they cannot travel to sell. Market inaccessibility worsened because of the closures of the public market. These aggravated the economic situation among farmers as they coped with the loss of income. Instead of helping the farmers, middlemen took advantage of the situation, with farmers selling their produce at a loss. Transportation restrictions during the pandemic have also been identified as one of the major causes of difficulties in selling their produce.

It is common among the studies cited that the farmers need to be capacitated in producing and marketing their agricultural goods. Empowering them is the gap that needs to be addressed to cope with the economic crises caused by the COVID-19 pandemic. Moreover, both the farmers and the consumers need to be educated on the Sagip Saka Act to be aware of their means of accessibility in the market. Monitoring the Sagip Saka Act's proper implementation would reduce the rise in value costs and the intervention of middlemen in supply chain systems. Thus, the main questions that the researcher needed to find out are

as follows:

- (1) What are the needs, challenges, and aspirations that the Ati people have during the pandemic?;
- (2) What are the possible and available interventions that can be implemented in the community?; and
- (3) What is the social impact of the interventions on their livelihoods?

## **MATERIAL AND METHODS**

### **Research design**

The researcher conducted a citizen-centric Community-based Participatory Action Research (CBPAR) approach to the qualitative research design. Based on the review by Glassman and Erdem (2014), the core of participatory action research emerged from performing research in developing societies, in this case, the Indigenous People of Capiz. According to their review, this is a way of understanding a group of individuals as "belonging to the land, rather than the land belonging to the people." Therefore, performing this research design on remote communities, developing economies, and marginalized cultural groups is ideal for understanding their way of life and how they would react to new practices, policies, and interventions from external benefactors.

Informal focus group discussions, key informant interviews, and observations were conducted to gather the data. Photography, videography, and note-taking were the tools employed by the researcher to gather the needed data for the study. In the "planning phase" of the CBPAR, a series of FGDs were sent to the Ati, whose problems, issues, and needs were discussed. The scholar developed an intervention plan implemented in the "action phase." Through the results of the FGDs and the synthesis of previous literature, the researcher formulated the following targets for the action plan: (1) Capability-Building Activities; (2) Implementation of Innovative Marketing Strategies; (3) Creation of the Social Media Pages; (4) Sustainability Plan

### **Research informants**

This study utilized a purposeful sampling approach in identifying the study participants to select the community's most influential and knowledgeable members. According to Palinkas et al. (2013), this approach is utilized to select information-rich cases related to the phenomenon of interest in the study. Therefore, this sampling method is an ideal match for the CBPAR research design. The six Ati Council of Elders members who served as the study participants were four (4) males and two (2) females, ranging in age from 47 to 67 years old, including the chieftain, who served as the leader of the council.

In the action phase, the products sold were from the community engaged in farming and handicrafts, making them part of the study as well. These activities served as the source of livelihood for the Ati council of elders and most Ati community members. They rely on their income from farming and handicrafts to provide for the needs of their families.

### **Research ethics**

Before conducting the study, the researcher emailed a correspondence along with the research proposal to the National Commission for Indigenous Peoples (NCIP) Region VI, seeking permission to conduct the study with the Ati community in Dumarao, Capiz, Philippines. However, since it was at the pandemic's peak, office operations were done on a work-from-home basis. The office has yet to receive a response. With this, the researcher asked permission from Ati Chieftain to present the study's background and the desired data to be gathered. Immediately, the chieftain gave his permission to present the proposal to the council, and they all agreed to be the key players for the duration of the research activities. Hence, the participants were asked to sign the informed consent form to signify the observance of research ethics and the utmost implementation of the health protocols.

### **Data analysis procedures**

The six-phase process of doing the thematic analysis (Clarke et al., 2015) was adopted during the data analysis. These include transcriptions, coding, analyzing, and making meaning of the data.

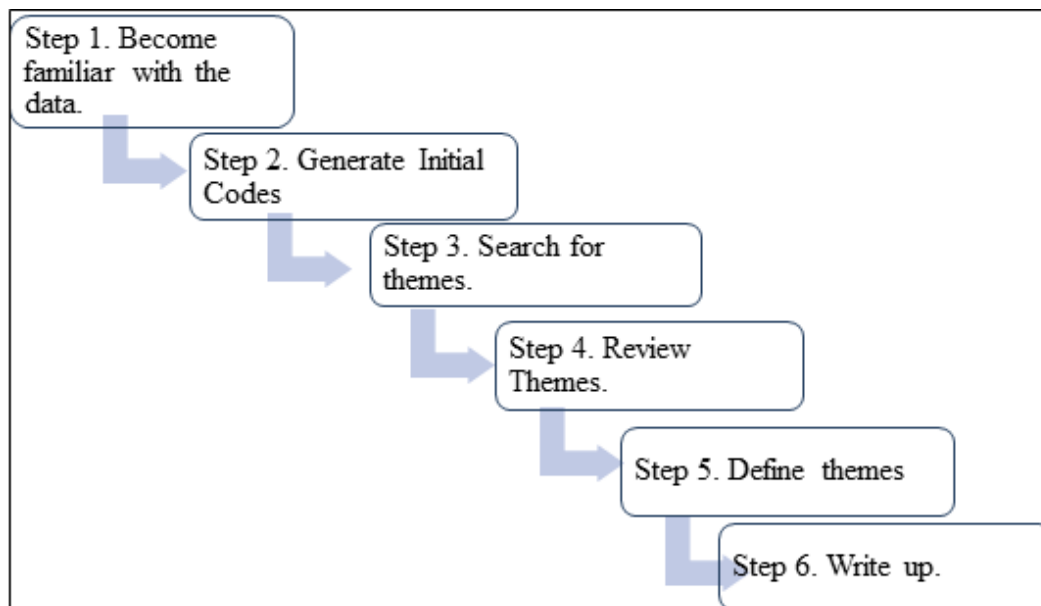


Figure 2: Six-phase Framework of Doing Thematic Analysis

## RESULTS AND DISCUSSION

### Needs, challenges, and aspirations of the Ati people during the COVID-19 pandemic

Based on the needs assessment, the challenges encountered by the Athi are classified into (a) low market opportunities for their farm produce and (b) the education of their children. The low market opportunities for Ati farm produce were caused by oversupply and stocking. They also have to walk through the market to sell their crops due to the limited and restricted transportation. Two mothers were concerned about the education of their children. The challenges that hindered them from attending their classes were the need for gadgets, money to print the modules, and the capacity to help their children. These needs of the Ati imply that they would like to uplift their lives out of poverty.

The researcher asked them about their aspirations to solve these needs. Five (5) of them stated that they require assistance in marketing their agricultural products and an alternative source of income through training. Three (3) wished the teachers would allocate time to visit the children in their community. Four (4) of them suggested that the government may provide them with gadgets and internet connectivity to be used by their children, especially in this new normal of the educational system and learning delivery.

### Intervention activities based on the needs of the Ati people during the COVID-19 pandemic

Based on the assessment, the researcher formed the study team from the institution's Research, Development, and Extension (RDE) Office. They have to attain the objectives of the Kumbuyanay Study; each component was implemented or accomplished simultaneously. These components are designed to address the needs and challenges of the Ati during this time of the pandemic.

Capability building refers to the skills and knowledge needed for a particular task or activity. This research study conducted several capability-building activities in the Ati community.

#### Shifting to the entrepreneurial mindsets

This capability-building topic was discussed with the twenty (20) identified Ati farmers. Taking off from their traditional knowledge systems on native chicken production, the trainer showed them a sample computation of the Return on Investment (ROI) they would gain if they invested in native chicken production. With this, the Ati realized there could be more income if their newly acquired knowledge were implemented by raising native chickens.

#### Darag native chicken production

Aside from corn, rice, and other vegetables, the Ati also uses native chicken farming. To help them, the researcher collaborated with the Director of the Capiz State University's Livestock Research



and Development Center (LRDC), who is also in charge of the Department of Science and Technology-funded study Enhancing the Agri-Aqua Value Chain through Smart Technologies and Partnerships for Food Resiliency in the New Normal.

The training was conducted on May 26, 2021, and the 20 identified Ati farmers and chicken raisers participated. This was held at the Ati Community in Sitio Tag-aw, Brgy. Tamulalod, Dumarao, Capiz, upon the approval of the barangay captain. There were 11 female and nine male participants. A lecturer and an extensionist from the College of Agriculture were invited to train Ati chicken farmers on effectively managing Darag Native Chicken (DNC) using Capiz State University research-based technologies. These technologies include the botanical dewormer, organic feed and feeding formulations using vegetables, incubator machines, vaccines, etc. After evaluating the study team and the compliance of the Ati beneficiaries, they were dispersed with one (1) chicken family (one rooster and four hens) as their chicken farming start-up capital. One of the Ati beneficiaries, Elias Valencia, has already harvested five trays of eggs, which he brought to the university's laboratory facility for incubation. Hence, he produced 150 chickens for meat production and sold them through the digital marketing platform created by the researcher.

#### **Post-harvest processing of slaughtered Darag native chicken**

The training on processing slaughtered Darag native chicken continued the previous activity. The activity was held on June 10, 2021, at the Food and Fisheries Research and Development Center (FFRDC). The researcher identified ten (10) processors to be trained in the post-harvest activities of the Darag native chicken. These include handling, processing, and packaging to reach the market. Out of the 10 participants, four (4) were the Ati, who were selected based on their engagement in native chicken production, their attendance in the previous training, and their extent of commitment to be the recipients of the DNC. Since they were trained as processors, the researcher contacted them to assist during the post-harvest handling and packaging of the DNC.

An entrepreneurial mindset requires behavioural change. The Darag native chicken production, its post-harvest activities, and organic vegetable production

have affirmed that they are open to non-traditional systems. Hence, the evolution of the behaviour of the Ati is seen in adapting the science-based technology in native chicken production and management. The trained processors of the DNC were given additional income since they were hired to assist every time there was a post-harvest activity of the DNC.

#### **Organic vegetable production**

The Ati are also engaged in vegetable production. During the researcher's visit to the community, he noticed some Ati have vegetable gardens in their backyards. The women are engaged in planting vegetables, while the men produce rice and corn on their rented land.

Seeing the involvement of the Ati in vegetable production, the researcher opened up the idea with the Ati council of elders during the informal fieldwork to conduct training on organic vegetable production. The university had several mature research-based technologies in organic agriculture for vegetable and rice production. However, the chieftain informed the researcher that the Department of Agriculture in Region VI, in coordination with the Provincial Agriculture Office of Capiz, had already scheduled training on organic vegetable production for June 18, 2021. Hence, the researcher collaborated with the Provincial Agriculture Office in conducting the training utilizing the research-based technologies in organic farming of the university. On the other hand, the latter supplied the infrastructure materials and seeds to start the organic farming activities of the Ati. On June 28, 2021, the researcher conducted informal fieldwork in the community. One Ati elder had accompanied the researcher and his team to their community-owned organic vegetable garden.

The garden showcases the seedbeds planted with eggplants, and the nursery grows tomato and sweet pepper seedlings. She narrated:

We were ten (10) who attended the training on organic agriculture because only a few were allowed during the pandemic. After the lecture, the DA gave us the planting paraphernalia. They gave us the shovel, spade, plastic plot cover, eggplant, and tomato seeds. They also sent us the materials to build the greenhouse for the nursery. The DA will buy our harvest to be sold during the Harvest Festival in August. Female Ati beneficiary.

The Ati had alternative income sources aside from selling their corn and rice. The opportunity given to them by the DA as beneficiaries of the Organic Agriculture Program of the region will eventually increase the engagement of the farmers in secure, safe, and sustainable food production.

**Creation of the social media page**

Innovation refers to transforming new ideas, processes, and products into practical activities. In this research study, digital marketing strategies such as "snap buys" and "group buys" were adopted to address Ati's challenges in marketing their

agricultural produce. Snap buying is a market term in which buyers are encouraged to buy or take the goods the seller sells as soon as possible. There is a sense of urgency in posting the products so that buyers are excited to grab the Ati development. Social media is one tool that has helped us become an informed society. Social media changed our community and were at everyone's fingertips. The study's Facebook page shall be the communication link between the Ati and their studies. The researcher is the administrator of the page.

**Table 1: Summary of the Capability-building Activities conducted in the Ati Community**

| Date             | Capability-building Activities                              | Objective/s  | Number of Trainees |
|------------------|---|--|--------------------|
| May 26, 2021     | Shifting to Entrepreneurial Mindsets                        | To develop and adapt the entrepreneurial mindset among the Ati.<br>To train the Ati in managing their farm produce to become more profitable and sustainable.  | 20                 |
| May 26, 2021     | Darag Native Chicken Production                             | To capacitate the chicken farmers in managing and producing the darag native chicken.<br>To introduce innovative research-based technologies in DNC production.  | 20                 |
| June 10, 2021    | Post-harvest Processing of Slaughtered Darag Native Chicken | To train the chicken processors in the handling, processing, and packaging of the darag native chicken, which will be made available to the market<br>To enhance the food value chain of DNC in the region towards improving competitiveness and inclusive food sustainability | 4                  |
| June 18, 2021    | Organic Vegetable Production                                | To capacitate the farmer-beneficiaries on organic vegetable production   | 10                 |
| October 14, 2021 | Digital Marketing   | To train an Ati to manage their social media page  | 4                  |

The Facebook page created broader opportunities to market the Ati Farm produce in this research study. It serves as the platform where some Ati products are posted for marketing.

The Facebook page displays the different activities and milestones of the Kumbuyanay study while disseminating information to the Ati people and stakeholders. The study's profile picture shows the chieftain's iconic image with the researcher. This represents the collaboration between the Ati community and the researcher to achieve their goals—to become empowered and productive community members. Its cover page reflects the photo

of the elders and some of the community members taken during the concept meeting for the study. Moreover, an information banner was created and posted on the page. It contains the name of the study, its goals, and the farm products and commodities that Ati is selling. As of October 27, 2021, the Kumbuyanay study Facebook page received 409 likes and 412 followers, continuously getting updates on the study. It is under the assumption that these numbers will increase over time.

On July 9, 2021, in the article TOK-TO-LIOK: Value Added, Native Manok had the highest reach of 4,100 with 560 engagements. Social media

becomes a platform for the Ati community to be visible and recognized in the digital community. The Kumbuyanay Study for the Ati Community Facebook Page received 534 post views and engagements between September 3 and September 30, 2021. Table 2 shows the statistical profile of the Kumbuyanay Study for the Ati Community.

During the researcher's visit on April 15, 2021, he observed that the Ati farmers had an oversupply of their corn. According to them, there were times when the intermediaries went to their place and bought each kilo for only 15 pesos. The revenue paid to Ati was below the amount that they invested.

Interest among the researchers' colleagues grew. One of the institution's administrative officers has poultry. The researcher asked her if she would be willing to buy the sun-dried corm of the Ati. She offered to buy them for 18 pesos per kilo because that's the amount they had seen in the public market, to which the Ati agreed. The buyer/consumer had bought all the sun-dried corn from the Ati, 322 kilos (almost seven sacks

at 50 kilos each). The Ati farmer earned a gross income of 5,800 pesos. The payment was delivered a day later during the researcher's fieldwork.

The researcher found that such a marketing strategy could help the farmer earn a better income from their farm produce than by bringing it directly to the market.

The digital marketing proper started on March 11, 2021, during the researcher's visit to the community. During the conversation, one Ati approached the researcher and said that he had harvested *kamote* (sweet potato), *pusô ng saggig* (banana heart), and a bundle of bananas to sell. Many of the researcher's fans and friends had snatched up the farm goods in that time frame. For P35.00 per kilo, six kilogrammes of sweet potatoes changed hands. Each heart of a banana costs P20.00 (about \$0.20). The price of a banana heart was twenty pesos (P20.00) in the Philippines. The price per kilogramme of bananas was P25.00.

**Table 2: Summary of the Statistical Profile of the Kumbuyanay Study Facebook Page**

| Date of Postings | Title   | Reach | Engagements | Reactions | Comments | Shares | Photo Views | Other Clicks |
|------------------|---|-------|-------------|-----------|----------|--------|-------------|--------------|
| May 21, 2021     | Creation of the Kumbuyanay Study Facebook Page                | 0     | 4           | 3         | 0        | 0      | 1           |              |
| May 21, 2021     | Profile Picture of the Kumbuyanay Study                       | 6     | 14          | 10        | 3        | 0      |             | 1            |
| May 22, 2021     | A Rescue Post for the Ati Farmers                             | 654   | 79          | 16        | 15       | 4      | 8           | 36           |
| May 22, 2021     | Posting of the Study Banner                                   | 56    | 6           | 4         | 0        | 0      | 2           |              |
| May 26, 2021     | The Ati Farmers and the Darag Native Chicken                  | 1,800 | 192         | 80        | 7        | 1      | 16          | 88           |
| May 30, 2021     | Shared the Video on Farmer's Training on DNC                  | 39    | 2           | 2         | 0        | 0      |             |              |
| June 9, 2021     | TOK-TO-LIOK: Value Added Native Manok                         | 4,100 | 560         | 84        | 53       | 11     | 33          | 379          |
| June 10, 2021    | Shared the Institution's ATBI Post on the DNC training        | 51    | 4           | 2         | 0        | 0      | 2           |              |
| June 14, 2021    | A Rescue Buy for the Ati's Walis Tingting                     | 832   | 155         | 23        | 54       | 2      | 2           | 74           |
| June 21, 2021    | Shared the post of Bakal Lokal selling the DNC online         | 52    | 7           | 2         | 0        |        |             | 5            |
| June 28, 2021    | Farming is Life!  | 1,300 | 148         | 82        | 6        | 2      | 10          | 48           |
| July 8, 2021     | A Story of the Darag and the Ati                              | 2,700 | 392         | 113       | 7        | 5      | 38          | 229          |
| July 14, 2021    | Preparation of the Study Update                               | 35    | 4           | 1         | 0        | 0      | 3           |              |
| August 6, 2021   | Shared the Institution's Entry on CHED IP Documentary Contest | 15    | 0           | 0         | 0        | 0      |             |              |
| August 22, 2021  | Campaign for the school needs of the Ati Children             | 1,500 | 90          | 13        | 2        | 13     |             | 27           |

The pricing of these farm products was based on the actual market price. Since there were sure buyers of the crop based on the postings, the researcher remitted the sales to Ati so he could have the amount to meet his immediate needs. The agriculturist was

grateful that all his produce was sold immediately for a better price.

The second leg of Ati's snap buy activity on farm products occurred on May 7, 2021. The researcher was informed by an Ati Elder and the leader of the

Peoples' Organization that they would be harvesting their avocado and calamansi. He asked if the institution could help him market their farm produce since they could not sell it to the market due to travel restrictions. Using her personal Facebook page, the researcher posted the farm produce to be sold. The researcher returned the orders to the Agri-Aqua Technology Business Incubator (ATBI) staff for checking and packaging during delivery. The staff also delivered the orders to the buyers in their respective

offices, while others were contacted to pick up their orders at the ATBI office. The team was also the one who collected the payments and turned them over to the Ati farmer.

The activity was successful because Ati received a gross income of 66.67% and 70% for their avocado and calamansi when sold in the digital market, respectively. Table 3 shows the percentage increase in the gross income of Ati in its second leg of the snap buy marketing strategy.

**Table 3: Percentage Increase in the Gross Income of the Ati During the Second Leg of Digital Marketing Activity**

| Particular | No. of kilograms ordered | Intermediaries' Price | Gross income | Digital Market Price | Gross Income | % Increase in Gross Income |
|------------|--------------------------|-----------------------|--------------|----------------------|--------------|----------------------------|
| Avocado    | 47 kg                    | P40/kg                | P1,880       | P60/kg               | P2,820       | 66.67%                     |
| Kalamansi  | 12 kg                    | P35/kg                | P420         | P50/kg               | P600         | 70.00%                     |

The researcher found that the strategy was adequate to help the Ati farmers market their farm products. He again contacted the Ati elder to gather the harvests of the Ati farmers, and these will be sold using the study's social media page.

On May 11, 2021, the researcher posted on the Kumbuyanay Study for the Ati Community's Facebook page. The post was entitled "A Rescue Post for the Ati Framers."

The researcher consciously included an emotional appeal in the write-up to strengthen the sense of urgency. It showed that it was effective because some responded immediately to the post. They have also followed the instructions given to them. The online

buyers felt the urgency of the message posted by the researcher. In less than 24 hours, the post was flooded with the comments of the researcher's friends and colleagues who wanted to buy the farm's produce.

On the following day, the Ati Elder delivered the orders, which the researcher summarised based on the post's comments. The researcher turned over the Ati produce to the Ati manager and his staff for the proper packaging and delivery of the farm produce.

The Ati earned 66.67% of gross income for the squash and avocado, respectively, and 80% for the calamansi when sold in the digital market. Their earnings are far better than when the intermediaries bought their produce cheaply.

**Table 4: Percentage Increase in the Gross Income of the Ati during the Third Leg of Digital Marketing Activity**

| Particular | No. of kilograms ordered | Middlemen's Price | Gross Income | Digital Market Price | Gross Income | % Increase in Gross Income |
|------------|--------------------------|-------------------|--------------|----------------------|--------------|----------------------------|
| Squash     | 4 kg                     | 20 / kg           | P80          | 30 / kg              | P120         | 66.67%                     |
| Avocado    | 70 kg                    | 40 / kg           | P2,800       | 60 / kg              | P4,200       | 66.67%                     |
| calamansi  | 30 kg                    | 40 / kg           | P1,200       | 50 / kg              | P1,500       | 80.00%                     |

The last activity under the study was on June 14, 2021. During the training on the post-harvest of the Darag native chicken on June 10, 2021, a female Ati informed the researcher that they had made 300 bundles of walis ting-ting (broomsticks) from the stems of the nipa leaves. She asked for some help to market these

broomsticks.

The Agri-Aqua Technology Business Incubator (ATBI) staff told the Ati that they would pick up the broomsticks next June 13, 2021, just in time to conduct training on one of the institution's campuses.

**Table 5: Percentage Increase in the Gross Income of the Ati during its Sales of Walis Tingting and Bananas Sold through the Digital Market**

| Particular (a) | No. of Bundles/<br>Kilograms Ordered | Middlemen's<br>Price | Gross<br>Income | Digital<br>Market Price                 | Gross<br>Income               | % Increase in<br>Gross Income |
|----------------|--------------------------------------|----------------------|-----------------|---|-------------------------------|-------------------------------|
| Broomsticks    | 150 bundles                          | P20/ bundle          | P2,400          | P100 (3<br>bundles + 1 kg<br>of banana) | 50 sets<br>X 100<br>P5,000.00 | 48.00%                        |
| Banana         | 15 kgs                               | P5/kg                | P75             |   |                               |                               |
| Cassava        | 15 kgs                               | P10/kg               | P150            | P20 /kg                                 | P200                          | 75.00%                        |

On the said date, 150 bundles were left available to be marketed. The broomsticks were accompanied by 10 kg of cassava and 15 kg of bananas. The researcher and the ATBI staff strategized how to sell the broomsticks with a creative sense of urgency.

Instead of selling the banana, it served as the "come on," so buyers will be more inclined to buy the three-piece bundles of broomsticks. Each pile in the market actually costs 35 pesos. At Ati, the middlemen paid 20 pesos per bundle for them. They paid 5 pesos per kilogramme for the ripe banana. Each item has experienced notable growth of 48% and 75%. The pricing of the ATBI is better than the actual price in the market. This implies that Ati has increased profits through innovative marketing.

An ATBI incubated bought cassava as a binder for their noodle products. When the gross amount was turned over to the Ati farmer.

**Social impact of the Kumbuyanay study on the lives of the Ati beneficiaries**

After each activity, the social impact is assessed through informal key informant interviews with the

Ati. The researcher asked the activity beneficiaries one fundamental question: What better learnings have you gained in all our activities?

"Good news, Sir, that you came to sell our corn. We gained better profits because our produce was bought at the right price. Your coming was a big help to us, Sir."

– Rodney Valencia, who sold his sun-dried corn kernel  
"It is good that the price of the farm produce was comparable to the market price. It is a big help to my family to buy rice." – Ati farmer who sold his pusô ng sagging and kamote

"It was a big help because you sold them at a better price than the intermediaries who bought our produce at a lesser cost. I am so grateful because I will share this amount with my brethren to buy some rice for our consumption." – Female Ati who sold her walis tingting and other farm produce

"The pandemic brought chaos and poverty to the people. In this situation, the avocado we sold helped our Ati brethren because they could not travel to the towns." – Ati Elder and beneficiary of the DNC

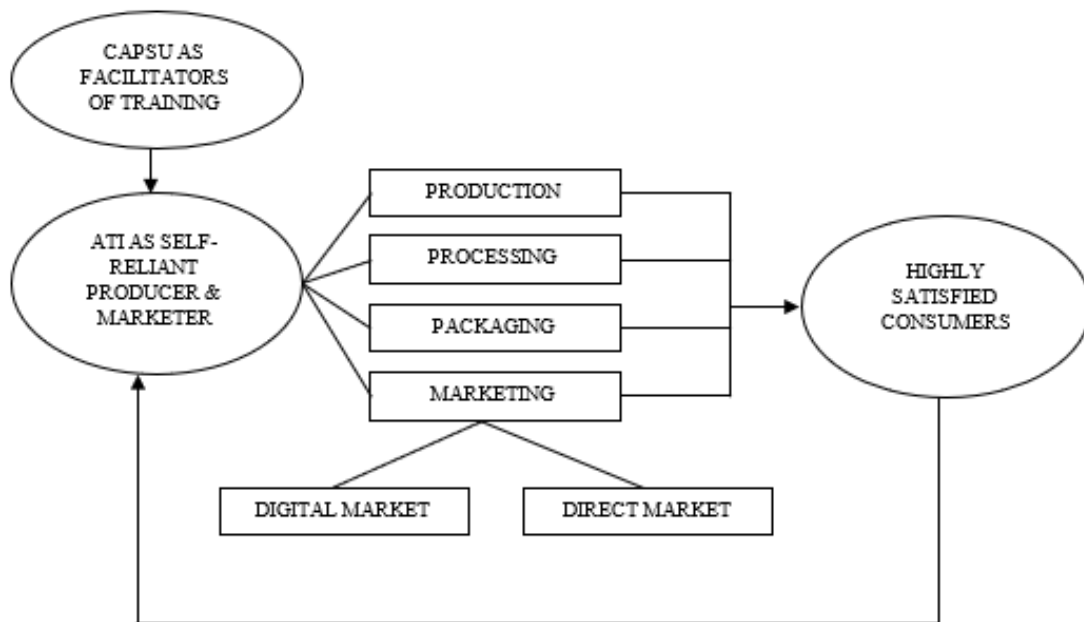
**Table 6: Social Impact of the Kumbuyanay Study on the Lives of the Ati Beneficiaries**

| Themes                          | Codes   | Key Informants   |
|---------------------------------|---|--|
| Gained New Knowledge            | ...I have learned new knowledge   | Female Ati Participant in DNC Post-Harvest Training        |
|                                 | ... We gained a better profit   | A male participant who sold his sun-dried corn kernel      |
|                                 | ... It is good that the price of the farm produce was comparable to the market price.                                     | Ati farmer who sold his banana heart and sweet potato      |
|                                 | ... It was a big help because you sold them at a better price than the middlemen who bought our produce at a lesser cost. | Female Ati who sold her broomsticks and other farm produce |
| Economic and Sustainable Income | ... the avocado that we sold had helped our Ati brethren because they cannot travel to the towns                          | Ati Elder  |

**Development of community innovation model for the post COVID-19 pandemic**

Based on the intervention, the researcher has formulated the Community Innovation Model for the

Ati farmers to become a resilient and economically sustained community.



**Figure 3: Proposed Innovation Model after COVID 19 Pandemic**

After the study is implemented, it will be returned to the Ati community. At this time, they are already empowered and have gained the skills to manage the sale of their products. The university will serve as an oversight agency that will provide additional training. Delighted consumers are expected to observe the effect of patronizing Ati's products as it ensures an economically sustainable and resilient Ati community.

### CONCLUSION AND RECOMMENDATIONS

The needs assessment revealed that the Ati encountered challenges due to (1) the low market opportunities of their farm produce and (2) their children's education during the pandemic. Oversupply, low prices at the market, and the presence of middlemen who buy their produce at a lower price were the causes of low-income generation among the Ati commodities. The lack of gadgets, money for the printing of modules, and the inability to help their children with their school needs were the reasons that the mothers considered challenges in education.

Based on their needs, generally, the Ati aspired to be helped to market their farm produce and be given training that would enhance their knowledge and skills to be used for alternative sources of their livelihood. Moreover, they wished the teachers would visit their community to help their children answer their modules. They also wanted the government

to provide them with the gadgets and internet their children would use in their schooling.

The researcher implemented the following components: (1) the capacity-building activities on entrepreneurial mindset, DNC Production and Post-Harvest Processing and Packaging, and Organic Agriculture (conducted by the DA Region VI Office); (2) the creation of the social media page; and (3) innovative marketing strategies, specifically on digital marketing. The social media page of the study served as the platform where the products are posted for digital marketing and postings on updates related to different activities related to the project's implementation. Digital marketing through the snap buys brought better income and profit to Ati. Hence, the presence of the middlemen has diminished. The project will likely impact the Ati, leading them to become a more resilient and economically sustainable community.

### Strategic implications to development and management

Implementing the study in the Ati community had significant implications for development and management. First, the study's results can be used as inputs in enhancing the Public Management and Development Program (PMDP), specifically from a development perspective. The study aimed at creating innovations in the lives of the indigenous peoples relevant to the modules on social, economic, and

cultural development. Moreover, the study results could also be used as inputs to enhance the topics on public-private partnerships since the project collaborated and forged a memorandum of agreement with both the government and non-government agencies to sustain the implementation of the study.

The study also provides an opportunity for the LGUs to have a closer look at varying situations, especially those in the marginalized and underprivileged sectors of society like the indigenous peoples. They could craft programs, projects, and activities that benefit the IP sectors or communities.

Lastly, the study could also serve as input in enhancing the curriculum for the instruction function in the State Universities and Colleges (SUCs) to include the indigenous knowledge systems and perspectives in calibrating the instructional materials of the faculty, such as the syllabus.

#### **Sustainability plan and future research directions**

To sustain the implementation of this study, the researcher forged partnerships with the major stakeholders who can create and implement additional innovations for the Ati community. These stakeholders include CAPSU, the Provincial Government of Capiz through its Agriculture Office and Tourism and Cultural Affairs Office; DOST-Capiz; the LGU of Dumarao, Capiz; and Bakal Lokal. A Memorandum of Agreement (MOA) was drafted to bind the parties to their specific project implementation and maintenance responsibilities. Each stakeholder committed to continuing their participation in the project. They stipulated that they would include the activities for the Ati community in their annual procurement plan for 2022 and allocate a budget for the capacity-building activities and projects that would benefit and be conducted for the Ati people. Moreover, to further ensure the sustainability of the study, the scholar proposes the following:

#### **Ati focal person**

Appoint a focal person among the Ati community who would serve as the middleman in the gathering, transacting, and marketing their farm produce. The projected buyers could easily coordinate, communicate, and transact business by buying the farm's produce through him. Moreover, the focal person is also responsible for managing the project's social media page, which online buyers and

consumers can quickly contact.

#### **Provision of internet connectivity**

The project needs internet connectivity to market the farm products of Ati. Hence, providing internet connectivity in the community would address the educational needs of the Ati children and their parents, who are farmers who can market their products online.

#### **Regular monitoring**

The stakeholders, such as CAPSU-RDE and ATBI, PTCAO, and PAO, may regularly monitor the project's progress. The Ati needs regular capacity-building activities to empower them further and sustain their efforts.

#### **Maintaining good relations and linkages with the major stakeholders**

The MOA forged among the stakeholders was an excellent initiative to sustain the activities relevant to the study. However, it shall not remain a document; it should be implemented. Thus, the researcher must maintain the established rapport and communication with the major stakeholders. This would create a venue to strengthen their linkages and design improvements for the continuous implementation of the project.

#### **Replication of the study**

The project may be replicated not only in other indigenous people's communities but also in communities belonging to Geographically Isolated and Disadvantaged Areas (GIDAs) internationally.

#### **Identified potential limitations and risk management plan**

The researcher considered the risks that could potentially prevent this study from being successful and the risk management strategy used.

#### **Meeting with the Institutional Partner (IP)**

During the meeting with the institutional partner, there was a likelihood that the IP would reject the CP proposal because it might need to align with the university's priorities due to the non-anticipation in the proposed 2021 budget. To manage the risk, the researcher had already coordinated and discussed with the IP the capstone project details during the concept proposal.

#### **Organization of the research assistants**

During the meeting with the institutional partner, there was a likelihood that the IP would reject the

CP proposal because it might need to align with the university's priorities due to the non-anticipation in the proposed 2021 budget. To manage the risk, the researcher had already coordinated and discussed with the IP the capstone project details during the concept proposal.

#### **Securing the certificate of pre-condition from the NCIP regional office**

The approval of the NCIP permit to conduct the study will likely be delayed. To manage the risk, the researcher initiated the crafting of the contract of agreement and presented it to the Ati Council of Elders, with whom they agreed and signed.

#### **Implementation of the study**

The occurrence of COVID-19 pandemic caused delays in the implementation of the project. To manage this risk, the researcher coordinates with the local Inter-Agency Task Force (IATF) before implementing the project's activities. Maximum health protocols were observed.

#### **Meeting with stakeholders**

To sustain the implementation of the project, the scholar proposed a Memorandum of Agreement (MOA) among the major stakeholders. And there is a likelihood that the involved stakeholders will not support the programme and participate in the agreement because of the weight of the deliverables. Thus, to manage the risk even before the implementation of the project, the scholar included the stakeholder analysis in this proposal and assumed to draw their support.

#### **Areas for improvement**

Although the study implementation in the Ati community was generally a success, some things could have been improved. First, more digital marketing activities may have been conducted to see and feel the project's significant social and economic impacts on the lives of the Ati. Second, more days spent in community immersion activities will allow the scholar to experience Ati's real-life situations and daily routines. However, health safety was the primary concern of both the researcher and the Ati and was prioritized during the conduct of the study in the middle of the pandemic.

#### **Acknowledgments**

The researcher considers this research to be the most significant activity that he has engaged in because it

involved the participation of the major stakeholders as partners. The scholar and team were concerned about finishing the study on time because it was being carried out during the pandemic.

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