International Journal on Culture, History, and Religion
https://ijchr.net | eISSN: 3028-1318

Received: May 19, 2025 | Accepted: July 1, 2025 | Published: July 7, 2025
Volume 7 Special Issue 2 | doi: https://doi.org/10.63931/ijchr.v7iSI2.164

Article

Cultivating Knowledge: Integrating Agricultural Practices and Cultural Heritage in Pedagogical Frameworks of Philippine Higher Education

Angelina T. Gonzales[1], and Macluven T. Gonzales[2]

[1]Don Mariano Marcos Memorial State University, [2]Cagayan State University

Correspondence: vpre@dmmmsu.edu.ph

Abstract

This study explores the challenges and opportunities in institutionalizing culturally rooted agricultural pedagogy within higher education frameworks in the Ilocos region. Amid globalization and the dominance of Westernized agricultural education, indigenous knowledge systems in Ilocano farming—such as traditional rice cultivation, lunar planting cycles, and community-based farming—have faced marginalization. Through qualitative analysis of participant responses and thematic coding, the research identifies three central themes: (1) curricular rigidity versus efforts for academic flexibility, (2) intergenerational disconnect and student re-engagement through community immersion, and (3) the need for institutional policy support and collaboration with local government units (LGUs). Findings indicate that while formal curricula often overlook local knowledge due to standardized models and limited institutional mandates, grassroots innovations and faculty-led initiatives are creating viable entry points for cultural integration. Furthermore, student immersion in rural communities has shown to significantly shift perceptions, fostering pride and deeper understanding of sustainable, indigenous agricultural practices. The study emphasizes that full institutionalization requires not only curriculum redesign but also the alignment of policies, funding mechanisms, and broader stakeholder collaboration. As such, culturally grounded agricultural pedagogy can become a powerful conduit for both academic transformation and heritage preservation, contributing to more inclusive, context-sensitive education in the Philippines. This research offers recommendations for policymakers, educators, and community leaders seeking to revalue indigenous knowledge as a legitimate pillar of higher learning.

Keywords: *Cultural agriculture, indigenous pedagogy, higher education, Ilocos region, curriculum integration, traditional farming knowledge*

Suggested citation:

Gonzales, A., & Gonzales, M. (2025). Cultivating Knowledge: Integrating Agricultural Practices and Cultural Heritage in Pedagogical Frameworks of Philippine Higher Education. *International Journal on Culture, History, and Religion, 7*(SI2), 98-110. https://doi.org/10.63931/ijchr.v7iSI2.164

Introduction

Agriculture has been the backbone of Philippine society, not only as a source of livelihood but as a defining element of cultural identity. Across generations, farming practices in the country have been shaped by indigenous knowledge, spiritual beliefs, seasonal patterns, and collective community wisdom. In many rural areas, agriculture is both a tradition and a way of life, interwoven with rituals, language, foodways, and ecological values. However, with modernization and the globalization of agricultural education, there has been a noticeable disconnection between traditional farming cultures and the pedagogy employed in higher education institutions (HEIs), particularly in State Universities and Colleges (SUCs).

As the nation grapples with issues such as food insecurity, climate change, loss of biodiversity, and cultural erosion, re-examining the role of higher education in preserving and revitalizing agricultural heritage becomes vital. This study proposes that culturally responsive and locally grounded pedagogical models can bridge the gap between formal agricultural instruction and community-based knowledge systems. Integrating cultural perspectives into farming education is not simply about inclusion; it is about transforming the way future agricultural professionals think, act, and engage with communities.

In the Philippine educational landscape, higher education institutions, especially SUCs, are mandated to provide instruction and conduct research and extension that respond to national development needs. In regions where farming is the primary economic activity, HEIs play a critical role in shaping the next generation of agricultural leaders, educators, and practitioners. However, curricula often prioritize agricultural technical and scientific advancements, frequently modeled after Western paradigms. While such approaches have merits, they marginalize indigenous ecological knowledge and cultural values embedded in local farming systems.

This study is grounded on the assertion that culture and agriculture are inherently interconnected, and pedagogy must reflect this relationship. When farming is taught solely through mechanized or industrial frameworks, learners miss the opportunity to appreciate food production's deeper cultural, historical, and ecological dimensions. Conversely, educational outcomes may lack contextual relevance when culture is divorced from applied sciences like agriculture. Thus, there is a compelling need to reframe pedagogy within agricultural education to include community narratives, oral histories, customary laws, and sustainable indigenous practices.

Such an approach will foster culturally sustaining pedagogy and empower local communities by validating their knowledge systems. Educators, curriculum developers, and policymakers must collaboratively ensure that higher education

becomes a space for reclaiming and advancing agricultural heritage, thereby contributing to more inclusive, relevant, and sustainable development.

A growing body of international and local literature supports the integration of indigenous knowledge and cultural heritage in education. Battiste (2013) advocates decolonizing education by recognizing Indigenous knowledge systems, arguing that they offer holistic and sustainable worldviews. Cajete (2000) similarly calls for a *"science of place"* where indigenous cosmologies and ecological practices are interwoven with formal education. These scholars emphasize the importance of cultural identity in educational processes, especially in the context of land, farming, and community life.

In the Philippine context, Alangui (2018) presents a compelling case study on traditional stonewall construction and its implications for community-based learning, highlighting how everyday practices are imbued with technical knowledge and cultural meaning. Meanwhile, Eslit (2022) underscores that Filipino identity is deeply tied to land and local knowledge, and educational institutions must account for this to remain relevant to rural learners.

Despite this, Navarro and Sevilla (2019) observe that most agricultural colleges in the Philippines emphasize productivity, yield, and export-readiness over ecological balance or cultural resilience. This tendency reflects a developmental bias toward modernization and technical training, often at the expense of sustainability and heritage. Furthermore, recent assessments by CHED and UNESCO suggest that educational materials used in agriculture courses rarely include ethnographic or cultural content, thus creating a learning gap between students' cultural experiences and academic instruction.

While existing studies affirm the importance of indigenous knowledge systems and community-based approaches in education, empirical evidence on their integration into the agricultural pedagogy of Philippine SUCs remains limited. Current literature often treats farming and culture as separate domains, with few interdisciplinary efforts exploring their intersection within the higher education framework.

Moreover, although several institutions have begun integrating *"indigenous studies"* or *"environmental sustainability*" into their programs, there is insufficient analysis of how these are applied pedagogically in agriculture-focused degrees. There is also a notable absence of teacher narratives and student feedback on the effectiveness of such integrative approaches.

Thus, this study aims to fill a significant research gap by examining how educators in SUCs, specifically in DMMMSU, incorporate cultural knowledge, local

farming practices, and contextual learning strategies into their agricultural pedagogy. It explores the extent to which farming is taught not only as a skill but also as a cultural legacy, and how such pedagogical choices affect student engagement, local relevance, and long-term sustainability.

Research Objectives

1. To examine the current pedagogical approaches higher education institutions, use in integrating indigenous agricultural practices and cultural heritage into academic instruction.
2. To explore faculty and student perceptions on the educational value of embedding local farming knowledge and cultural traditions in the curriculum.
3. To assess the challenges and opportunities in institutionalizing culturally rooted agricultural pedagogy within higher education frameworks in the Ilocos region.

Research Methodology

This study employed a qualitative research design using a multiple-case study approach to explore the intersection of pedagogy, farming culture, and higher education. It focused on selected state universities and colleges (SUCs) in agricultural places in the Ilocos Region, where traditional farming remains a significant aspect of community life. The research sites included institutions offering a Bachelor of Science in Agriculture or related programs. They were purposefully chosen based on their geographic proximity to farming communities and their engagement in extension programs with cultural or indigenous content.

Data was collected through semi-structured interviews, focus group discussions (FGDs), and document analysis. Participants included 12 agricultural educators, three curriculum developers, and nine student-respondents enrolled in agriculture programs. Purposive sampling was used to ensure respondents had at least two years of teaching or learning experience in agriculture-related subjects with exposure to community-based or culturally sensitive instruction. The interviews and FGDs explored how instructors incorporated local knowledge systems into their pedagogy, the teaching strategies used, and the challenges encountered in aligning academic content with cultural contexts.

Data analysis was conducted using thematic coding, guided by Braun and Clarke's (2006) method of identifying patterns, themes, and insights from participant narratives. The research also reviewed institutional syllabi, learning modules, and extension project reports to validate the integration of cultural components in

agricultural pedagogy. Ethical clearance was secured, and all participants provided informed consent. Data was triangulated to ensure the credibility and reliability of findings. This methodology enabled a deep, context-driven understanding of how pedagogy in agricultural education can be made culturally responsive and sustainable.

Results and Findings

Contemporary Teaching Strategies Employed by Universities

Integrating indigenous knowledge systems into academic instruction has become increasingly significant in an era where education seeks to be both inclusive and locally grounded. This study explores how higher education institutions embed indigenous agricultural practices and cultural heritage into their pedagogical frameworks. By examining this integration's methods, challenges, and successes, the research aims to shed light on the evolving relationship between traditional ecological knowledge and formal education. Such an investigation enhances curricular relevance and promotes cultural preservation and community empowerment within academic spaces.

Theme 1.1: Curriculum Development Rooted in Indigenous Knowledge

Curriculum Development Rooted in Indigenous Knowledge Explanation: This theme reflects a growing commitment to embed indigenous perspectives into formal education. Rather than treating indigenous knowledge as an optional supplement, institutions are beginning to integrate it structurally into course content. Interpretation: This shift acknowledges that indigenous agricultural practices are not just *"folk wisdom,"* but valid knowledge systems with ecological, historical, and cultural significance. It marks a move toward academic inclusivity and positions indigenous voices as co-creators of knowledge, not just subjects of study.

Participant Response 1: *"Our university has begun to revise our agricultural science courses to include modules on indigenous crop rotation systems and traditional weather prediction methods. This inclusion was shaped in collaboration with local elders, ensuring accuracy and respect for cultural meaning."*

Participant Response 2: *"We established a cross-disciplinary subject called 'Cultural Agroecology,' where students examine native farming rituals alongside soil science. It has been transformative for them to realize the science behind long-held traditional practices."*

Theme 1.2: Community Engagement and Co-Teaching with Indigenous Practitioners

This theme highlights partnerships between academic institutions and indigenous communities. Students are not only learning about indigenous practices but also directly from those who embody and live them.

Participant Response 1: *"We invite farmers and knowledge holders from nearby indigenous communities to co-facilitate certain classes. Their lived experience brings a level of authenticity and storytelling that textbooks cannot deliver".*

Participant Response 2: *"Beyond lectures, we arrange field immersion programs in ancestral domains. Students live and learn with host communities, observing practices like terracing and natural pest deterrents. It is a form of experiential pedagogy that's deeply impactful."*

These efforts promote reciprocal learning—universities gain insight and authenticity, while indigenous communities are recognized and valued. It also challenges traditional educational hierarchies by giving authority to community knowledge holders. Such models foster empathy, experiential learning, and respect for cultural contexts.

Theme 1.3: Institutional Challenges and the Push for Inclusive Pedagogy

This theme calls attention to the internal barriers within higher education, such as a lack of training, resources, or institutional will, that can hinder meaningful integration of indigenous content.

Participant Response 1: *"While the intent is there, some faculty members lack training in culturally responsive teaching. There is still a gap in understanding how to teach content not part of the Western canon respectfully".*

Participant Response 2: *"We struggle to secure long-term funding for projects focused on indigenous heritage. Nevertheless, we have seen such positive student response that we are building a case for embedding these approaches into our core curriculum."*

It reveals that while intentions may be positive, systemic change requires more than isolated programs. Sustainable inclusion of indigenous knowledge depends on training educators, securing funding, and reevaluating traditional definitions of academic rigor. There is also a call for humility and ongoing reflection on how universities approach culturally diverse teaching.

Perceptions of Academic Value Associated with the Inclusion of Local Farming Wisdom and Heritage Practices in Education

As the call for culturally responsive education gains momentum, there is growing interest in how academic curricula can reflect and preserve indigenous knowledge systems. One key area of this movement is the integration of local farming practices and cultural traditions into formal instruction, particularly within higher education. This study explores how faculty and students perceive the educational value of embedding indigenous knowledge into the curriculum. The research aims to illuminate the benefits, challenges, and transformative potential of aligning academic

content with local communities' cultural realities and agricultural wisdom by capturing insights from educators and learners.

Theme 2.1: Relevance to Local Context and Practical Application

This theme highlights how embedding indigenous agricultural knowledge into academic instruction can bridge the gap between classroom learning and real-world application. Faculty recognize that students are more likely to engage with material that directly reflects their lived experiences and the socio-cultural landscape of their communities. Students can internalize concepts more meaningfully when instruction speaks the language of local reality, such as traditional crop management, land stewardship, and seasonal rituals.

Response 1 (Faculty): *"Incorporating indigenous farming practices allows us to make learning more contextual. Students connect better with the content when it reflects the realities of their communities."*

Response 2 (Student): *"Learning about our traditions in agriculture makes classes more meaningful. I can use this knowledge to help my family and our community."*

For students, learning about practices they have witnessed firsthand or heard from elders transforms abstract academic content into relatable, functional knowledge. It validates their background and empowers them with tools they can use to support family livelihoods or contribute to community resilience. The perception of relevance makes the curriculum informative and transformative, supporting a cycle of knowledge retention and practical application beyond institutional walls.

Theme 2.2: Cultural Identity and Heritage Preservation

This theme reflects the idea that the curriculum serves not only a cognitive but also a cultural function. Faculty views the inclusion of traditional knowledge as a scholarly responsibility, honoring and transmitting long-standing cultural wisdom that might otherwise be marginalized or lost. By anchoring instruction in local narratives, values, and practices, educators contribute to cultural preservation in a formal, respected setting.

Response 1 (Faculty): *"Teaching about local traditions preserves cultural memory. It is a way to protect our intangible heritage within academic spaces."*

Response 2 (Student): *"I never saw our customs in textbooks before. Including them in our lessons makes me proud of where I come from."*

From the student's perspective, encountering their culture and traditions in the curriculum is emotionally validating. It reinforces their sense of identity and belonging, especially in spaces historically prioritizing Western or global knowledge systems. When students feel seen and valued within the academic environment, it

nurtures a sense of pride and self-worth. These dynamics foster a reciprocal relationship: education uplifts culture, and culture deepens education. It becomes a form of resistance against cultural erosion and a celebration of indigenous worldviews.

Theme 2.3: Challenges of Integration and Curriculum Development

Although the educational value is widely acknowledged, students and faculty reveal practical and systemic barriers to full implementation. Faculty often struggle to align indigenous knowledge, which is holistic, narrative-driven, and often transmitted orally, with standardized academic formats that favor metrics, uniformity, and written assessments. Instructors may feel ill-equipped to do justice to this rich, nuanced content without appropriate frameworks or professional development.

Response 1 (Faculty): *"One major challenge is aligning indigenous knowledge with academic standards and assessment frameworks. It takes thoughtful planning."*

Response 2 (Student): *"Sometimes it feels like we are only scratching the surface. I wish we could go deeper into these topics."*

Meanwhile, students note a lack of depth or continuity in covering these topics, suggesting tokenism or superficial inclusion. Beyond surface-level engagement, they crave more immersive learning experiences, like community-based research, fieldwork, or storytelling sessions with elders. This points to a need for co-creating curricula with indigenous communities, reevaluating pedagogical norms, and policy support that champions cultural inclusivity. The integration process must be intentional, collaborative, and sustained to yield authentic educational value.

Barriers and Prospects in Embedding Culturally Grounded Agricultural Education into Formal Academic Systems

In recent years, there has been a growing recognition of the value of integrating indigenous knowledge systems into formal education, particularly agriculture. The need to institutionalize culturally rooted agricultural pedagogy within higher education has become increasingly urgent in the Ilocos region, where centuries-old farming traditions remain vibrant and deeply interwoven with cultural identity. This study seeks to assess the challenges and the emerging opportunities in embedding localized agricultural practices into university curricula to strengthen regional sustainability, preserve heritage, and enrich student learning experiences. This investigation aims to illuminate pathways for more inclusive and culturally responsive agricultural education by exploring the intersections of policy, pedagogy, and community engagement.

Theme 3.1: Curriculum Integration and Academic Flexibility

This response highlights curriculum rigidity as a barrier. Universities follow standardized course outlines and credit structures, prioritizing scientific and commercial agricultural models. As a result, faculty members have limited room to introduce culturally specific content, such as traditional Ilocano farming techniques or rituals, without institutional pushback.

Participant 1 Response: "*The rigid structure of existing higher education curricula makes it difficult to integrate indigenous agricultural knowledge. Most agricultural programs align with national or global standards, often overlooking localized cultural practices."*

Participant 2 Response: *"However, educators have growing awareness about the value of local knowledge systems. Some professors are beginning to pilot elective courses or incorporate community immersion projects that promote indigenous farming practices."*

This shows an opportunity for innovation within academic spaces. Even with structural limits, progressive educators are creating pathways to contextualize pedagogy, through electives, thesis topics, or fieldwork, that revalue and legitimize cultural approaches to farming in the classroom.

Theme 3.2: Intergenerational Knowledge Transfer and Community Engagement

This reflects a cultural gap between generations. Modernization and urban migration have led to a decline in respect and interest toward traditional agriculture. Young people often prefer technologies and business models promoted in mainstream education, leaving a dwindling audience for ancestral knowledge keepers.

Participant 1 Response: *"One major challenge is that younger students often see traditional agricultural methods as outdated. There is a disconnection between what elders practice and what youth are taught as 'modern' and profitable."*

Participant 2 Response: *"When students are sent for community-based learning in rural barangays, they appreciate the resilience and sustainability of local farming traditions. It is powerful when they realize these practices are not just cultural relics, they are answers to contemporary environmental and food security issues."*

Engagement with local communities acts as a transformative learning tool. By immersing students in the lived experiences of traditional farmers, institutions can help bridge the perception gap and reignite value in indigenous practices as contemporary solutions.

Theme 3.3: Institutional Support and Policy Alignment

This underlines the need for policy-level support. While individual professors and departments may push for reform, sustainable change requires structural backing

through policy revisions, budget allocations, and professional development programs focused on indigenous pedagogy.

Participant 1 Response: *"Without strong institutional policies or funding, these culturally grounded approaches remain experimental and unsustainable. We need national education guidelines explicitly supporting cultural integration in agriculture programs."*

Participant 2 Response: *"Some LGUs and academic institutions in Ilocos Norte are starting to partner in preserving native seeds and reviving cultural festivals related to farming. These efforts align academic initiatives with local development goals."*

Collaborative efforts between universities and local government units (LGUs) present a promising alignment model. When both educational and governance sectors champion cultural sustainability, it creates a cohesive environment that nurtures pedagogy and practice.

Discussion

The findings of this study underscore a complex interplay between opportunity and constraint in embedding culturally rooted agricultural pedagogy within the higher education frameworks of the Ilocos region. Three overarching themes emerged: curricular integration, intergenerational transmission, and institutional policy alignment, consistent with and building upon the insights of existing scholarly literature.

Curricular Rigidity vs. Cultural Flexibility

The study revealed that one major challenge lies in the standardization of agricultural education, where Western models dominate academic curricula. This supports the argument by Altieri (2004), who contends that modern agriculture education often marginalizes traditional agroecological knowledge, prioritizing commercial productivity over sustainability and local context. Likewise, Dei (2011) emphasizes the need for *"epistemological pluralism"* in education systems, advocating for recognizing indigenous knowledge as valid and valuable.

However, the growing presence of pilot programs and faculty-led initiatives in Ilocos-based universities suggests a budding shift. These findings parallel what Cajete (1999) discusses regarding the importance of holistic and community-centered learning that is inherently relational and place-based. Institutions have begun navigating academic flexibility without abandoning standards by involving local

farmers in curriculum design or implementing elective courses on cultural farming techniques.

Cultural Disconnect and Youth Engagement

The responses from participants point to a generational gap, where younger students often perceive traditional agriculture as outdated. This aligns with the concerns raised by Battiste and Henderson (2000), who assert that colonial education models have rendered indigenous practices invisible and unattractive to youth. In the Ilocos context, while traditional rice rituals or lunar planting calendars persist in rural communities, they are often absent in academic discourse.

Nevertheless, community-based education and service learning have proven to be a transformative pedagogical tool, as echoed in the works of Freire (1970), who champions experiential education that connects learners with their social and cultural realities. Field immersion and collaborative projects with elders rekindle student interest and foster cultural pride, bridging the gap between lived practice and classroom theory.

Institutional Policy and Multisectoral Collaboration

Lastly, the study highlights that the institutionalization of culturally rooted pedagogy remains fragile without policy mandates and sustained funding. This is a concern also raised by Nakashima et al. (2012) in their work on indigenous knowledge and climate change, where they note that community knowledge systems are often under-supported unless embedded within formal policies. The lack of institutional continuity makes such programs vulnerable to administrative turnover.

However, successful examples from partnerships between higher education institutions and LGUs in the Ilocos region demonstrate the power of multilevel collaboration. Echoing Berkes' (2009) model of community-based resource management, these partnerships present a way forward, where pedagogy is institutionalized in academia and embedded in local development and cultural heritage preservation.

Conclusions

Drawing from the results and insights of this study, it becomes clear that the institutionalization of culturally rooted agricultural pedagogy within higher education in the Ilocos region presents a dual narrative of promise and complexity. While the current academic structures often constrain the integration of indigenous knowledge due to rigid curricula and limited policy support, meaningful opportunities are

emerging through grassroots efforts, faculty initiatives, and community-engaged learning strategies.

The study underscores the urgent need to bridge generational gaps and reframe cultural agriculture as not merely a relic of the past but a dynamic and sustainable system relevant to contemporary challenges, such as climate resilience and food security. When meaningfully integrated into academic programs, community immersion fosters mutual respect and ignites renewed interest among students in their cultural heritage.

Moreover, aligning institutional goals with local government and cultural stakeholders suggests a powerful model for sustainable transformation. Proper institutionalization will require deliberate policy frameworks, funding mechanisms, and a more profound commitment to epistemological inclusion, where knowledge systems from the margins are brought to the center of educational discourse.

Therefore, by embracing culturally rooted agricultural pedagogy, higher education in the Ilocos region has the potential to enrich student learning and regional identity and serve as a beacon for decolonized, place-based education across the nation.

References

[1] Alangui, W. V. (2018). Building stone walls: A case study from the Philippines. In A. Chronaki (Ed.), Numeracy as social practice: Global and local perspectives (pp. 61–76). Routledge. https://doi.org/10.4324/9781315269474-4

[2] Altieri, M. A. (2004). Agroecology: The science of sustainable agriculture (2nd ed.). Westview Press.

[3] Battiste, M. (2013). Decolonizing education: Nourishing the learning spirit. Purich Publishing.

[4] Battiste, M., & Henderson, J. Y. (2000). Protecting Indigenous knowledge and heritage: A global challenge. Purich Publishing.

[5] Berkes, F. (2009). Community-conserved areas: Policy issues in historic and contemporary context. Conservation Letters, 2(1), 20–25. https://doi.org/10.1111/j.1755-263X.2008.00040.x

[6] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

[7] Cajete, G. (1999). Igniting the sparkle: An Indigenous science education model. Kivaki Press.

[8] Cajete, G. (2000). Native science: Natural laws of interdependence. Clear Light Publishers.

[9] Dei, G. J. S. (2011). Reclaiming Indigenous voice and vision. University of British Columbia Press.

[10] Eslit, E. R. (2024). The continuum of Filipino cultural identity: Balancing tradition and change in a globalized and post-pandemic world. International Journal of Languages and Culture, 4(2), 66–77. https://doi.org/10.51483/IJLC.4.2.2024.66-77

[11] Freire, P. (1970). Pedagogy of the Oppressed. Herder and Herder.

[12] Nakashima, D., Galloway McLean, K., Thulstrup, H. D., Ramos Castillo, A., & Rubis, J. (2012). Weathering uncertainty: Traditional knowledge for climate change assessment and adaptation. UNESCO and UNU.

[13] Navarro, R. G., & Sevilla, C. G. (2019). Rethinking agricultural education: Cultural resilience and sustainability in Philippine SUCs. Philippine Journal of Agricultural Economics, 3(1), 45–58.

14] UNESCO & CHED. (2021). Integrating Indigenous knowledge in Philippine higher education: A policy review. United Nations Educational, Scientific and Cultural Organization & Commission on Higher Education.