INDIGENOUS KNOWLEDGE AND AGRICULTURAL PRACTICES OF IFUGAO ETHNO-FARMING IN IFUGAO VILLAGE, DIFFUN, QUIRINO

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DOI: https://doi.org/10.54476/ioer-imrj/148006

ABSTRACT

This study endeavors to delve into the traditional knowledge and farming methods employed by Ifugao farmers residing in Barangay Ifugao Village, Diffun, Quirino. Despite the proven efficacy of Indigenous farming practices, they confront formidable challenges including climate change, biodiversity loss, and the erosion of Indigenous knowledge. The research aims to meticulously document and safeguard the wealth of knowledge and practices upheld by Ifugao farmers, recognizing their pivotal role in fostering environmental sustainability and cultural enrichment. Utilizing an ethnographic approach, this study endeavors to unravel the intricate interplay between farming techniques, traditional wisdom, and the multifaceted challenges posed by modernization. By employing key informant interviews conducted in the Ilocano dialect, the project seeks to elucidate how Ifugao farmers adapt their agricultural practices in response to evolving environmental and socioeconomic dynamics. Through purposive sampling, experienced Ifugao farmers are selected as key informants, ensuring a comprehensive examination of the methods, beliefs, practices, strategies, and knowledge that have underpinned Ifugao ethno-farming traditions. The study, spanning one month and focusing on seasoned Ifugao practitioners, guarantees a thorough exploration of the adaptive measures and customs intrinsic to Ifugao's agricultural heritage. Reflexive thematic analysis serves as the analytical framework for interpreting the gathered data, with anticipated results offering valuable insights into the resilient techniques employed by Ifugao farmers to preserve their cultural heritage and navigate contemporary challenges. These findings underscore the imperative for collaborative endeavors aimed at safeguarding, documenting, and integrating Indigenous knowledge into agricultural practices, thereby fostering resilience and sustainability for present and future generations.

Keywords: Ifugao, Ethno-farming, Indigenous Knowledge, Sustainability, Preservation, Agricultural Practices, Beliefs, Changes perceived, Adaptive Strategies

INTRODUCTION

Indigenous knowledge ensures sustainability. Indigenous farming is regarded as one of the most effective, reliable, adaptive, and sustainable systems in the world. The Philippines is a culturally diverse country, with an estimated population of 14 to 17 million Indigenous People, mostly found in Northern Luzon (33%) and Mindanao (61%) and several groups in the Visayas Region. Indigenous people's major sources of income are inclined to small-scale agricultural occupations such as cultivating, fishing, hunting, and farming. Most of these Indigenous farmers are mostly from low-income households and are undergraduates (Magallanos, 2022; Dugyon 2023). Due to a lack of educational background on scientific knowledge in farming,

their daily interactions with the environment and observation served as a strong basis for decision-making and helped them adapt their activities to the state of the natural environment. The values and actions of human communities and regional cultures are the driving forces behind sustainable natural resource management (Jessen et al., 2021). Hence, Indigenous knowledge is crucial to the global survival of highland farming.

On the other hand, cultural groups like the Ifugao moved to Quirino province in quest of the proverbial "better livelihood," and they now live in the highlands. Of all the ethnic groups in Quirino province, the Ifugaos are the most numerous. The term *"Ifugao"* comes from the word *"ipugo,"* which means "from the hill." The style of existence and the associated traditional knowledge system of Ifugao set them apart from the neighboring lowland people (Jocson, 2018). The Ifugao people are heavily reliant on farming because it is a source of revenue that enables them to meet their family basic needs. (Lapniten, 2021). The Ifugao means of existence is very reliant on the environment, their culture and the mountain nature coexist in perfect harmony. The indigenous knowledge system and traditions of the Ifugaos have developed from their early ancestors. Natural forests and rice farming both rely heavily on the ecosystem's ability to sustain itself.

Observing Indigenous knowledge in farming contributes to mitigating the effect of climate change and minimizing the loss of biodiversity due to the use of locally safe available resources (Imoro et al., 2021). Traditional knowledge and practices are in danger of vanishing from the landscape as modernization and cultural norms influence farmers' decisions to participate in rituals that were once practiced alone by them (Hollaus, 2022). Indigenous knowledge is being lost at an alarming rate, despite rising recognition of the relevance of Indigenous knowledge in enhancing sustainable agriculture practices as it is being passed orally from generation to generation (Radcliffe & Parissi 2022). The socio-ecological system of the rice terraces is still changing because of biophysical and socioeconomic influences. Ifugao farmers encounter production vulnerabilities because of the region's environmental change, agricultural change, socioeconomic change, cultural change, and socio-demographic change. Due to this, agricultural yields in underdeveloped areas are declining, and the gap between actual and projected yields of main food crops is widening (Mustafa et al. 2021; Chimonyo et al. 2020). To sustain local resources and mitigate the loss of biodiversity for both their way of life and the Ifugao community, preserving and conserving indigenous knowledge is crucial for environmental sustainability and cultural development.

When transmitting knowledge, there is oral communication and written communication. Transmitting orally is identified as oral communication. Oral communication is known to be the oldest way of communication and is commonly used as a medium for exchanging information. Oral communication does not provide any proof and has a very high level of misunderstanding (Surbhi, 2022). On the other hand written communication is a formal way of communication, the message is carefully drafted and formulated. The proof is also presented with the proper records with a very low probability of misunderstanding (Surbhi, 2022).

Thus, this study was conducted to identify and document the Indigenous knowledge and agricultural practices of Ifugao ethno-farming in barangay Ifugao Village, Diffun, Quirino, to preserve their indigenous knowledge ensuring cultural development and environmental sustainability in both the Ifugao farmers and the community.

OBJECTIVES OF THE STUDY

This study aims to address the following issues regarding ethno-farming in Barangay Baguio Village.

1. Identify the knowledge and agricultural practices of Ifugao farmers.
2. Determine the cropping system utilized by Ifugao farmers.
3. Enumerate the changes observed in farming practices.
4. Investigate how the indigenous knowledge and agricultural practices of Ifugao farming adapt to perceived changes.

METHODOLOGY

Research Design. This study is an ethnographic study that focuses on identifying the indigenous knowledge and agricultural practices of Ifugao ethno-farming in Barangay Ifugao Village, Diffun, Quirino. The ethnographic study allows the researchers to understand and focus on the collective experiences, perspectives, and daily practices of the Ifugao farmers, typically for a long duration (Creswell, 2006).

Research Instrument. This study used key informant interviews with the respondents that allowed researchers to gather precise data about the indigenous knowledge system of the Ifugao knowledge system. The respondents will be asked questions related to the topic and following the structure of the interview; (1) profile of the respondent (2) farming knowledge and practices (3) farming beliefs (4) cropping system (5) changes perceived in farming (6) how their indigenous knowledge and agricultural practices adapts in the changes they perceive.

Research Sampling and Samples. Five (5) key informants were chosen for the interview using purposive sampling. The chosen key informants were then interviewed using one-on-one interviews allowing the researchers to achieve the objectives of the study and document the indigenous knowledge and agricultural practices of Ifugao farmers.

Sampling site. The respondents are the Ifugao farmers with 10 years or more experience in ethno-farming in Barangay Ifugao Village, Diffun, Quirino.

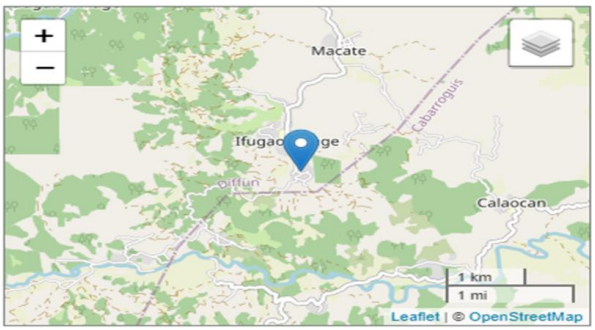

Figure 1. Sampling Site
Source:https://www.philatlas.com/luzon/r02/quirino/diffun/ifugao-village.html

Data Gathering Procedure. The initial step was to ask permission to conduct from the principal's office. After the permission is granted, the next step is to select a specific barangay in the community. The considered respondents in Barangay Ifugao Village are farmers with 10 years or more experience in ethno-farming. Prior to this, the farmers were asked for permission to conduct. The chosen respondents were interviewed using key informant interviews wherein, the questions were asked using the Ilocano dialect. In addition to this, researchers managed an actual interview and observation for 1 week to validate and document the indigenous knowledge and practices of Ifugao farmers.

Data Analysis. The collected data from the key informants were transcribed from the interviews, and each interview transcript was organized into text units with a thematic title describing the major theme of each unit, referred

to as "thematic plots." Plots were arranged within each interview transcript in response to related topics and following the structure of the interview, including (1) the profile of the respondent, (2) farming knowledge and practices, (3) farming beliefs, (4) cropping system, (5) changes perceived in farming, and (6) how their indigenous knowledge and agricultural practices adapted to the changes they perceived.

Reflexive thematic analysis was utilized to analyze the responses on agricultural knowledge and practices. This approach involved using general or specific research questions on people's experiences, opinions, perceptions, and illustrations of a given phenomenon. It followed the Clarke & Braun (2006) approach, which is an iterative process consisting of six steps: familiarizing with data, generating codes, identifying themes, reviewing themes, defining and naming themes, and locating exemplars.

Ethical Consideration. This study "Indigenous Knowledge and Practices of Ifugao Ethno-farming in Barangay Ifugao Village" was conducted to identify, observe, and document their farming techniques, to be able to preserve their indigenous knowledge system ensuring sustainable development for the farmers and community. In conducting this research, the responders will be given a research-informed consent form that explains the objectives, procedures, and potential advantages of the study. Their identity will remain confidential for privacy concerns.

RESULTS AND DISCUSSION

1. Traditional Knowledge and Agricultural Practices

1.1. Agricultural Knowledge and Practices of Ifugao Farmers

Based on the results, the indigenous community of Ifugao in Barangay Ifugao Village, Diffun, Quirino never lost hands on their inherited traditions and ways of living as shown through their existing agricultural practices and rituals. Moreover, some of their inherited knowledge and equipment in farming last long as it is more adaptive and conducive to their terrain.

Table 1
Agricultural Knowledge and Practices of Ifugao Farmers

Agricultural Practices	Rituals	Agricultural Knowledge	Agricultural Tools	Cropping System
Storing foods in a Calapao and Camarin.	Kanyaw	Pineapple likes loam soil.	Pang-asad/Asad	Planting rice and corn during May and June
Hanging the rice over the cooking area	Honga	Ginger prefers garden soil.	Al-o and Alsong	Harvesting rice and corn every 4 months.
Smoking rice as an alternative to preserving	Buni	Planting Citrus in a sloped area	Tabas	Planting Ginger from April to June.
Helping each other in farming through "Bayanihan" "Inyasad" or using a sharpened wood in farming	Baki		Pala Gabyon	Harvesting 6 months old ginger or "Gaddang" Harvesting 1-year-old Ginger or "Kapon

To them, preserving their culture and heritage is a legacy that must be passed from generation to generation ensuring that both modern and traditional farming techniques are applied for a more sustainable development of agriculture. Lastly, the researchers were able to secure the National Commission on Indigenous Peoples Permit to conduct in the Indigenous communities.

1.2. Cropping System

The cropping system of the Ifugao farmers is presented in Table 1. The table provides information about their cropping system of crops such as rice, corn, and ginger. The months when Ifugao farmers usually plant and harvest rice and corn are similar. They are usually planted during

May and June. Harvesting the rice and corn is being done every 4 months. On the other hand, Ifugao farmers in the upland plant ginger from April to June to ensure plant growth despite weather conditions and insects and pest attacks or destructions. The ginger will be divided into several pieces wherein each piece should have a soothing part or they call it its eyes. The part where growing leaves will begin to grow. After 6 months from planting, the ginger part that was planted will be separated from its grown sooth and taken away or unearthed. This process is called Kapun in local terms. The process wherein the ginger part being planted previously will be taken and separated from its smooth, unearthed, and sold to market. When the grown ginger sooth reaches maturity or after 1 year, it will be harvested and ready for market and public consumption.

2. Changes Perceived of the Ifugao Farmers

Table 2

Changes Perceived on the Traditional Knowledge, Tools, and Agricultural Practices

Codes	Theme	Key Statement	Thematic Description
Al-o and Alsong	Agricultural Tools	"Most of them use rice mills now, because our children, your generation, do they still want to do that? No, right?"	The agricultural tools that the Ifugao farmers used before the introduction of modernization.
Asad		"Back then, we practiced asad but due to modernization, we have now what we call planteria or seed gun."	
Bayanihan	Agricultural Practices	"Now, you need to have substantial capital because everything has become expensive."	The agricultural practices that are no longer practiced.
Baki	Rituals	"The people who know how to properly perform the ritual are already dead, so the prayers have changed."	The ritual of the Ifugao farmers before planting and when harvesting.

2.1. Changes Perceived

According to the results, the traditional milling of rice is done with the use of *Al-o* (Mortar) and *Alsong* (Pestle). They put the rice grains inside the *Alsong* and they will pound it using *Al-o*. This process is called *Bayo* in their local. On the other hand, Asad is a piece of wood that has a sharpened edge. The sharp, pointed tip of the wooden tool is utilized for the essential task of breaking up the soil, a crucial step in the process of land preparation known as tilling. The local name of this process is *Inyasad*. Examining *Al-o* and *Alsong,* and *Asad's* work makes it evident that a shift is taking place, as seen by the substitution of more modern machinery, such as rice mills and planteria, for outdated farming instruments. This change is a result of broader societal changes brought about by modernity as well as advancements in technology.

Furthermore, the Ifugao farmers explained how *Bayanihan* is being done back then and even gave an example. "Example si Kuya mo eh may ano siya, tanim siya tapos ako hindi kami mag-asawa or ano ah magkapitbahay. Nung nagpaani siya, pumunta ako; nagpaani naman ako, pumunta siya." (My husband, for example, has a farm, but we are neither married nor neighbors. When he harvests his crops, I go to help: When I harvests mine, he comes to help.). The depiction of the *Bayanihan* theme makes clear the economic challenges associated with this change, as modernization necessitates a substantial capital investment that puts strain on traditional agricultural livelihoods.

Baki is a ritual that is led by a *mumbaki*, a native shaman for a bountiful harvest (Royeca & Molina, 2019). *Baki's* name also draws attention to a significant part of this cultural change, which is the gradual loss of traditional knowledge and rituals. As older generations become less adept at performing rituals, prayers and ceremonies undergo modifications.

2.2. Adaptation in Changes Perceived

The results revealed that in the agricultural landscape of Ifugao, traditional practices are

undergoing significant adaptation in response to modernization. Traditional tools like *Al-o* and *Alsong* are being replaced by rice mills, while manual methods like *Asad* are giving way to more efficient techniques such as the planteria or seed gun. The communal ethos of Bayanihan is fading as economic pressures drive individualistic approaches necessitating a more individualistic approach to farming. The proper way of performing Baki rituals is diminishing due to a declining knowledge base. In the face of these transformative dynamics, the Ifugao people demonstrate resilience and adaptability, navigating the delicate balance between tradition and progress. As the landscape of agricultural practices continues to evolve, the preservation of indigenous knowledge alongside the integration of modern technology emerges as a pivotal consideration for the sustainable development of Ifugao's agricultural heritage.

CONCLUSIONS

The Ifugao people are renowned for their skill in safeguarding rich cultures and heritage, evident in their contemporary lifestyle. Despite the influences of technology and the rapid evolution of society, they steadfastly maintain their indigenous customs and traditional practices to uphold their cherished traditions. While the gradual erosion of certain local customs is inevitable in a society undergoing constant progress and change, many Ifugao individuals remain resolute in their commitment to preserving these traditions. They achieve this by imparting and teaching them to their descendants, viewing this as the most effective means of safeguarding their cultural legacy.

RECOMMENDATIONS

The Ifugao people cultivate their native rice varieties, known for their sensitivity compared to introduced ones. In the near future, indigenous communities must address uncertainties by drawing on both traditional knowledge and scientific insights. This approach is crucial for developing ecosystem-focused adaptation strategies, strengthening the resilience of their rice farming system against challenges like pest management, drought, and food insecurity and changes perceived for a sustainable crop system for the Ifugao farmers.

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ACKNOWLEDGEMENTS

We would like to express our sincere gratitude to God for giving us the courage, insight, and direction to complete this study. His heavenly presence has been a source of inspiration and peace and has shaped both the process and results of this endeavour.

Our gratitude also goes to our parents for their financial assistance and cooperative efforts, which greatly expanded the scope and depth of our research.

We would also like to express our sincere gratitude to Governor Dax Cua and the Provincial Capitol for their generous financial support, which made this research possible. Their commitment to advancing knowledge and promoting academic endeavors is deeply appreciated.

We would like to extend a special thanks to National Commission of Indigenous People (NCIP) for giving us the permission to conduct with their guidance and expertise. Special thanks are also extended to the barangay communities of Ifugao Village for their committed help with data collection, analysis, and discussions, which significantly enhanced our overall study experience.

We also thank our family and friends for their steadfast support and patience during the challenging aspects of this research.

Lastly, we want to express our appreciation to all the study participants for their time, willingness, and insightful contributions that made this research possible.

With God at the centre, this endeavour serves as a testament to the cooperation and support of these individuals and organizations as a whole.

AUTHORS' PROFILE

Michael John M. Ignacio, a grade 12 student, embraced the STEM (science, technology, engineering, and mathematics) strand, and showed dedication and enthusiasm in exploring and preserving the traditional practices of Ifugao farmers.

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Rona Marie A. Domingo, a grade 12 student at Quirino General High School with a focus on STEM (science, technology, engineering, and mathematics), aspires to preserve and promote Ifugao's indigenous knowledge as a part of the indigenous community.

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