

Safeguarding Indigenous Practices in the Family, Education, Agriculture, and Forest Conservation among the Ifugaos in the Philippines

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ABSTRACT

Background and Objectives: Indigenous Peoples (IPs) have a unique and vast wealth of traditional knowledge, practices, and beliefs. However, IPs from across the globe continue to experience discrimination, environmental destruction, deprivation, exploitation, and other problems. Therefore, this research aims to identify the extent to which indigenous knowledge has been practiced among the Ifugaos, specifically those who are parents of children at the elementary and high school levels. The study examines both past and present generations about the practice of indigenous knowledge in the areas of family, education, agriculture, and forest conservation. Consequently, the problems encountered by these parents in the promotion and preservation of indigenous practices were determined.

Methodology: The survey method was used and data were collected through a questionnaire. Descriptive statistics, such as mean, were utilized to determine the extent of the parents' indigenous practices in the areas of family, education, agriculture, and forest conservation. Significant differences in the use of indigenous practices between the past and present were accounted for by the use of the t-test.

Main Results: Findings revealed that the Ifugao families practice their indigenous marriage and parenting roles frequently in both the past and present. Children in the past often observed traditional practices, however children today only sometimes practice them. A decline in indigenous practices in education, agriculture, and forest conservation is evident today. Factors contributing to the abandonment of cultural traditions include diminishing family values, children's disinterest in education, fading traditional agricultural practices, and the denuding and destruction of forests.

Discussions: The Ifugaos are family oriented and concerned with maintaining relationships. At the same time, they would like to ensure that new couples are economically secure. Children help their parents and siblings perform agricultural tasks and rituals, which indicates they are values-oriented. However, there is a need to strengthen this orientation in order to preserve it. Parents now send their children away from home for school, unlike before. Indigenous agricultural and forest conservation practices are vanishing as the Ifugaos embrace the use of modernized farming technologies. Family problems, the disappearance of traditional agricultural practices, forest destruction, and the balding of mountains continues.

Conclusions: The Ifugao people live in harmony with the environment and have a profound cultural heritage. Their indigenous knowledge and practices have directly contributed to both biological and cultural preservation and promotion. Parents and children have distinct cultural roles to play in perpetuating the family. Education, which was a challenge in the past, has now become a priority for parents. Evidence of agricultural and forest conservation practices like the Ifugao Rice Terraces (IRT) and the ethnic *muyung* system showcase the best practices of the Ifugaos in conserving biodiversity, reforestation, and environmental protection. However, evidence suggests that indigenous practices among the Ifugaos in the areas of family, education, agriculture, and forest conservation have changed in recent generations. These practices have become threatened by social and economic changes, modernization and technology, and the dwindling interest of the younger generation. This implies there is a need to safeguard indigenous practices that are relevant to today's generation. Careful attention needs to be paid to the inclusion of traditional knowledge and practices in the elementary and secondary levels.

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Introduction

The world is home to diverse indigenous peoples (IPs). Every country with indigenous communities is home to a unique and vast wealth of traditional knowledge, practices, and beliefs that define their identities as a people. In the Philippines, 61% of the IPs are in Mindanao, 33% are in Northern Luzon, which includes the Cordillera Administrative Region (CAR), and 6% are distributed in various different provinces. Ifugao is one of the provinces in the CAR where IPs live. To create balance and justice, the Philippines recognized the rights and privileges of indigenous cultural minorities through the Philippine Constitution of 1987. Republic Act Number 8371, otherwise known as the Indigenous Peoples' Rights Act (IPRA), was signed into law and recognized the "rights to self-determination, ancestral domains, customary laws, self-determined development, and free, prior and informed consent" (NCIP, 1997, pp. 1-25). Ifugao is one of the provinces in the CAR whose residents generally consist of IPs. The Ifugaos possess indigenous knowledge which is described as "the body of local knowledge, technologies, crafts, beliefs, practices, institutions, and customs shaped and reshaped through generations of experience living within the Ifugao homeland" (Ngohayon et al., 2021, p. 4). The people in the community perpetuate their culture through the maintenance of gender roles and responsibilities. The aim of this study is to ascertain the extent to which the Indigenous Knowledge Systems and Practices (IKSPs) are being maintained and safeguarded for the next generation.

Indigenous communities possess a historical narrative, which speaks of their connection to the land in ways that make them distinct from other societies in the same territory. The World Bank states that IPs share common ancestral bonds to the land and natural resources where they have stayed or have been displaced from. They hold onto land and natural resources that they depend upon to make a living. Oftentimes, they adhere to customary leadership and organizations for representation that set them apart from mainstream society and culture. They usually have their own languages that are distinct from the official language or languages of the country or region in which they reside. The IPs have indigenous knowledge, which is also sometimes called traditional knowledge or aboriginal knowledge (Bruchac, 2014).

Studies reveal that many IPs experience the erosion of traditional knowledge and practices. This has become for them a primary concern. Indigenous peoples from across the globe continue to experience discrimination, lack of representation, environmental destruction and deprivation. Along with this they experience the exploitation and the abuse of their IKSPs which are being adulterated, copyrighted, and patented without their knowledge or permission. Socioeconomic and ecological changes, along with policies and developments, have affected indigenous communities in such a way that there is a need to promote and preserve indigenous knowledge. There is an increased loss of biodiversity, niches and local language, IK, and traditional environmental practices. Changes in the global market have influenced the depreciation of local subsistence practices and the way of life of the people (Wilder et al., 2016). Aboriginals are the first to experience the damage caused by climate change, deforestation, pollution, construction, and other developments (Jerez, 2021).

Indigenous Peoples have lost their traditional ecological knowledge (TEK) because of business and economic dealings where people have come to prefer factory-made goods or synthetics over that which is authentic (Godoy et al, 2005). TEK is a cumulative and dynamic body of knowledge, practices, and beliefs, which evolves by adaptive processes and is handed down through generations by cultural transmission. It is also a subset of indigenous knowledge generally defined as local knowledge of indigenous peoples unique to a given culture or society (Berkes, 2012). TEK is now found to be diminishing and there have thus been challenges with the implementation of indigenous programs. This has prompted the need to revisit policies, funding management, and organizational structures to carry out language and culture programs for students (Lowe et al., 2021). In Australia, the indigenous peoples experienced threats to

their first and second language educational programs and inter-generational culture transmission (Devlin, 2011). In the Philippines, the problems met by indigenous women include insufficient access to resources, education, and poor economic status (Gabriel et al., 2020).

Olaore and Drolet (2017) enumerated the beliefs and practices of Nigerian families which included the ceremonial naming of the child, the use of Oriki (which is their native praise poetry) and the care of the family members by significant others. The traditional agricultural practices of the locals are fundamental to sustaining biodiversity. Neglect of indigenous knowledge will therefore impact the livelihood of the people (Sharma et al., 2020). The indigenous knowledge systems of the Ifugaos are deteriorating because of many changes, including development projects and modern agricultural technology (Camacho et al., 2016). In years past, efforts have been made to recognize IPs (World Bank, 2023). Some of these efforts include the adoption of international instruments such as the United Nations Declaration on the Rights of Indigenous Peoples (UNRIP), Indigenous and Tribal Peoples Convention, and many others. The rights of IPs were also promoted through various institutional platforms. Despite these interventions to address the challenges of marginalized populations, numerous gaps remain unresolved. The call to action towards restoring, recognizing, empowering, reinstating, developing, compromising with, and dignifying the IPs is important.

Ifugao is famous for its spectacular, man-made, and stepped rice terraces. Eleven municipalities comprise the province including, Aguinardo, Alfonso Lista, Asipulo, Banaue, Hingyon, Hungduan, Kiangan, Lagawe, Lamut, Mayoyao and Tinoc. Four municipalities bounded by the magnificent rice terraces comprise the Globally Important Agricultural Heritage Systems (GIAHS) in Ifugao. The GIAHS in the Philippines are the Ifugao Rice Terraces (Nakamura & Edpalina, 2015). The GIAHS in Ifugao are Banaue, Hungduan, Kiangan and Mayoyao. This explains the rationale behind having the respondents of the study from the four municipalities, or GIAHS, in the province. Ifugao State University is a higher education institution acting as a catalyst for change in the province and is located in Lamut. Recognizing the pivotal role of agricultural heritage systems, the university established the GIAHS Department and assigned it a director. The GIAHS office is tasked with conducting research and providing extension services geared towards the conservation of the Ifugao Rice Terraces, facilitating cultural restoration, agricultural and biodiversity revitalization, and indigenous knowledge promotion and preservation.

It is clear from the preceding discussion that the IPs of the Philippines are experiencing environmental destruction, the loss of culture, as well as political and economic inequality. To address this, the government has put in place laws and procedures to recognize the significant roles of IPs. It is therefore vital to conduct this study and identify the IKSPs being practiced in the family, education, agriculture, and forest conservation that have disappeared, but still exist among the Ifugaos living in the GIAHS sites. The findings about the current state of indigenous practices among the Ifugaos will be used as a basis for enhancing the curriculum for elementary, secondary or basic, and higher education. Further, the IPs themselves will be empowered to sustain the richness of their culture amidst the complexity of the modern world regardless of where they are across the globe.

Research Questions

1. To what extent do parents of students at the elementary and secondary levels from the GIAHS sites practice indigenous knowledge in both the past and present within the following categories:
 - 1.1 Family
 - 1.1.1 Marriage and Parents
 - 1.1.2 Children

- 1.2 Education
- 1.3 Agriculture
- 1.4 Forest Conservation
2. Is there a difference between the parents' and children's practice of IKSP in the past and present day in terms of family, education, agriculture, and forest conservation?
3. What problems do the Ifugao parents of students at the elementary and high school levels currently encounter in the promotion and preservation of indigenous practices?

Method

The survey method was employed to collect data from Ifugao parents about indigenous practices related to family, education, agriculture, and forest conservation. Before they answered the questionnaire, respondents were asked to recall how their parents observed indigenous practices in the past. Likewise, they were asked to think of themselves now as parents. Inferences about generational change regarding the performance of indigenous practices were drawn from this data.

Respondents

In total, 160 parents of students at the elementary and secondary levels from the four GIAHS areas comprised the respondents. The respondents were from the GIAHS locations because the four sites represent the Ifugaos that have intricate relationships and experiences with the Ifugao Rice Terraces, agricultural landscapes, and forests that are covered in this research. Two-stage sampling was utilized in the study. The sampling involves dividing the population into groups based on their locations or sites. The sample populations were from the four GIAHS namely, Banaue, Hungduan, Kiangnan, and Mayoyao. To ensure representation, stratified sampling was used to allocate several samples by location. Forty equal samples were taken from each site. To identify respondents from each GIAHS site, purposive sampling was utilized. The following criteria were used to identify the respondents of the study. First, the respondents were required to be parents with children who are studying at the elementary or high school level. Second, the parents must be Ifugaos who are residents of the GIAHS municipalities. Third, they should be born on or before 1980, or aged 40 years old and above. The majority of the respondents were college graduates who belong to the Tuwali ethnic group, while the least number of respondents hailed from the Kalanguya tribe. It was not possible to engage more educated or not educated respondents face-to-face due to the pandemic restrictions in place at the time. The respondents were asked to identify to what extent in the past their parents observed different traditional practices when they were children. In the same manner, respondents were asked to evaluate how they as parents themselves now observe various indigenous practices.

Instrument

The researcher prepared the questionnaire based on Hangdaan (2020). Hangdaan was a mentee of the Center for Taiwan-Philippines Indigenous Knowledge, Local Knowledge, and Sustainable Studies (CTPILS) project. Various IKSP activities were conducted under this project and one of the activities is the conducting of IKSP research, including this study. The draft questionnaire was administered to 40 Ifugao instructors, professors and non-teaching personnel at IFSU. Items with low and extremely high reliability values were deleted or revised. After a reliability value of 0.83 was achieved, the questionnaires were distributed to the respondents. The questionnaires were distributed via Google Forms to the respondents from Banaue and Kiangnan, as they have reliable internet connectivity. Hard copy versions of the questionnaires were printed for the respondents from Hungduan and Mayoyao, as their only internet connection during the time of the study was either poor or nonexistent. The hard copies

were personally distributed by the researcher and staff of the GIAHS office at IFSU to those respondents with no internet access. After the printed questionnaires were distributed it took eight months (October 2020 to May 2021) for them to be retrieved due to pandemic restrictions. Of the two hundred questionnaires that were sent in both electronic and hard copy form to the parents, 160 (80%) were collected.

Data Analysis

Descriptive statistics such as mean, were used to determine the extent of indigenous practices among the parents coinciding with the four dimensions mentioned earlier. Significant differences were tested by way of a t-test, in order to determine the extent of the indigenous practices in both the past and present times. A 5-point Likert scale was used as follows: Always ($\bar{x} = 4.51-5.00$), oftentimes ($\bar{x} = 3.51-4.50$), sometimes ($\bar{x} = 2.51 - 3.50$), seldom ($\bar{x} = 1.51 - 2.50$), and never ($\bar{x} = 1.00-1.50$).

Findings and Discussions

Family

As shown in Table 1, according to the parents, the Ifugao families oftentimes practiced their indigenous marriage and parenting roles before ($\bar{x} = 4.21$) and at present ($\bar{x} = 3.72$). However, in regard to native marriage engagement, it was found that new couples go to their parents to seek permission and to figure out where to stay after the marriage is official. Moreover, the giving of property to the newlyweds and the observation of oral agreements and transactions were noted to be practiced at a lower level at present than in the past. What has always been observed in the past up to this time is the belief that children are treasured within the family and that parents give their blessings to their children.

Many marriage practices among the Ifugaos have stood the test of time and are generally still observed today, except for some aspects of these practices which have declined. While there are practices that are less common these days, it is noteworthy to highlight that the Ifugaos continue to treasure their children. This implies how much Ifugao parents value and love their children. Traditionally, the Ifugao family is patriarchal and starts with the betrothal rite, or an engagement. The ritual performed is locally termed *moma* or *imbango* or *hingot* or *kaihing* (Gonzales & Lannaon, 2009). The purpose of the betrothal rite is for the parents to agree that their children will marry, to strengthen family ties, to keep belongings and properties intact, and for the community to bear witness. Animals like pigs, chickens, or ducks are produced by the man for the engagement rite. The engagement allows the soon-to-be couple to have more time to get to know each other before their formal wedding is solemnized by a priest, a pastor, or a legal authority. The native engagement practice is slowly fading because new couples choose to go directly to the church or have a civil wedding without undergoing the costly betrothal rite. The reasons why the native engagement ceremony is costly is because the groom and his family must provide large sized pigs to be butchered and bottles of native rice wine called bayah for the ceremony. The number of pigs depends upon the municipality where the bride comes from. Customarily, the relatives of the bride-to-be are those who will gather for the ceremony but times have changed. Today, it has become a community endeavor, where all the people and villagers gather for a native engagement even without being invited. However merrier, this makes for a more expensive ordeal. The groom and his family are normally expected to provide upwards of 10 pigs for the wedding feast. The bride's family contributes by providing rice, wine, ingredients, and other incidentals. This is one huge reason why some couples today prefer to get married in the Western style, or they may choose to have a simple wedding. Couples these days decide on their own where to stay and need not ask permission from the parents. Currently, many Ifugaos are educated and understand that newly married couples cannot depend solely on inheritances from parents, especially if the parents cannot

afford it. Well-off parents still share hectares of rice fields or forest lands with the newlyweds, but children from poor families do not oblige their parents to give an inheritance or property. Both husband and wife perform their parental roles in raising their children. The early Ifugao families valued industry and fairness, which is why despite the absence of a system of writing, transactions and oral agreements were honored. An example of this is when a tenant verbally agrees to till and manage the rice fields of an owner. In return the owner agrees to give the tenant a share after harvest. The tenant fulfills his obligation to the rice field owner and vice versa. Today, written agreements and contracts are required for arrangements to be considered binding. The Ifugaos are concerned about how to maintain relationships while ensuring that new couples are economically secure. As parents age, they give their blessings through prayers to their offsprings. Children are values-oriented, although some need to be strengthened in areas like that of complying with verbal understandings to maintain mutual trust.

While the Ifugaos view engagement as an important preparation for marriage, it is also noteworthy to consider what Britzman and Sauerheber (2014) expressed, wherein respect, collaboration, and motivating one another are basic foundations upon which to base a marriage. Plopa et al. (2019) concluded that the understanding and experiences of engaged couples predicted satisfaction in their relationships. The findings present the importance of how parents and others influence the fundamental beliefs and values of children. Heinrich (2014) remarked that hardworking parents leave an impact upon and become mirrors for their children who will follow in their footsteps.

Table 1. Indigenous Practices in Marriage and Parenting among the Ifugaos in the Past and Present

Indicators	Past		Present	
	Mean	Description	Mean	Description
1. Engagement “ <i>moma</i> ” is practiced before marriage “ <i>intanig</i> ”.	3.91	O	2.98	S
2. The new couple goes to the house of the husband or wife before choosing where to stay after getting married.	3.61	O	3.26	S
3. Parents are obliged to give the new couple property like rice fields, houses, and animals.	3.94	O	3.31	S
4. The father is the head of the family and plays a major decision-making role.	4.44	O	3.93	O
5. The wife spends more time taking good care of the children, doing household chores while the husband goes to the field or to work.	4.24	O	3.54	O
6. The husband helps the wife in taking care of the children.	3.95	O	3.89	O
7. The children are treasured in the family.	4.84	A	4.84	A
8. Men and women value industry, fairness, honesty, and integrity.	4.56	A	4.23	O

Table 1. (Cont.)

Indicators	Past		Present	
	Mean	Description	Mean	Description
9. Oral agreements and transactions are entered into between parties in the absence of a system of writing and are observed and followed.	4.12	O	3.24	S
10. Parents give their blessings (<i>yabyab</i>) to their children, grandchildren, and relatives during the thanksgiving celebrations “Honga”.	4.45	O	3.96	O
Overall	4.21	O	3.72	O

*A= Always, O = Oftentimes, S = Sometimes

Table 2 depicts the local practices of children, both past and present. It is shown that children in the past oftentimes ($\bar{x} = 4.11$) observe the traditional practices, however a decline is evident. This indicates that children sometimes ($\bar{x} = 2.97$) do the indigenous practices. In the past, children oftentimes ($\bar{x} = 3.55$) slept in native house dormitories, but this is seldom ($\bar{x} = 1.66$) being practiced in the present. Girls oftentimes ($\bar{x} = 3.61$) recite indigenous ballads, and sing love songs and other native songs but this is seldom ($\bar{x} = 2.06$) being practiced at present. Even in regard to the wearing of indigenous attire, children sometimes ($\bar{x} = 3.49$) wore it in the past, but now, it is seldom ($\bar{x} = 2.31$) being worn by the children. What has remained in practice from the children of the past ($\bar{x} = 4.27$) with the children of the present ($\bar{x} = 3.61$) is that they do not often talk back to their parents.

Ifugao families with many children are usually preferred over those with fewer. This is because in the olden days, bigger clans maintained prestige that enabled them to either make demands or resist challenges. Children play significant roles in the perpetuation of cultural practices, but most of these practices are not strictly observed by the younger generation. What was oftentimes practiced in the past that remains in practice today, however, is that children obey and respect their parents. When children respect and obey their parents, the family can maintain harmonious relationships. This extends to not just the home, but to their communities, schools, and anywhere it is important to promote an environment of love, peace, and understanding. The study reveals that more cultural practices have changed. Practices that were always observed in the past, but are oftentimes being practiced now are the cultural provision of pigs to be butchered during the wake of a dead family member, and the practice of *bogwah*. Drinking and gambling was commonly observed during wakes in the past, but now gambling and drinking are prohibited. These changes were brought about by the teachings of the Catholic faith and other religious groups, where gambling and drunkenness are strongly discouraged. The mourners are instead encouraged to pray, sing, share stories, and spend quality time with each other during the wake. Many of the Ifugaos today have embraced this practice. One of the Ifugao's unique ways of honoring the dead is through the *bogwah*. This is the traditional ritual of the exhumation and cleaning of the bones and wrapping them with native cloth as a sign of respect and care for the dead family member. This practice is considered expensive because animals like pigs and carabaos are sacrificed during the period of the ritual. A native priest, or *Mumbaki*, performs the ritual. The butchered animals are cooked and served to those joining the wake. Some parts of the uncooked meat are shared with the relatives of the deceased as a sign of kinship. As many of the Ifugaos are Christianized today, the practice of *bogwah* with the native priest leading the ritual is gradually fading. The Ifugaos who practice *bogwah* nowadays still butcher pigs and carabaos, but it is the family members, relatives, friends, and

community members who gather to offer their prayers. This practice continues to strengthen family bonds and respect for the dead.

Among the traditional practices that have drastically changed include the recitation of indigenous ballads, chants and songs, and also the wearing of indigenous attire. Another practice that has changed is sleeping in the *agamang*. The *agamang* is similar to a separate dormitory or a sleeping place for teenagers. It is also a dwelling place for widows or unmarried persons, who provide guidance or care to the youth who sleep there. The *agamang* may also serve as venue for comfort ship (Alcayna et al., 2021).

The Ifugao families live together in an extended unit. This promotes strong family ties and a sense of shared responsibility at home, which carries over to the agricultural work and other tasks. Traditionally, the Ifugaos live in a native house called the *baleh* or *abung*. This is a simple one-room quarter that is made from indigenous timbers that are expertly fastened with mortise joints and tenons. All members of the family stay in the house; they cook, eat, and sleep together. When a native house cannot accommodate all the members of the family at night, the older children go and sleep at the *agamang*. Ifugao families now live in modernized homes so most of the children sleep at home and not in the *agamang*. Many of the Ifugaos have worked hard to improve their economic status, which has enabled them to construct towering concrete houses with rooms for their children. Unfortunately, the Ifugao rice terraces (which were carved by human hands and designated as a World Heritage Site) are now obstructed by big houses that blot the natural beauty of the terraces and the environment.

Indigenous practices such as dances, festivals, rituals, and artifacts which have been formative to the Ifugao way of life, are deteriorating. These cultural practices also require the use of traditional attire, especially during performances. One such ritual is called *honga*. The *honga* includes native dances, the singing of indigenous songs and the sharing of stories. Native attire is utilized and other activities are performed as well. Animals, such as pigs and chickens are offered during the *honga* (Gonzales & Lannaon, 2009). It is sad to note how striking the invisibility of these indigenous practices have become, as fewer platforms exist for their perpetuation. It was noted by the Department of Education and in higher education institutions in the Philippines that instructional materials on IKSP are very rare. At Ifugao State Univesity, indigenous educational materials are scarce and it was only recently that the inclusion of indigenous dances and the use of native attires formed part of the physical education programs. Other factors include the rare transfer of indigenous knowledge to the youth and the minimal (if any) inclusion of IKSP in the old curriculum. Maunganidze and Hlsall (2016) concluded that those knowledgeable about IKSPs have failed to share their expertise with others, contributing to the loss of traditional practices for younger generations. In India, women sing and perform agricultural rituals (Hazareesingh, 2021).

Table 2. Indigenous Practices of Children in the Past and Present

Indicators	Past		Present	
	Mean	Description	Mean	Description
1. Grown-up children sleep at the “ <i>agamang</i> ” (native house dormitory).	3.55	O	1.66	Se
2. Children do not talk back to their parents. They obey and respect their parents or elders.	4.27	O	3.61	O
3. Children help their parents in the rice field or kaingin (<i>habal/uma</i>).	4.26	O	2.74	S

Table 2. (Cont.)

Indicators	Past		Present	
	Mean	Description	Mean	Description
4. Girls take good care of their younger siblings, and also work in the rice fields/kaingin.	4.17	O	2.69	S
5. Boys gather firewood and do other works in the rice fields.	4.39	O	2.93	S
6. Girls recite indigenous ballads like the hudhud, love songs (<i>liwliwa</i>), and other native chants and songs.	3.61	O	2.06	Se
7. Children wear indigenous attire .	3.49	S	2.31	Se
8. Grown-up children perform traditional cultural rituals like thanksgiving “ <i>Honga</i> ” celebration for their parents.	4.12	O	3.19	S
9. When a parent dies, the children provide an appropriate number of pigs to be butchered during the wake.	4.70	A	4.45	O
10. Children practice the “ <i>bogwah</i> ”. “ <i>Bogwah</i> ” is a practice where the children provide pigs during the exhumation of the bones and are wrapped appropriately.	4.51	A	3.92	O
11. Children are highly valued and marital separation is likely should the couple not have offspring after a period of time.	4.14	O	3.08	S
Overall	4.11	O	2.97	S

*A = Always, O = Oftentimes, S = Sometimes, Se = Seldom

Education

It is reflected in Table 3, that in the past ($\bar{x} = 3.98$) and in the present ($\bar{x} = 2.90$), the Ifugaos have the same level of education. However, it is noteworthy that in the past ($\bar{x} = 3.98$) the parents oftentimes valued education, but at present ($\bar{x} = 4.66$), parents always value education. In the past ($\bar{x} = 3.22$), children were sometimes absent from school and helped their parents in the rice field. Presently, children are seldom ($\bar{x} = 1.84$) absent. Furthermore, to help the family (especially when parents are focused on working in the rice fields or doing other related jobs) children sometimes ($\bar{x} = 3.38$) bring their younger siblings with them to school, but this is seldom ($\bar{x} = 1.62$) being practiced now. Boys were sometimes ($\bar{x} = 3.48$) given priority by the parents to go to school over girls but today boys are seldom ($\bar{x} = 2.07$) given priority.

Education is a huge channel for change and development. The Ifugaos recognize that it is necessary to be educated. It is the natural responsibility of parents, especially the mother, to act as the first teacher at home. When a mother takes good care of her children, her teachings become instrumental in guiding them on their life journey. Children who are taught and cared for by their mothers mature to be caring, trustworthy, and morally upright. This is in addition to literacy and other skills taught by mothers at an early age. The Ifugao people value education, and strive to improve their living conditions. As a result, many have left their local environment

for urban or international locations (UNESCO, 2008). Ifugao is one of the poorest provinces in the country, being one of those with 4th class municipalites that have an average annual income of 52,000.00 to 86,000.00 USD. The economic status of the families affects how the children are educated. The literacy rate of Ifugao has shown little improvement (GMA news, 2007) and they also require more focused attention from the government to alleviate poverty and enhance the education. Before, parents encouraged their children to be involved in rice, camote, and vegetable production and let them be absent from school to care for younger siblings. Prioritizing education has now become the practice. Many Ifugao people are now professionals or entrepreneurs and are engaged in business, both at home and abroad. This implies the observance of gender equality in education, which is crucial for improving the knowledge, skills, and value of both men and women in the job market. The World Bank (2000) stated that the quality of education obtained as a child will likely determine whether they will obtain a higher education. How parents care for their children affects their behavior, relationships with people, and their academic performance (Aldhafri, 2020). The Ifugao people are not left behind in terms of education nowadays. In the Northern territories of Australia, more and more Indigenous students are finishing college courses (Street et al., 2018). Both men and women attend school equally unlike before, when boys were given preferential attention for education.

Table 3. Indigenous Practices in Education in the Past and Present

Indicators	Past		Present	
	Mean	Description	Mean	Description
1. The mother is the first teacher at home who educates the children.	4.35	O	4.29	O
2. Education of the children is valued by parents.	3.95	O	4.66	A
3. Children are absent from school during planting and harvesting time to help their parents do the work.	3.22	S	1.84	Se
4. Older children bring their younger siblings to school.	3.38	S	1.62	Se
5. Boys are given priority to go to school.	2.55	S	2.07	Se
Overall	3.48	S	2.90	S

*A= Always, O = Oftentimes, S = Sometimes, Se = Seldom

Agriculture

In Table 4, there is a decline in indigenous practices in agriculture from the past (\bar{x} = 4.40) which is visible today (\bar{x} = 3.08). What were oftentimes observed presently were the practices taking place during the preparation of the ricefields (\bar{x} = 4.70 to \bar{x} = 3.78) and the transplanting of seedlings by the women (\bar{x} = 4.57 to \bar{x} = 3.69). Those practices that are seldom carried out at present are the guarding of matured pannicles of rice from birds (\bar{x} = 4.26 to 2.26) and the catching of frogs, Japanese fish (yuyu), and other edible animals by the father of the family (\bar{x} = 3.91 to 2.47). All indicators show there is an extensive change in indigenous agricultural practices.

The Ifugaos put a premium on the rice fields because it is the main source of food and a symbol of wealth. The people are custodians of the rice terraces and the natural resources around them. Their relentless struggles for survival have fueled their creativity and determination, driving them to cultivate a landscape that evolved into the breathtaking wonders of the rice terraces. These rice terraces are a testament to their ingenuity and perseverance and

reflect the richness of their unique lifestyle. With the passing of time and the growth of technology, some think that traditional rice production is a backward practice. People are moving away from their agricultural practices.

Indigenous farming systems follow patterns and involve the management of land and water resources, as well as the use of natural energy in a socio-ecological interplay (Plieninger et al., 2006). The Ifugaos base their local rice cropping pattern on the seasons or period of the year (De Castro et al., 2021). The men do manual labor for land preparation before rice planting. With the advancement of technology, men these days prepare and repair destroyed dikes or parts of the rice fields with the use of machines. As soon as the seedlings are ready to be transplanted, the women do the transplanting while the men transport the bundled seedlings to the other rice fields. When rice grains appear, children engage in guarding the matured panicles and ward off birds, or *ahi-abul/ahi-adug*, from eating the spikelet. During this period, children are forced to be absent from school and do the manual work of driving birds away. Nowadays, children seldom do the work of warding off birds. The introduction of repellants being sprayed to manage the birds, the use of physical or visual deterrents, nets, and sound effects are all helpful in driving away birds instead of clinging to the old practice of letting the children manually guard the rice grains. When all work in the rice fields is done and the fields are planted, a ritual called *kulpi* is performed. The *ahi-kulpi* is performed to protect the planted rice from diseases. During rice farming and gardening, farmers use sunflower leaves, stems, and other plants as organic fertilizers. Indigenous plants were also used as pesticides to kill destructive insects and pests. While the Ifugaos have struggled to make the rugged mountains productive, they have embraced modernized farming technologies, which eventually resulted in the use of inorganic fertilizers. The introduction of new rice cultivars and modern agricultural technologies has changed the traditional agricultural practices and knowledge among the Ifugaos. Some farmers, however, prefer inorganic farming. This is because large quantities of organic materials are not needed. Additionally, preparation is time consuming and inorganic products are readily accessible. There are also marketing problems for organic products and difficulty in acquiring organic resources. Developments have also caused irreversible damage to the Ifugao land and its people. Guo et al. (2021) highlighted the need to partner with other organizations and establish a collective effort to preserve the terrace systems and to recognize local customs in policymaking. To continue to promote the preservation of beneficial agricultural practices, it will be fitting to include hands-on training on agricultural practices in relevant educational curricula. The research of Smeds et al. (2015) confirms that bringing learners to field will help develop their perspectives about the agricultural possibilities that exist.

Table 4. Indigenous Practices in Agriculture in the Past and Present

Indicators	Past		Present	
	Mean	Description	Mean	Description
1. Women spend more time in the rice fields during cleaning (<i>ahi-gabut</i>), planting (<i>ahi-bugge</i>), and harvesting (<i>ahi-ani</i>) seasons.	4.33	O	3.13	S
2. During harvest season, women reap the full-grown rice using the hand reaper (<i>gamulang</i>) or knife.	4.56	A	3.38	S
3. Men carry the harvested “ <i>palay</i> ” to the granary (<i>alang</i>) or house.	4.69	A	3.49	S

Table 4. (Cont.)

Indicators	Past		Present	
	Mean	Description	Mean	Description
4. During the preparation of rice fields, men prepare the terraces, repair the hills and eroded walls.	4.70	A	3.78	O
5. Women transplant rice seedlings as soon as the seedlings are ready for planting.	4.57	A	3.69	O
6. Parents and children work together in the rice field and kaingin.	4.23	O	2.68	S
7. Children engage in guarding the matured panicles of rice and ward off birds from eating the spikelets.	4.25	O	2.26	Se
8. During the rainy season, the father goes out at night to catch frogs, place traps to catch Japanese fish (<i>yuyu</i>) and other edible animals in the fields.	3.91	O	2.47	Se
9. Farmers use organic fertilizers (leaves, stems, etc.) in the ricefield/kaingin/garden.	4.36	O	2.80	S
Overall	4.40	O	3.08	S

*A = Always, O = Oftentimes, S = Sometimes, Se = Seldom

Forest conservation

Table 5 illustrates the remarkable diminishment of forest conservation practices between the past ($\bar{x} = 4.05$) and the present ($\bar{x} = 3.17$). The practice of conserving the forest, planting and replacing cut trees, and planting wood carving species has noticeably decreased. However, the unauthorized cutting of trees that was observed in the past ($\bar{x} = 4.07$) has decreased to what is being observed today ($\bar{x} = 3.63$).

Ifugao is bounded by beautiful towering mountains. The mountains are characterized by layers of canopies depicting a multi-storey agroforestry system (Gonzales et al., 2021). A typical example of a multi-storey agroforestry system in Ifugao is the *muyung* system. This could be family-owned *pinugo*, or communal woodlots which are similar to the tropical rain forest rich with biodiversity. The *muyung*, or forests, are sources of water, minerals, fertilizers for the paddies of the rice terraces, construction materials, and they also serve as erosion control (Butic & Ngidlo, 2003). The *muyung*, which also serves as protection, can be a combination of the settlement area, forest land, grassland, sudden farm (*uma*), and below are the ricefields (*payoh*). Despite the advantages derived from the ethnic *muyung* system, the *muyung* is not maintained as claimed by the respondents. Among the problems that are degrading the forests are the use of inorganic fertilizers and pesticides, modernized farming, and simply failure to take care of the *muyung*. Many of the Ifugaos choose to find greener pastures outside the province (Camacho et al., 2016). The mountains in Ifugao provide protection, wood, minerals, food, and regulate the climate. But on the other hand, the mountains are prone to erosion, landslides, and are agriculturally challenging. Thus, the people cannot produce more products and this contributes to lower income. Many Ifugaos left their localities in search of better sources of income. Infact, many Ifugaos prefer to buy hectares of land in the lowland and turned them into good sources of income. There are also professionals who searched for employment outside Ifugao because employment is scarce in the province. The women who usually help

protect and manage the *muyung* choose white-collar jobs. This is especially since many women already have an education. In addition to the thinning of forests, the family members who used to plant trees and replace cut trees are leaving the tradition unattended. For some parts of the forest that are still preserved, the trees are an excellent source of wood carving and sculpture. Ifugao sculpture exemplifies the talents of ethnic artists who express their thoughts, emotions, and way of life through excellent wood carvings even without undergoing formal education. Ifugao wood artworks range from sculptures, statues, and cultural symbols, to furniture and any manner of woodwork. This art is displayed not just locally, but internationally. While the fascinating wood carvings are excellent sources of income, the woodcarvers and residents have neglected the planting of new trees to replace the species which are cut for their woodwork. This has contributed to deforestation and the balding of the mountains. Thinning and destruction of forests result in biodiversity loss (Parrotta et al., 2016). As shown in the table, the traditional practice of unauthorized cutting of trees continues to be observed in the forest, contributing to conservation.

Table 5. Indigenous Practice on Forest Conservation in the Past and Present

Indicators	Past		Present	
	Mean	Description	Mean	Description
1. Men practice conservation and protection of the <i>muyung</i> or forest.	4.55	A	3.54	O
2. Women play significant roles in protecting and managing the forests.	3.69	O	2.92	S
3. Men, women, and children plant seedlings or replace cut trees and denuded/bare mountains are planted.	4.15	O	2.86	S
4. Unauthorized cutting of trees is observed.	4.07	O	3.63	O
5. Woodcarving tree species are planted by the owners of the <i>muyung</i> /forest.	3.81	O	2.91	S
Overall	4.05	O	3.17	S

*A= Always, O = Oftentimes, S = Sometimes

Table 6 presents the significant differences between the extent of the practice of Ifugao IKSPs in the past and present. A statistically significant difference was found between the extent of the practice of Ifugao IKSPs in the past and present in the family (marriage and parenting, p-value = 0.000, responsibility of children, p-value = 0.000, education, p-value = 0.000, agriculture, p-value = 0.000 and forest conservation, p-value = 0.000) at 0.5 level of significance. The way the IKSPs are observed by the parents and children in the past has changed in today's generation.

Table 6. Significant Differences between the Extent of the Practice of Ifugao IKSPs in the Past and Present

Indicators		Mean	Description	t-value	p-value	Remarks
Marriage and parenting	Past	4.21	Oftentimes	8.362	0.000	Sig
	Present	3.72	Oftentimes			
Responsibility to children	Past	4.11	Oftentimes	13.830	0.000	Sig
	Present	2.97	Sometimes			
Education	Past	3.48	Sometimes	8.348	0.000	Sig
	Present	2.90	Sometimes			
Agriculture	Past	4.40	Oftentimes	13.241	0.000	Sig
	Present	3.08	Sometimes			
Forestry	Past	4.05	Oftentimes	11.584	0.000	Sig
	Present	3.17	Sometimes			

*Significant = Sig

As shown in Table 7, various challenges have caused the non-perpetuation of cultural traditions. The core problems have several causal factors. Firstly, in the family there are major concerns involving men and women who live together before they are legally married. Additionally, the values held by children are waning. Children are giving less attention to education even if their parents are very much interested in promoting education. Traditional agricultural practices, especially organic farming, are being replaced with inorganic farming. Forests are denuded because trees are being cut and there is a lack of interest in planting and replacing cut trees.

Table 7. Problems Encountered by Parents Related to Family, Education, Agriculture, and Forest Conservation

1. Family		
1.1 Marriage and Parenting		Rank
1.1.1 A man and a woman stay together before they are legally married.		1
1.1.2 The indigenous practice of engagement “ <i>moma</i> ” is vanishing. It is optional to practice it.		2
1.1.3 Consent or permission from the parents of the woman is seldom sought before marriage.		3
1.1.4 Separation or divorce either legally or informally is being tolerated at the expense of the children.		4
1.1.5 Parents spend more time at work and lesser time with the children.		5
1.1.6 Others		
1.2 Children		Rank
1.2.1 Respect and proper manners among children are deteriorating.		1
1.2.2 Children are giving less attention to doing household chores.		2
1.2.3 Some children are not aware or have little knowledge of their roots.		3
1.2.4 Some children speak bad words and that it is a taboo “ <i>pani-o</i> ” in the Ifugao culture.		4
1.2.5 Others		
2. Education		Rank
2.1 Children do not finish their high school or a college degree, even if parents value education.		1
2.2 Some children are focused on their gadgets and devote less attention to their educational tasks.		2

Table 7. (Cont.)

2. Education		Rank
2.3	Some values are getting lost, pushing forward the need to restore religion, and the value of education needs to be strengthened in the educational system.	3
2.4	Some parents do not observe or practice their roles in their childrens' education. Examples include giving no help or paying very minimal attention to teaching their children. Children are solely dependent on the teacher.	4
2.5	Study habits of children need to be improved.	5
2.6	Others	
3. Agriculture		Rank
3.1	Natural fertilizers like leaves and the stems of plants, or organic farming or gardening is being replaced with inorganic fertilizers/farming.	1
3.2	The observance of “ <i>ubbu</i> ” is getting lost. <i>Ubbu</i> is a traditional Ifugao practice where one calls the help of a folk usually in the rice field, in return the person who sought help will likewise render service that is commensurate to the days the person worked for him/her.	2
3.3	Native rice varieties are becoming extinct.	3
3.4	Maintenance of commonly shared irrigation systems is being neglected	4
3.5	There is less participation from children in agricultural works	5
3.6	Others	
4. Forest Conservation		Rank
4.1	Trees are being cut and there is less effort to replace them	1
4.2	Forests are converted to gardens	2
4.3	Indigenous tree plants are becoming extinct	3
4.4	Indigenous animals are being hunted	4
4.5	Burning of forests	5
4.6	Others	

Conclusion

The Ifugao people have a profound cultural heritage. They have been observing indigenous knowledge and practices that directly contributed to biological and cultural preservation and promotion. Parents and children have played cultural roles in the perpetuation of the family. Education was a challenge among the Ifugaos. This is because parents exerted their authority over their children in terms of having them help with food production and other work instead of going to school. This was especially true for girls. It is noteworthy to realize that education is given so much attention today and that men and women are given equal opportunities. The challenge is now reversed because while parents put premium on education, children are less interested in finishing their studies. The rice terraces and swidden farms are the imprints of indigenous agricultural knowledge and practices and are found across Ifugao. The Ifugao Rice Terraces (IRT) which are most popular for their giant, man-made steps are intact. The ethnic *muyung* system showcases the best practices of the Ifugaos in conserving biodiversity, reforestation, environment protection, wood production, respect for the land, and customary laws. In the study, changes are observed in the indigenous roles and practices among the Ifugaos in the family, education, agriculture, and forest conservation. From the findings, it is recommended that parents continue to care for their children, help them start their families as new couples, and give their blessings so long as they live. There is a need to strengthen the cultural values among the children through the strengthening of curricular integration of values

education and ethics subjects in all levels of learning. Through education, many people have transformed their lives, families, communities, and the world. Thus it is vital that education be prioritized for children regardless of gender. Conducting seminars, trainings, symposia, programs, projects, and activities regarding IKSP is very much encouraged. In addition, the development of more scholarly works or instructional materials on IKSP is likewise proposed. In agriculture, it is strongly recommended that the use of organic fertilizers are promoted hand in hand with modern technologies to help produce healthy food. There is a need to restore the indigenous forest system of the Ifugaos, save the denuded mountains, and bring back the rich biodiversity of the natural environment. It is also important to intensify curricular programs that will promote traditional knowledge and practices in the elementary and secondary schools. Further studies on preserving the IKSPs among the Ifugaos are also suggested.

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