

Indigenous Practices and Beliefs of Rice Farmers in the Second District of Capiz, Philippines

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ABSTRACT

People of a long time ago lived in harmony with nature. Because of their dependency on environment and intimacy to nature, they have come up with a set of beliefs and traditions that becomes the basis of modern rice farming practices. This descriptive study aimed to investigate and document the indigenous practices and beliefs of rice farmers in the second district of Capiz, Philippines. Using the researcher's made questionnaire and interview schedule, data were gathered from 59 rice farmers. Findings revealed that the majority of the respondents were in their middle age (45-57 years old) and were high school undergraduate. Before planting rice, farmers perform *Bungad* (planting rice and lemongrass in the corner of the rice field facing east). In planting rice, farmers assure that their stomach is full, the sea is in high tide, and the moon is in progress to full moon. Another is *Gabuo* (throwing sliced turmeric while walking around the ripe grains for three consecutive afternoons) to drive away evil spirits. After harvesting, farmers perform *pamutang butang* or thanksgiving by offering a portion of their best yield to someone they believe mystic. Local farmers utilize mouse traps, dead animals, and plastic strips to get rid of rat, mole cricket, rice bugs, and birds (Maya), respectively. Indigenous practices and beliefs of farmers were based from their forefathers and from their personal observations

and experiences. It is recommended that concerned agencies must document farmers' indigenous beliefs and practices. Lastly, they are encouraged to conduct an awareness seminar concerning the scientific basis of their indigenous practices and beliefs.

Keywords — Education, indigenous practices, beliefs, rice farmers, descriptive study, Capiz, Philippines

INTRODUCTION

Indigenous practices of people are important roots in the advancement of modern technology. However, the fast-growing achievements in technology that make the life of man easy and his work fast had put the indigenous practices and beliefs in extinction. Karin & Jun (2002) stressed that indigenous or local knowledge refers to a complete body of knowledge, know-how, and practices maintained and developed by peoples, generally in rural areas, who have extended histories of interaction with the natural environment.

Peoples with indigenous and traditional knowledge have a deep understanding of and great connections to nature. Their cultural practices and respect for nature greatly contribute to maintain and protect the delicate condition of the earth. Thus, indigenous people, regardless of their boundaries, must have no disagreements on how to employ their own culture based practices. Further, they should be acknowledged as authentic and perfect stewards in the development and preservation of their territories and properties. (Beltran, 2000).

Indigenous knowledge is a local knowledge— knowledge that is unique to a given culture or society. According to Hiwasaki, Luna, and Syamsidik (2014), local and indigenous knowledge has been developed by people through their intimate connections to nature for a long time. Their daily experiences and observations within the environment become the basis in harmonizing their activities to the condition of nature and a strong foundation in making decisions for their everyday undertakings.

Rice is one of the world's most widely eaten and most productive cereals. Over the past decade archaeobotanical research based at the UCL (University College London) Institute of Archaeology and involving a wide range of collaborators in east, south, and southeast Asia has been seeking new insights into the processes by which rice evolved and rice cultivation systems evolved, and how these relate to cultural change and long-distance cultural relationships across

Monsoon Asia (Fuller, Harvey and Qin 2007).

In Southwest Asia, one of the earliest centers of origin worldwide, the transition to food production is commonly portrayed as a macroevolutionary process from hunter-gatherer through to cultivator-forager and farming stages. Recently published articles and commentaries have pointed out the limited explanatory power of such universal theories of agricultural origins: their key expectations are increasingly constrained by a diverse empirical record, containing multiple and often competing sources of evidence that does not permit establishing the primacy of cause (Zeder, 2009).

Farmers' accumulated experiences through their constant connection with the environment and observed condition of seasonal change through centuries without external inputs, funds, and modern scientific knowledge have developed locally-adapted and varied farming schemes that aided them to adjust to the diverse environment (Tella, 2007). In China, there are probably 75 million rice farmers practicing farming methods similar to those used more than 1,000 years ago. Furthermore, generations of farmers in Malaysia have established a complex and diverse farming system through creative combinations of methods and practices that result to community food security and conservation of natural resources and biodiversity (Altieri and Koohafkan, 2008)

People of Southeast Asia give honor to their ancestors' festivals and practices from planting to harvesting rice, Asia's staple food. For instance, Hindu's thanksgiving festival called 'Pongal' is dedicated to gods of sun and rain. In Iriga City, Philippines, 'Tinagba' festival is celebrated for bountiful yield. It is at the same time with the Feast of Our Lady of Lourdes highlighting the parade of colorful floats. Likewise, in Malaysia and Brunei, a World Festival is celebrated together with Thailand, Indonesia, and Philippines. The entire celebration involves food festivals, local community songs, and traditional stories, parade, matches games concluding with Miss World Harvest contest. The celebration does not only depict both ethnic traditions and contemporary aspirations but also provides a captivating balance of deep-rooted traditions and modern practices of Sarawak inhabitants. In Cambodia, the Festival Water and Full Moon Salutation are celebrated in relation to farming, such as predicting rainfall distribution for the year. Royal Ploughing Ceremony is also an ancient royal rite held in Cambodia and Thailand to mark the traditional beginning of the rice-growing season. A harvest festival is known as 'Boun Bang Fai' in Laos or 'Bun Bang Fai' in Thailand, or a 'rocket festival' is performed to call the supernatural powers to provide abundant rain for the next planting season and to celebrate fertility. The

colorful rockets are paraded to the presentation place before being fired to ask the gods of rain for a good harvest, free from drought, floods, and pests. Finally, Myanmar inhabitants celebrate their winter harvest festival, 'Htamane Pwe,' by bringing all kinds of fruits such as rice, peanuts, coconuts, ginger, and sesame and mix it in a big wok to prepare a sticky glutinous form of those ingredients. The first batches of the dish are offered to Buddha (ASEAN Tourism, 2014).

In Malaysia, the highly respected rice spirit 'Bambaazon' is offered a number of rice farming rituals to commemorate her kindness. The ritual is likewise believed to stabilize the relationship between seen and unseen world resulted in human beings and spirits live in balance. For 'Kadazan' community, rice and spirits are very sacred and important tools of the formation of ethnic uniqueness. Rice is very dominant in life and in the formation of a traditional community social system (Hussin, 2008).

Indigenous knowledge is fading before our very eyes and now lies on the confines of the memories of old-age people who live in remote rural areas (Bañares, 2007). Unlike technologies that may come and go, indigenous knowledge has been proven effective through time and experience. Studying indigenous knowledge will open up opportunities in finding solutions to address the problems faced in agricultural farming that modern technology has failed to address (Santos n.d.) Farmers' Indigenous Knowledge (IK) and scientists' technical knowledge should not be regarded as different from one another; rather, they should be unified to lessen the gaps between farmers and researches.

The present study is based on the concept that what makes man happy are the ideals promoted by almost every ethical tradition known: belonging to a community, enjoying good health, sharing, loving, and being loved, having access to nature, and making a meaningful contribution. This notion evokes sustainability in a world threatened by food insecurity and unsustainable development (poverty and environmental crisis). Today, the knowledge of the indigenous people is threatened to vanish due to modern knowledge systems.

The significance of the present study lies in documenting and therefore protecting indigenous knowledge from extinction. This is because most of the indigenous traditional knowledge is undocumented and only available orally or in the memory of the group of people in the community. In the second district of Capiz, many farmers have a common ritual, tradition, and beliefs, specifically in planting and harvesting rice. However, it was observed that there was no known attempt to document such. If ever there is, the researcher believes that it should be supplemented in which the present study may contribute a lot to this.

OBJECTIVE OF THE STUDY

This study was conducted purposely to investigate the different beliefs and practices of rice farmers in the second district of Capiz, Philippines. Specifically, it sought to: determine the profile of the participants in terms of age, educational attainment and number of years farming; determine the indigenous practices and beliefs of the respondents before, during planting and after harvesting the rice; identify the different indigenous practices of the participants to drive away the pests in their rice fields; find out the basis of their indigenous farming practices and beliefs.

METHODOLOGY

Research Design

This study employed a descriptive method of research. However, there is some portion of the study in which historical research was employed. It was in part wherein the researcher gathered information on the sources of respondents' indigenous practices and when she recorded the indigenous farming-related materials which were left in the respondents' possession.

Research Site

The data of the study were gathered from the farmers in the municipalities of the second district of Capiz. These towns are Sigma, Dao, Cuartero, Dumarao, Dumalag, Tapaz, Jamindan Mambua, Sapián, and Ivisan.

Participants

The participants of the study were the 59 farmers who were 35 years old and above and were residents of the towns of the second district of Capiz. They were chosen as participants because they were identified in the preliminary queries that were practicing indigenous farming. Thus, they could provide the information required to accomplish the research objectives of the study. Some of them were interviewed in their houses while some on their farm while taking a rest.

Instrumentation

The study employed purposive sampling, which is one of the non-probability samplings. A purposive sample, also commonly called a judgmental sample (Crossman, 2018). It is chosen to be utilized in this study because the identified participants were those who have been practicing indigenous knowledge in rice farming. The participants' characteristics were set by the researcher. Participants interviewed were really farmers who were identified through their looks and by prior checking of their backgrounds from their neighbors and close friends.

An interview schedule was used to gather the needed data. The research-instrument was adopted from the questionnaire of Dlamini (2007), which he used in his study entitled Investigation of Sustainable Indigenous Agricultural Practices: A Systems Approach. However, some items were revised, and others were not included because they were not applicable to the present study. The researcher added some items to suit the objective of the study. Prior to the conduct of the study, the instrument was shown to the technical committee of Research and Development (R&D) for face and content validation.

Data gathering Procedure

In gathering the needed data, the researcher asked her friends and relatives to help and accompany her during the interview of the target participants. In every household, one participant was interviewed. The length of the interview varies from one respondent to another, for it depends on how they respond to the questions asked. The prepared interview schedule was in English; however, it was translated into the respondents' tongue language to ensure that they really understand what is asked, so that correct and valid data are obtained.

Prior to the actual interview of the respondents, the researcher presented to them a research-informed consent stipulating the following: the purpose of the study, procedures, risks, confidentiality, benefits, and statement of consent. Likewise, it was explained to them that the information they will give would be held confidential and will be used in the study only. The researcher assured that participants' questions regarding the study were all answered. After an honest conversation with the farmers, their willingness, and voluntary responses to the interview schedule were requested. The data gathering was finished for two months.

Ethics Protocol

The request letter for ethical clearance and research-informed consent for the participants were submitted to the Ethical Committee of the University for their perusal and evaluation. After a few discussions and inputs, the committee approved the request and informed the researcher to proceed in the conduct of the study.

Statistical tools Used

The statistical tools used to interpret the needed data were the frequency count, percentage, and ranking. The frequency count was used to determine the number of participants who responded to the items in the interview schedule. The percentage was used to find out the ratio of the participants who responded to the items in terms of age, educational attainment, number of years farming, and the basis of indigenous practices. Lastly, the ranking was used to determine the most practiced beliefs before planting, during planting, and after harvesting rice.

RESULTS AND DISCUSSION

Age

Data in *Figure 1* obviously reflects that the majority of farmers in the second district of Capiz, Philippines are 45-57 years old. Also, more than $\frac{1}{4}$ (27%) are 58-70 years old. While 19% are 33-44 years old. Few (5%) are below 32 years, and 13% are 71 years old and above. Noticeably, although most farmers are on their middle age, there are still old farmers tilling the farm. This indicates that rice is very significant to them. It is their life. Thus, regardless of their age, they will continue farming as long as they are able and have the strength to cultivate the rice land. Moreover, there is a minimal number of young farmers. This could be due to the fact that after finishing a degree, young generations explore for a greener future away from their place. Also, if there are guaranteed opportunities for reaching their dreams in other places, they will prioritize it over-farming.

This is supported by the Humanitarian Newsletter article (2013), stressing that “the average age of the Filipino farmer is 57. Moreover, in collaboration with the University of the Philippines Los Baños-Agricultural Mechanization Development Program (UPLB-AMDP), PhilMech’s study in 2014 reveals that farmer is above 40 years old. This indicates that younger generations are not anymore involved and interested in farming endeavors. Asterio Saliot, director

of the Department of Agriculture - Agricultural Training Institute (DA-ATI) said,” assuming an average life span of 70, we might reach a critical [shortage] of farmers in just 15 years. “This is an alarming situation because if the present farmers are no longer able to tilt the farmland, nobody will replace them. This could mean food shortage and insecurity among Filipino people.

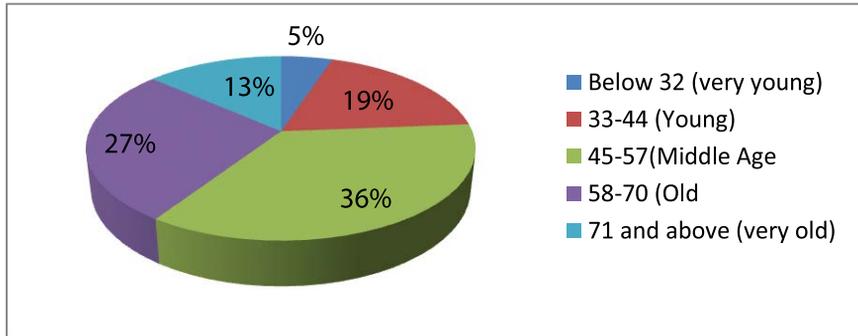


Figure 1. Respondents' Age

Educational Attainment

Results reveal that out of the 59 respondents 10 (17%) are elementary undergraduate, 6 (10%) are elementary graduate, 26 (44%) are high school undergraduate, 9 (15%) are high school graduate, 5 (9 %) are college undergraduate, and 3 (5%) are college graduate. Findings show that nearly half of the respondents are high school undergraduate, and only a few had reached college and finished a degree. This indicates the majority of the interviewed farmers have not finished formal education, thereby have insufficient knowledge of modern farming technology. This suggests that they practiced what they learned from their ancestors and from their experiences, which they believed more effective in handling their farm. The result of the present study does not conform to the study of Ramos, Gallibu & Tindowen (n.d.), wherein they reported that half of the farmers of the Tuguegarao City, Cagayan are elementary undergraduate. However, Tolentino (2015) said that there is an increased number of high school and college graduates among younger farmers. This means that in some parts of the country, there are young farmers who are giving priority to their education. It is not impossible because of the program of the government that no Filipino should be left behind in terms of availing education.

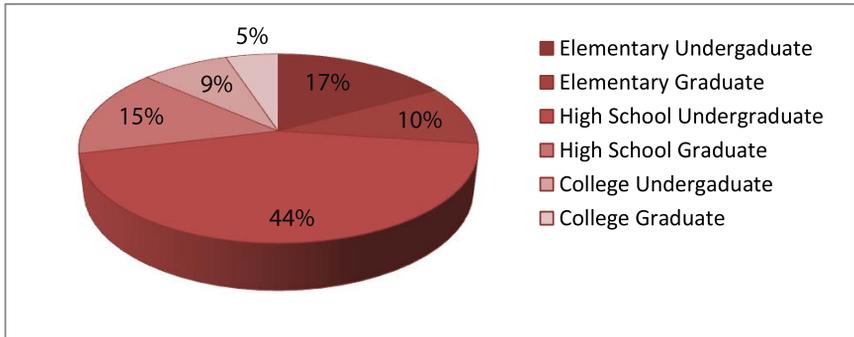


Figure 2. Respondents' Educational Attainment

Number of Years Farming

Data reveal that out of 59 participants, 10 (17%) are farming for 12 years and below. Moreover, 13 (22 %) are farming for 13 -21 years. Nineteen (32%) are farming for 22-31 years. Results also show that 8 (14 %) are farming for 32 -40 years, and 9 (15%) are farming for more than 41 years. This indicates that the majority of the participants have been farming for 2 to 3 decades. This length of time contributes greatly to farmers' understanding of the most conventional farming practices through their observations and experiences. Similarly, Ramos, Gallibu, and Tindowen (2015), in their study "Rice Farming Methods, Tools, and Indigenous Practices and Beliefs of Itawes Farmers of Tuguegarao City" found out that participants indulged in rice farming for 31 to 40 years with an average mean year of 31. It implies that those rice farmers in Capiz and in Tuguegarao City and most likely in the entire Philippines are farming since they were teenagers considering the previous data that the ages of farmers are ranging from 40-57.

Indigenous Practices and Beliefs before Planting Rice of Rice Farmers

The result of the study reveals that before planting rice, farmers perform a '*bunggad*' by planting banana, lemon, and turmeric in the corner of the rice field while asking god's blessing and protection for them and for the rice they are planting. Likewise, they ensure that they are not hungry. Further, they see to it that the sea is in high tide, the moon is in its first quarter to the full moon. Praying and doing rituals are significant beliefs of farmers. They believed that practicing these all will result in a bountiful harvest. These practices suggest various meanings in the lives of farmers. They sense that they have a strong

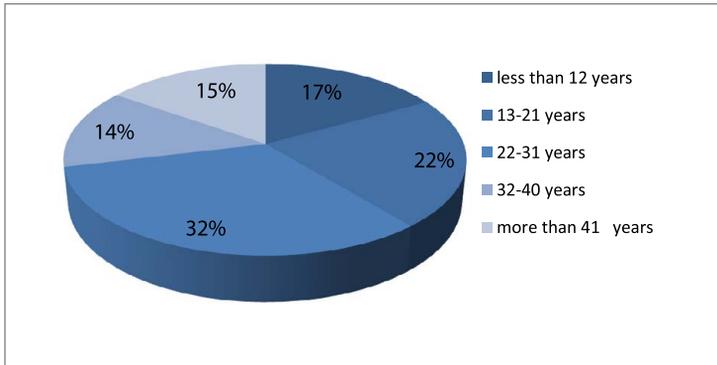


Figure 3. Number of Years Farming

connection with other creatures in nature that help and safeguard their rice and crops. One of the farmers interviewed said, “activities and works we do on the farm are in harmony with nature in order to have a good harvest.” Sodusta (1993), as cited by Mantikayan & Abas (2015), emphasized that agricultural rituals performed by farmers include holy symbols that express feelings and supernatural conceptions. She further clarified that “symbol” is an object, action, happening, feature, or assembly which function as a vehicle for conception.” The farming rituals of the Maguindanawn are observed to be heavily associated with superstitions and traditional beliefs. Before planting rice, farmers call the name of the morning star (*Balatik*), *malal* (*crack*), prominent people, and angels. They are invoked by *apu-napalay* before the actual planting of rice.

Table 1. Indigenous Practices and Beliefs before Planting Rice of Farmers in the Second District of Capiz, Philippines

Indigenous Practices before Planting Rice	Total	Ranking
Bungad -(<i>Planting rice and lemon grass in the part of the rice field facing the sun</i>)	42	1
Planting rice should not be done if one hungry	20	2
Saying a prayer before planting rice	15	3
Planting rice should be done during high tide and the moon is in the first quarter to the full moon	12	4
No practices and rituals	4	6

Indigenous Practices and Beliefs During and After Harvesting Rice of Rice Farmers

Results show that the most common farmers' indigenous practices before and during harvesting rice are erecting a cross wrapped with black fabric facing east and *gabuo*- walking and throwing sliced turmeric around the ripe grains to be harvested for three consecutive afternoons. They believed that this drives away the evil spirit that may have some unpleasant effect or who might snatch their harvest. This is also one way of asking for guidance and protection from God. After harvesting rice, they practice *pamutang butang*. They cook their best harvest, including their poultry, root crops, fruits, and vegetables. A portion of these is offered at the altar as thanksgiving for what they gained from their farm. After the ritual, the owner of the farm and the harvesters sing, dance, and drink together in celebration for what they harvest. After months of waiting for harvest season, farmers also have happy social interaction with their group, friends, and family members. It manifests that as social beings, farmers need relaxation, pleasure, and rewards for the tiredness and difficulties they are through in tilling their farm. Congruently, Ramos et al. (2015) reported that farmers in Tuguegarao City use native chicken as one of the offerings before planting to honor the gods or spirits and after harvesting for their thanksgiving. Some of the *Itawes* rice farmers offer only the blood, but others offer either of the head, organs, or feet of the chicken, while some combine the sautéed head, feet, organs, and blood for *tunnag* (offering). The organs of the chicken symbolize the good production of grains. Interestingly, farmers in Maguindanawn are also conducting farming rituals for prosperous production. However, they have a different way of doing it. They call the name of the stars, angels, famed individuals, and others prior to rice planting. Accordingly, rituals among Maguindanawn farmers are done to have abundant crop and rice yields. They believed that rituals, if done properly and with sincerity, will result in a good harvest and would last long for consumption than those without appropriate rituals (Mantikayan & Abas, 2015).

Table 2. Indigenous Practices and Beliefs During and After Harvesting Rice of Farmers in the Second District of Capiz, Philippines

Practices	Number	Ranking
Wrapping a cross with black fabric and erecting it facing east at the corner of rice field	17	4
<i>Gabuo</i> (walking and throwing sliced turmeric around the rice field for three consecutive afternoons)	39	1
<i>Pamutang butang</i> (cooking and offering their best harvest as thanksgiving)	30	2
Drinking and Dancing (Celebration)	10	4

Indigenous Practices of Rice Farmers in Getting Rid of Pests in their Rice Field

The results of the study reveal that farmers use a mouse trap to get rid of the rats. **Suhong** (mole cricket) and **Tayangaw** (rice bug) are controlled by erecting a **bagakay** (*Gigantochloa levis* (Blanco) Merr.), a bamboo specie, with dead animals on top. The foul odor prevents insects from staying in the field. Further, colorful plastic strips are hanged across the rice field. When blown by the wind, hanging plastic strips move and gleam, causing the flock of **Maya** to fly away. This manifests that local farmers have amusing initiatives in utilizing the resources in their environment to protect their farm from pests. In India, Majumder, Deka, Pujare & Das (2013) reported that *Gundhi* bugs are repelled by rotten smell emitted from frog and toads hanged in the field during panicle initiation stage. Kumar, Lassaad, and Chhetry (2009) explained that the use of plants and animal parts and products are the important components of indigenous knowledge in the management of pests and diseases of crops in the jhum system. Indigenous farmers of the region also possessed rich traditional ecological knowledge such as growing location-specific nitrogen-fixing trees such as *Alnus nepalensis*, *Flemingia vestita* sparsely for enrichment of soil fertility keeping tree boles /trunk and erecting /pegging wooden structures amidst jhum/terrace fields for facilitating perching of birds which prey on harmful crop pest, recycling of jhum based waste products for the management of crops.

Table 3. Indigenous Practices of Farmers in Getting Rid Of Pests in Their Rice Field

Type of Pest	Practices/ Indigenous tools used
Rat	<i>Lagpit</i> or mouse trap
Tayangao (rice bugs)	Putting <i>bagakay</i> with a dead animal on the top
Suhong (mole cricket)	Putting the tabun-ak in the middle of the rice field.
Maya (Birds)	Hanging colorful plastics around the rice to be harvested

Basis of Indigenous Practices of Respondents

The result of the study reveals that 40 (68%) of the respondents based their traditional practices from their grandparents, while 19 (32%) based on their own observations. It is perceptible that local farmers have high regard for their ancestors' own way of farming. In the same way, there keen observations of occurrences in their farm for years gave them diverse knowledge and technique on how to balance their farming activities to the condition of the environment. Farmers embrace these traditional practices because of their discernable effects and nature-friendly characteristic. Kumar, Lassaad, and Chhetry (2009) explained that indigenous knowledge had been tested using trial and error for a long period of time through generations by word of mouth, actions, or even practiced by the elders of the family and society. They are the key and custodians of the traditional knowledge to make correct decisions to overcome the adverse situations of their immediate environment. The indigenous traditional knowledge is based on locally available resources without external inputs. Eco-friendly manipulation of their immediate environment, judicious application of plant and animal products either in raw or simple processed forms are important components of the indigenous knowledge system.

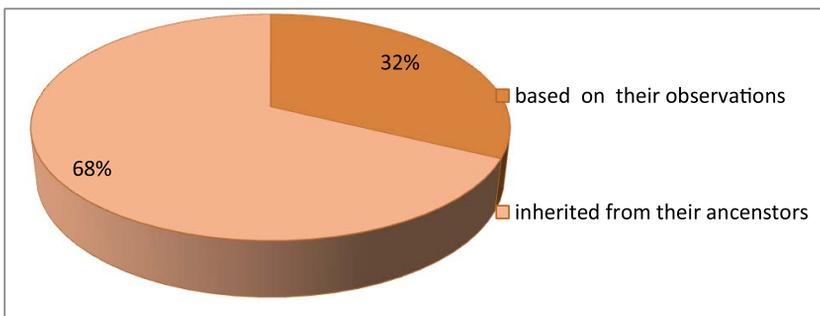


Figure 4. Bases of Indigenous Practices of Respondents

CONCLUSIONS

Based on the findings of the study, it is concluded that although the majority of the farmers in the second district of Capiz, Philippines are 45-57 years old, there are still 71 years old and above who are engaging in farming. Further, the majority of them are high school undergraduate and elementary undergraduate. Consequently, those who are cultivating the farm have not obtained a degree. Moreover, farmers have been farming since they were teenagers considering that the majority of them are 45-57 years old.

Farmers perform rituals prior to the planting of rice. They have a strong belief that rice fields should be cleared from evil spirits. Moreover, they should invite the gods' presence to bless and protect them in their undertaking. They likewise believed that sturdy rice grains and good harvest are achieved when their activities are in balance with the condition of nature.

Before harvesting, farmers' drive away evil spirits that might steal their harvest by throwing sliced turmeric around the ripe grains for three consecutive afternoons. After harvesting, they cook and offer their best harvest, including their poultry as thanksgiving. Finally, they celebrate together by dancing, singing, and drinking. The gatherings create healthy social interaction and cooperation among them. This is very vital in strengthening society's life.

Local farmers have amusing initiatives in utilizing the resources in their environment to protect their farm from pests such as rats, rice bugs, mole crickets and birds (Maya). Finally, it is concluded that since most farmers have not finished formal education, they hold on to the practices and beliefs they inherited from their forefathers and to their personal observations and experiences, which have been confirmed by the time as to their effectiveness.

TRANSLATIONAL RESEARCH

The findings of the study could be best translated to Information, Education, and Communication (IEC) materials with is potential material in classroom instruction and as a reference to a research study. Content of the material may be disseminated and forwarded to Department of Tourism (DOT), Department of Agriculture (DA) and Department of Science and Technology (DOST) for validation and possible inputs specifically for a comprehensive scientific explanation of the indigenous practices and beliefs of rice farmers which are not covered by the study.

RECOMMENDATIONS

Concerned agencies are encouraged to document other indigenous traditions and cultures of their respective provinces. Moreover, a program may be designed aimed to explain to the farmers the scientific basis of their practices and beliefs. However, since they are the originator of the indigenous traditions, high regard for them may be extended. Finally, other researchers who are interested in conducting the same study are recommended to include other variables that are not included in the study.

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LITERATURE CITED

- Altieri, M. A., & Koohafkan, P. (2008). *Enduring farms: climate change, smallholders and traditional farming communities* (Vol. 6). Penang: Third World Network (TWN). Retrieved from <http://bit.ly/2HudGzA>
- ASEAN Tourism (2014). South East Asia's Harvesting Festivals. Retrieved from <http://bit.ly/2V05MWE>
- Bañares, L. R. (2007). Exploring Bicol's Secret Frontier: Indigenous Knowledge in Environmental Conservation. *Unpublished master's thesis, University of the Philippines Los Baños, Los Baños, Philippines*. Retrieved from <http://bit.ly/37DmKg5>
- Beltran, J. (Ed.). (2000). *Indigenous and traditional peoples and protected areas: principles, guidelines and case studies* (Vol. 4). IUCN-The World Conservation Union. Retrieved from <http://bit.ly/2SEPIYR>

- Crossman, A. (2018). Understanding Purposive Sampling An Overview of the Method and its Application. Retrieved from <http://bit.ly/2XOuHvC>
- Fuller, D. Q., Harvey, E., & Qin, L. (2007). Presumed domestication? Evidence for wild rice cultivation and domestication in the fifth millennium BC of the Lower Yangtze region. *antiquity*, 81(312), 316-331. DOI: <http://dx.doi.org/10.1017/S0003598X0009520X>
- Hiwasaki, L., Luna, E., & Syamsidik, S. R. (2014). Local & indigenous knowledge for community resilience: Hydro-meteorological disaster risk reduction and climate change adaptation in coastal and small island communities. *Jakarta: UNESCO*, 60. Retrieved from <http://bit.ly/3bMh1GL>
- Hussin, H. (2008). Performing rice farming rituals by Penampang Kadazan of East Malaysia: Between sacred ritual and secular performance. *JATI-Journal of Southeast Asian Studies*, 13, 173-190. Retrieved from <https://jati.um.edu.my/article/view/6208>
- Kumar, G., Chhetry, N., & Belbahri, L. (2009). Indigenous pest and disease management practices in traditional farming systems in north east India. *J. Pl. Breed Crop Sci*, 3, 28-38. Retrieved from <http://bit.ly/2FoMalN>
- Majumder, D., Deka, S. N., Pujari, D., & Das, P. K. (2013). Traditional Knowledge adopted by the farmers for management of rice pests in North bank plain zone of Assam. Retrieved from <http://hdl.handle.net/123456789/22186>
- Mantikayan, S. M., & Abas, E. L. (2015). Traditional Rice Farming Ritual Practices of the Mangindanawn in Suthern Philippines. *American Journal of Agricultural and Forestry*, 3(6-1), 15-18. Retrieved from <http://bit.ly/2MZaori>
- Ramos, R. M. E., Gallibu, T. C., & Tindowen, D. J. C. Rice Farming Methods, Tools, And Indigenous Practices And Beliefs Of Itawes Farmers Of Tuguegarao City. Retrieved From <http://bit.ly/2QPi1S4>
- Santos, D. K. M. Expanding the Knowledge Base on Indigenous Practices through Student Action.

- Tella, R. D. (2007). Towards promotion and dissemination of indigenous knowledge: a case of NIRD. *The International Information & Library Review*, 39(3-4), 185-193. Retrieved from <https://doi.org/10.1080/10572317.2007.10762748>
- Tolentino, B. (2015). Rice farming in the Philippines: some facts and opportunities. *IRRI presentation at Asian Institute of Management*. Available at: policy.aim.edu/files/download/844.