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ORGANIC FARMING ON INDIGENOUS KNOWLEDGE TRANSFER AMONG GENERATION Z IN MARILOG, DAVAO CITY

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ABSTRACT
This study examines the transfer of indigenous organic farming knowledge to Generation Z in Marilog, Davao City, focusing on awareness, sources, and the importance of continued practice. Indigenous knowledge systems in agriculture, such as seed conservation, pest control through natural means, soil fertility, and collective farming practices, are essential for a healthy environment and cultural heritage. Using a descriptive–quantitative design, data were collected from 150 Generation Z respondents utilizing a structured survey. Results show that Generation Z has significant awareness and familiarity with individual forms of indigenous practices, such as soil enhancement, the use of animal manure, and natural weed control; however, communal practices such as seed sharing and intercropping were not well known. The sources of their learning came from grandparents/elders, schools, and parents, attesting to the significant role of intergenerational learning and formal education, with social media as a supplementary source. This study also shows that Generation Z perceives the significance of preserving indigenous organic farming practices for cultural, environmental, and equitable continuity. Despite modernization, the involvement of the younger generation in continued learning from the older generation plays a significant role in the continued dissemination of these practices.

Keywords:
Generation Z, Indigenous Knowledge, Intergenerational Transfer, Organic Farming, Sustainability Generation.

INTRODUCTION

Traditional agricultural knowledge that is passed down from one generation to another is basically an ecological knowledge of soil, water, seeds, climate patterns, and is deeply rooted in the culture of rural and upland communities. This knowledge has been refined through numerous generations in harmony with nature and the survival ways of these people (Domingo et al, 2024).

Many Indigenous People consider concepts of responsibility through intergenerational equity, thereby honouring both past and future generations (Matsui, 2015; McGregor et al, 2020). Meanwhile, research on native knowledge continues to highlight its importance in developing resilient food systems. Various studies reveal that indigenous techniques like crop rotation, agroforestry, and seed saving not only support local food production and conservation of nature but also enable the communities to be climate smart and respond to environmental changes. The use of indigenous knowledge as part of a global food system is said to have positive effects on the environment in terms of increasing and diversifying the species and reducing the use of chemicals and fertilizers, as well as making the communities more sustainable and self-sufficient (Knorr, 2025).

At the policy level, changes in management strategies can be observed, involving the integration of indigenous knowledge with climate-smart agriculture. For instance, research initiatives in the Philippines are designed to include local agricultural wisdom in the development of nature, based solutions for climate hazards, which is a way of showing that the institution is realizing the worth of IKSPs for sustainable development and disaster resilience (Precilla, 2024).

In the specific context of Marilog, while the importance of organic farming is often acknowledged, there is lack of empirical data that systematically measures the current state of its transmission to the youth. The Indigenous People's Right Act (IPRA) of 1997 (Republic Act 8731) mandates the states to fully protect and promote the rights of our Indigenous People communities, including the right to their cultural integrity. Understanding the dynamics of knowledge transfer is fundamental to upholding this mandate.

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As part of the College's Research, Development, and Extension (RDE) Program that focuses on Communication and Community Engagement and Indigenous Knowledge Systems and Cultural Development, this study is a significant academic contribution towards documenting and revitalizing IKSPs in culturally grounded and sustainable manner. In addition, the research is in line with the United Nations Sustainable Development Goals (SDGs) such as SDG 5 (Gender Equality), which acknowledges the contribution of indigenous women in community farming and cultural stewardship; SDG 12 (Responsible Consumption and Production), which is evident in organic and low, input farming practices; and SDG 13 (Climate Action), which is exemplified by the indigenous adaptive strategies for climate resilience.

OBJECTIVES

The main objective of the study is to assess the current level and identify the key factors influencing the transfer of organic farming knowledge from elders to Generation Z in Marilog, Davao City. Specifically, it seeks to answer the following research questions:

1) What is the level of awareness and familiarity of Gen Z respondents with specific, pre-identified organic farming practices?
2) What are the primary sources from which Gen Z respondents have acquired their current knowledge of organic farming?
3) What is the perceived importance and continuity of indigenous organic farming knowledge among Generation Z?

REVIEW OF RELATED LITERATURE

Organic Farming

Organic farming practices promotes sustainable agricultural production by employing methods that minimize or eliminate the use of harmful chemicals and synthetic inputs. This approach is indeed essential to lighten the adverse effects of the modern agricultural practices which damage the soil, the environment, and will leave pesticide residues in food. Organic farming practices mainly rely on natural processes like the use of organic fertilizers such as manures, and composts, crop rotation and pests managements using biological control. It strictly prohibits the use of synthetic fertilizers, pesticides and other chemical inputs. The Department of Agriculture recognizes the importance of organic agriculture in enhancing food production while protecting the country's natural resources. As part of the government's initiatives to promote organic farming to farmers, Republic Act No. 10068, or the Organic Agricultural Act of 2010, was enacted to establish a comprehensive program that encourages local farmers to adopt organic farming practices. The Act aims to promote community-based organic agriculture systems and positions organic farming as a viable alternative to conventional agricultural methods.

Generation Z

Generation Z was born between 1995 and 2012 and is the descendant of Generation Y of Millennials (1981-1996) and Generation X (1965-1980). Their parents, Generation Y, are flexible, freedom-seeking, and are considered digital natives, while Generation X are choosing work-life balance and are considered digital immigrants. Generation Z seeks security and stability and relies entirely on information technology (Dupont, 2015; Welllner, 2000). Yadav (2017) revealed that generation Z grew up along with technological developments, especially internet technology. This generation is accustomed to using the internet to expand communication networks through the use of social media. As the largest online consumers, generation Z is very attached to bold communication. Active involvement in community gardens, green business, and agricultural interventions is indicative of Asian youth, especially Generation Z, showing an increase interest in environmental sustainability. Government programs, non-government groups, and educational institutions are driving the increased interest in organic agriculture in spite of obstacles. Participating in sustainable farming methods with Generation Z is essential in bringing back the agricultural industry and to ensure its longevity as the nation's agricultural workforce ages (Latoza & San Jose, 2025).

Indigenous Knowledge

Traditional Indigenous Knowledge can be defines as a network of knowledges, beliefs, and traditions intended to communicate, preserve and contextualize Indigenous relationships with culture and landscape over time, they include narratives about human histories, cosmological observations and modes of reckoning time, symbolic and decorative modes of communication, techniques for planting and harvesting, hunting and gathering skills, specialized understanding of local ecosystems and the manufacture of specialized tools and techniques (Bruchac, 2014). Indigenous knowledge plays an important role in the decision-making process of rural

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communities. It impacted areas such as agriculture, education, healthcare, food preparation, and resource management. This knowledge includes a wide range of traditional practices that addresses local needs based on the understanding of indigenous ecosystem (Mutsvangwa, 2023). In a heartening statement, it is stated that this knowledge is tangled to the survival of the owners of Indigenous Knowledge, general or specialized domains, such as protection and utilization of the local environment, boosting food security, especially during periods of stress (Shokane & Masoga, 2021).

Theoretical Framework

This study is anchored on four interrelated theories that explain how indigenous organic farming knowledge is transferred to Generation Z: the Social Learning Theory (Bandura, 1977), Cultural Transmission Theory (Cavalli-Sforza & Feldman, 1981), Knowledge Management Theory (Nonaka & Tajuechi, 1995) and Diffusion of Innovations Theory (Rogers, 2003).

Social Learning Theory explains that individuals learn by observing and imitating others. In Marilog, Generation Z acquires traditional farming knowledge by watching and working with elders. When opportunities for such observation decline, intergenerational knowledge transfer weakens (Bandura, 1977).

Cultural Transmission Theory highlights how knowledge is passed vertically (parents to children), horizontally (peers), and obliquely (elders to youth). The erosion of these channels due to modernization poses a threat to the preservation of indigenous organic farming (Cavalli-Sforza & Feldman, 1981).

Knowledge Management Theory distinguishes between tacit knowledge (experiential) and explicit knowledge (documented). Indigenous farming knowledge is largely tacit; thus, documentation and integration with modern tools are needed to preserve it. The SECI model, comprising socialization, externalization, combination, and internalization, guides this process (Nonaka & Takeuchi, 1995).

Diffusion of Innovations Theory explains how new ideas or practices spread in a community. For Generation Z to adopt indigenous farming practices, these must be perceived as useful, relevant, and compatible with modern values (Rogers, 2003).

METHODOLOGY

Research Design

This research employs a descriptive-quantitative research design. The major goal of this design is to depict and measure in a detailed manner the present understanding, recognition, and educational exchange of the local environmentally friendly farming methods in the Gen Z community in Marilog, Davao City.A descriptive–quantitative design is appropriate for studies aiming to describe characteristics of a population and examine relationships among variables using numerical data (Creswell & Creswell, 2018; Fraenkel, Wallen, & Hyun, 2019). Descriptive research is commonly used to document current conditions and perceptions within a population (Salkind, 2010). Quantitative survey data allowed the researcher to compute frequencies, means, and correlations necessary to describe trends and relationships relevant to knowledge transfer. Quantitative methods are especially suitable for transforming observations into measurable data for statistical analysis (Punch & Oancea, 2014).

Sources of Data

The study used primary data collected through a survey questionnaire. Data were gathered from a sample of 150 members of Generation Z residing in Marilog, Davao City, who are exposed to farming activities.

Data Gathering Instrument

A survey questionnaire was used to collect data for this research. It consists of two main sections: the first section covers the respondents' socio-demographic profile, while the second section focuses on factors related to Generation Z's level of awareness and familiarity with organic farming practices, sources of knowledge, and perceived importance and continuity of organic farming.

Before the data collection, the instrument was evaluated for content by a chosen panel of experts in agriculture and social research to check the clarity, relevance, and appropriateness of the items. A pilot test was likewise done on a few respondents of the same characteristics to find out the reliability and understanding of the questionnaire.

Sampling Technique

To collect data from Generation Z residents of Marilog, Davao City, a purposive sampling technique was employed. This method was deemed appropriate because the study specifically targeted members of Generation Z who continue to assist their families in farming activities and possess direct exposure to indigenous organic farming practices. By focusing on individuals with relevant experiences, the research aimed to obtain more

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meaningful insights into the knowledge transfer of indigenous organic farming practices. The study included 150 Generation Z respondents residing in Marilog, Davao City.

RESULTS AND DISCUSSION

This study adopts a descriptive–quantitative research design. The primary purpose of this design is to systematically measure and describe the current level of awareness, familiarity, and knowledge transfer of indigenous organic farming practices among Generation Z in Marilog, Davao City. A descriptive–quantitative design is appropriate for studies aiming to describe characteristics of a population and examine relationships among variables using numerical data (Creswell & Creswell, 2018; Fraenkel, Wallen, & Hyun, 2019). Descriptive research is commonly used to document current conditions and perceptions within a population (Salkind, 2010).

Demographic Profile

The sample was composed of 150 Generation Z respondents from Marilog, Davao City, with their demographic profiles summarized in Table 1.

Characteristic	Category	n	%
Sex	Female	99	66
	Male	51	34
Tribe	Matigsalug	119	79.3
	Bagobo Klata	19	12.7
	Obu-Manobo	10	6.7
	Dyangan	1	0.7
	Maranao	1	0.7
Educational Level	High School	65	43.3
	College Level	55	36.7
	Elementary	21	14
	None	9	6
Occupation	Student	98	65.3
	Farmer	42	28
	Both (Student & Farmer)	10	6.7
Participation in Farming	Occasionally	102	68
	Regularly	47	31.3
	None	1	0.7

Table 1. Demographic Profile of Generation Z in Marilog, Davao City

The sample was predominantly female (n=99, 66.0%). Most of the respondents professed to be Matigsalug (n=119, 79.3%), while there were fewer representatives of the Bagobo Klata (n=19, 12.7%), Obu-Manobo (n=10, 6.7%), Dyangan (n=1, 0.7%), and Maranao (n=1, 0.7%) tribes. The major part of the respondents had a high school diploma (n=65, 43.3%) and the college participants (n=55, 36.7%) were the close second. There was a small proportion of people with only an elementary-level education (n=21, 14.0%), while those without any education were only a few in number (n=9, 6.0%). The majority of the respondents declared themselves as students for their main occupation (n=98, 65.3%). A good number of people were farmers (n=42, 28.0%), whereas only a handful of persons were both students and farmers (n=10, 6.7%). Hence, most of the respondents indicated that they were involved in farming activities on an occasional basis (n=102, 68.0%), while a sizable group was engaged in farming on a regular basis (n=47, 31.3%). There was only one person (0.7%) who claimed not to be involved in farming at all.

This distribution supports findings that indigenous youth increasingly participate in formal education, which influences how traditional knowledge is accessed, interpreted, and transmitted alongside indigenous learning systems (McGregor et al., 2020). According to Social Learning Theory, even occasional participation in farming allows youth to acquire knowledge through observation and interaction with elders, reinforcing the role of lived experience in indigenous knowledge transmission (Bandura, 1977).

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Level of Awareness and Familiarity with Indigenous Organic Farming Practices

This section provides an analysis that describes the level of awareness and familiarity of the Gen Z respondents with some chosen native organic farming practices. Their level of awareness was gauged using ten different indicators which were rated on a five-point Likert scale that ranged from 1 (Very Low) to 5 (Very High).

Indigenous Organic Farming Practices	Mean	Level of Awareness
Natural pest management using local plants/herbal concoctions	3.77	High
Soil enrichment using compost, manure, or mulching	4.21	Very High
Seed saving and planting native/heirloom varieties	4.03	High
Planting based on lunar or seasonal cycles	4.03	High
Use of natural weed control without chemicals	4.39	Very High
Use of intercropping and crop rotation for soil fertility	3.71	High
Community sharing or barter of seeds and planting materials	3.59	High
Knowledge of rituals or traditions associated with planting and harvest	3.81	High
Use of animal manure as fertilizer	4.33	Very High
Recognition of elders as sources of farming wisdom	4.19	High
Awareness and Familiarity with Indigenous Organic Farming Practices	**4.01**	**High**

Table 2. Level of Awareness and Familiarity with Indigenous Organic Farming Practices

Table 2 shows the average scores and standard deviations of each indicator. The overall results reveal that the Generation Z sample was highly aware and familiar with the indigenous organic farming practices, as indicated by the total average of 4.01 (SD = 1.02). In other words, respondents are generally knowledgeable about traditional organic farming methods practiced in their community. This high level of awareness supports the view that indigenous farming knowledge remains embedded within community practices and is continuously transferred through intergenerational interaction (Cavalli-Sforza & Feldman, 1981; McGregor et al., 2020).

The indicator of natural weed control without chemicals got the maximum mean score (M = 4.39, SD=0.85), which is an indication that the respondents are very familiar with non-chemical weed management practices. Similarly, respondents have shown a high level of awareness in the reuse of animal manure as fertilizer (M = 4.33, SD = 0.92) and soil enrichment through the use of compost, manure, or mulching (M = 4.21, SD = 0.96). These results imply that the Generation Z is well aware of the practices related to soil fertility and organic inputs. These findings are consistent with indigenous agricultural systems documented among Philippine indigenous communities, where soil fertility management and organic inputs are among the most preserved and practiced IKSPs due to their visible benefits and continued relevance (Macusi et al., 2023).

On the other hand, relatively lower mean scores were recorded for community sharing or barter of seeds and planting materials (M = 3.59, SD = 1.36) and use of intercropping and crop rotation for soil fertility (M = 3.71, SD = 1.04). Even though these activities belong to the moderate to high level of awareness category, the findings reveal that communal and system-based farming practices are less familiar than individual farm-level techniques. This decline in communal practices reflects the erosion of horizontal and oblique transmission pathways of indigenous knowledge caused by modernization and reduced community participation (Sillitoe, 1998; McGregor et al., 2020).

Sources and Channels of Transfer Knowledge

This section presents the descriptive analysis of the primary sources through which Generation Z respondents have acquired their knowledge of organic farming practices. The sources of knowledge were measured using eight indicators rated on a five-point Likert scale ranging from 1 (Very Low) to 5 (Very High). Descriptive

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statistics, specifically the mean and standard deviation, were used to determine the extent to which each source contributed to the respondents' knowledge.

Source or Channel of Knowledge	Mean	Rank
Parents or guardians	4.37	2
Grandparents or elders	4.39	1
School or agricultural subjects	4.39	1
Social media or online sources	4.23	3
Friends or neighbors	3.29	6
Community or tribal gatherings	3.88	5
Local government programs or seminars	4.09	4
Observation and participation on the farm	4.09	4
Overall Sources of Knowledge	**4.09**	**High**

Table 3. Sources of Channel of Knowledge Among Generation Z.

Table 3 presents the mean scores and rankings of the sources of organic farming knowledge among Generation Z respondents. The overall mean score (M = 4.09) indicates a high level of exposure to various knowledge sources. Grandparents or elders and school or agricultural subjects ranked highest (M = 4.39), highlighting the importance of both intergenerational and formal education in knowledge acquisition. Parents or guardians followed closely (M = 4.37), further emphasizing the role of family in knowledge transfer. Social media or online sources ranked third (M = 4.23), suggesting that digital platforms serve as a significant supplementary source. This finding strongly supports Cultural Transmission Theory, which emphasizes vertical (parent-to-child) and oblique (elder-to-youth) transmission as the primary mechanisms for preserving indigenous knowledge (Cavalli-Sforza & Feldman, 1981).

Observation and participation on the farm and local government programs or seminars shared the fourth rank (M = 4.09), while community or tribal gatherings (M = 3.88) and friends or neighbors (M = 3.29) ranked lower, indicating less reliance on informal peer-based channels. The continued importance of experiential learning aligns with Social Learning Theory, which stresses that learning occurs through direct participation and observation rather than purely through peer interaction (Bandura, 1977). Overall, the findings suggest that organic farming knowledge among Generation Z is primarily transmitted through elders, family members, and educational institutions, with digital and experiential learning serving supporting roles.

Perceived Importance and Continuity of Indigenous Knowledge

This section presents the descriptive results on the perceived importance and continuity of indigenous organic farming knowledge as expressed by Generation Z respondents.

Perceived Importance and Continuity of Indigenous Knowledge	Mean	Level of Agreement
Indigenous farming practices are more sustainable than modern methods.	4.13	High
Elders should be actively involved in teaching youth about organic farming.	4.4	Very High
Schools should include indigenous knowledge in their curriculum.	4.23	Very High
Learning traditional farming strengthens our cultural identity.	4.33	Very High
Technology (e.g., videos, social media) can help preserve indigenous knowledge.	4.03	High
I am proud of our traditional farming practices.	4.67	Very High
Without the youth, indigenous farming knowledge will disappear.	4.55	Very High
Overall Perceived Importance and Continuity of Indigenous Knowledge	**4.33**	**Very High**

Table 4. Perceived Importance and Continuity of Indigenous Knowledge Among Generation Z

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Table 4 presents the mean scores that correspond to the perceived importance and the continuity of indigenous organic farming knowledge. The grand mean score (PI_MEAN = 4.33) is indicative of a very high level of perceived importance. All indicators recorded mean scores above 4.00, thus indicating that the respondents strongly agreed with them. These results are consistent with studies emphasizing that indigenous youth play a critical role in ensuring intergenerational equity and cultural continuity (Matsui, 2015; McGregor et al., 2020). The most significant mean was attributed to pride in traditional farming practices (M = 4.67), closely followed by the belief that indigenous knowledge will disappear without the involvement of the youth (M = 4.55). Furthermore, the agreement was very strong regarding the elders' involvement in teaching the youth, the role of traditional farming in strengthening cultural identity, and the adoption of indigenous knowledge in the school curriculum.

As a result, the data reveal that Generation Z respondents value very much the preservation and continuation of indigenous organic farming knowledge, which is in line with the call for interventions that facilitate intergenerational knowledge transfer and youth engagement. Strong agreement on the role of elders and schools in knowledge transmission further reflects the compatibility of indigenous knowledge with formal education systems when culturally grounded approaches are applied (Rogers, 2003).

CONCLUSION

Based on the findings of the study, it is concluded that the inference that Gen Z in Marilog, Davao City are very much aware and acquainted with native organic farming methods especially in the areas of natural weed control, use of animal manure, and soil enrichment. Knowledge about soil fertility and organic inputs seems to be quite deep even among the youth. But the difference in the level of familiarity with communal practices is an indication that there might be a gradual fading of the local knowledge system leaving behind the modes of learning and practice which are kept collectively.However, the findings also suggest that community practices, such as seed sharing and intercropping, are relatively less understood or practiced amongst the respondents. The findings thus suggest that, certain systematic endeavors need to be made to induce greater communal engagement with these practices to ensure their sustainability.

RECOMMENDATIONS

The following recommendations are proposed based on the Significance of the Study, addressing the groups who stand to benefit from the findings:

- For Generation Z Youth
- Programs that actively involve youth in hands-on indigenous farming activities should be developed to strengthen their skills, participation, and sense of responsibility in preserving indigenous organic farming knowledge.
- Youth may also be encouraged to take leadership roles as peer educators, youth coordinators, or advocates in community-based organic farming initiatives. For Indigenous Elders and Community Leaders
- For Indigenous Elders and Community Leaders
- Structured elder–youth mentoring initiatives, storytelling sessions, and guided farm activities should be encouraged to facilitate direct intergenerational knowledge transfer.
- For the Department of Agriculture and the Organic Agriculture Program (OAP)
- Design training modules and capacity-building programs based on the baseline data to support youth engagement in organic farming.
- For Local Government Units (LGU) and Policymakers
- Integrate findings on indigenous knowledge and organic farming into curricula for formal and non-formal education. Encourage further research on intergenerational knowledge transfer and youth engagement in sustainable agriculture.
- For Academic Institution and future Researchers
- Integrate findings on indigenous knowledge and organic farming into curricula for formal and non-formal education. Encourage further research on intergenerational knowledge transfer and youth engagement in sustainable agriculture.

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