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Backyard Farming: An Environmental Income of an Indigenous People in the Philippines

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Abstract

Indigenous people can sustain themselves through various activities, including backyard farming as a source of environmental income. This qualitative descriptive research aimed to analyze the capability of an Aeta community to perform backyard farming as an environmental income source. The study utilized semi-structured interviews to gather information from seven (7) informants. Informants were selected using a purposeful sampling technique. The gathered information was analyzed using the Braun & Clarke thematic analysis approach. Results revealed that Aetas are able to adapt toward different backyard farming challenges through practical strategies such as sack gardening, water-saving methods, and the use of traditional knowledge, demonstrating creativity and resilience despite limited resources. These findings highlight the importance of indigenous knowledge and adaptive practices in promoting sustainable backyard farming for environmental income.

Keywords: Adaptation technique, backyard farming, indigenous people, knowledge transmission, resource management

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Introduction

Environmental income is generated from uncultivated or wild resources, seasonal economic pursuits, and gathering edible plants (Angelsen et al., 2005; Baccay, 2023). The Aetas engaged in farming within their community to sustain their needs using a particular farming method (Nives et al., 2012). The products, coming from the capital nature itself, will then be sold to middleman sellers for the public markets at meager prices (Weinbeer, 2014).

The Aeta community deals with other cultural groups to have the opportunity to learn alternative livelihood activities, such as backyard farming, in order to cope with the rapid technological advancement (Ocampo & Ocampo, 2014). Research shows that Aetas maintain traditional practices and prioritize their cultural heritage, passing it on to future generations despite modernization, evident in their farming methods and community life (Zabala & Peñol, 2018; Espiritu, 2018). Hence, previous research on the economic life of Aetas has mostly been restricted to only those who live in Luzon (Anicas, 2021; Minter, 2010; Dizon, 2021; Acaba, 2008; McHenry Et al., 2013); on the other hand, little research has been done to examine the struggles faced by those who live in Visayas (Del Rosario et al., 2020; Jundos & Aldon, 2021; Nelson et al., 2019). Thus, researchers have identified that there is an evidence gap in the impacts of economic activities on the socio-economic lives of the Aetas (Tindowen, 2016 ; Balilla et al., 2012).

This study aims to describe the capability of an aeta community to propagate backyard farming as their environmental income. Investigating their resource management, knowledge transmission, and adaptation techniques is crucial to determine what they can do and be, depending on their capabilities (Robeyns, 2003). Accordingly, regarding resource management, the Aetas are consistent in protecting the natural resources that have prevailed in their identity. This includes preserving their traditional knowledge and adaptation methods to survive (Marler, 2011; Bekuma et al., 2023). This study is anchored with Sen's Capability theory, which sees capability as a function for human beings to survive and engage in community activity and sees livelihood as the way to make a living (Robeyns, 2020). Thus, one question that needs to be asked is: What are the capabilities of indigenous people communities in performing backyard farming as their environmental income through resource management, knowledge transmission, and adaptation techniques?

Research Methodology

Research Design

This study used a qualitative descriptive design with ethnographic methods to examine the Aeta community's capabilities in backyard farming as a source of environmental income. Ethnography enables researchers to understand community

life through a cultural lens (Hammersley & Atkinson, 1983/2007; Fetterman, 2010). The study is grounded in Sen's capability approach, which defines capability as an individual's freedom to achieve valued functions and informs areas such as social justice, development, poverty, inequality, and public policy (Kuhumba, 2017).

Informants

The primary informants were Indigenous Aeta individuals from Lanit, Jaro, Iloilo City. Seven backyard farmers were purposefully selected based on the following criteria: (a) at least three years of residency in the Aeta community, (b) involvement in backyard farming, and (c) a minimum of five years of farming experience. Table 1 presents their profiles and assigned pseudonyms to ensure confidentiality.

Table 1

Informants of the study

Aeta Farmers	At least 3 years resident of the community	Belongs to the group of Aeta who do backyard farming	Has at least 5 years experience in backyard farming
Fairy	10	√	14
Lorry	8	√	8
Lia	5	√	9
Kriz	8	√	8
John	3	√	5
Raul	10	√	11
Gigi	7	√	10

Instrument

The researchers used a semi-structured interview to gather information from informants about their skills in backyard farming for environmental income. The interview, validated by three qualitative research experts and pilot-tested, consisted of three parts: personal details of the informants, questions about their farming capabilities, including resource management and knowledge transmission, and additional remarks about their livelihood not covered by the interview questions.

Data Collection

Data collection began with a formal request to the Barangay Captain and Church Pastor, including a letter explaining the study's purpose and ensuring participant confidentiality. Upon approval, research questions were translated from English to Hiligaynon with help from dialect experts. Interviews were scheduled based on respondent availability, emphasizing trust-building within the Aeta community. One-on-one interviews, used flexible prompts that enabled thematic exploration and personal

stories. These interviews were conducted in Hiligaynon for better clarity. Audio and video recordings ensured proper documentation, and strict confidentiality was maintained for all participants, including elders.

Data Analysis

Braun and Clarke's (2006) thematic analysis guided the study of Aetas' capabilities in backyard farming for environmental income. Researchers started by familiarizing themselves with the data through rereading notes and transcribing audio recordings, applying the constant-comparative method for quality. Next, they coded relevant phrases and organized them into coherent themes, refining them as necessary. Themes were named to reflect their meaning, enhancing clarity. This structured process allowed for meaningful insights into the Aetas' farming practices.

Results and Discussion

Optimizing Different Resources

In *Managing Crops*, the most common practices among Aeta Backyard Farmers surveyed were organic fertilization (100%), hand-weeding, and natural pest control (both at 85.7%) as shown in Table 2. Acquiring seeds through donations (57.1%) was less common, and previous studies note that such reliance may risk poor-quality seeds and lower yields (Patil & Verma, 2019). To ensure seed quality, they employ traditional non-chemical planting (57.1%) methods that promote healthy growth and enhance biodiversity while maintaining soil nutrients (Bengtsson et al., 2005; Brempong & Addo-Danso, 2022).

For *Managing Water*, the most common practice was regular watering of plants (85.7%), followed by creating new water resources (57.1%), and drawing water from deep wells (42.9%). Sustainable agriculture depends upon water productivity, as Richmond (2021) reports that water constitutes up to 95% of a plant's tissue. Furthermore, Olsen & Wendel (2013) assert water transports nutrients as it enables photosynthesis.

In terms of equipment, all respondents (100%) reported using traditional or modern tools, while others relied on recycled or improvised tools (71.4%), showing adaptability and resourcefulness (Kumar et al., 2020). Overall, the farmers integrate organic, traditional and adaptive practices, though resource constraints in terms of acquiring seeds and water access, remain evident.

Table 2

Statistical Summary Table for Optimizing Different Resources

Code	Practice	No. of Respondents	Percentage of Responses
MC1	Acquiring Seeds through Donations	4	57.1%

MC2	Non-Chemical Planting	4	57.1%
MC3	Hand-Weeding	6	85.7%
MC4	Organic Fertilization	7	100%
MC5	Natural Pest Control	6	85.7%
MW1	Water from Deep Wells	3	42.9%
MW2	Regularly Watering Plants	6	85.7%
MW3	Creating New Water Resources	4	57.1%
UE1	Using Traditional/Modern Tools	7	100%
UE2	Using Recycled/Improvised Tools	5	71.4%

Acquiring Knowledge through Different Sources

The Aeta backyard farmers acquired knowledge from a mix of traditional, community-based, and external sources. The most common were apprenticeship (71.4%), attending seminars or training (71.4%), and being trained by external visitors (71.4%). Apprenticeship reflects intergenerational learning, consistent with Bandura's social learning theory, where skills are transmitted through observation and imitation (Firmansyah & Saepuloh, 2022). Although the least reported method was learning through observation (28.6%), it still contributes to skill acquisition within farming practices.

Knowledge transfer also occurred through community leaders (57.1%) and peer knowledge sharing (42.9%), emphasizing the importance of local leadership and collaboration in sustaining indigenous agricultural practices. Such exchanges preserve traditions while strengthening agricultural resilience (Connelly & Kelloway, 2003; Muhammad et al., 2019).

Equally significant was the role of external training. Both seminars and visiting experts (71.4%) provided structured, practical instruction, equipping farmers with modern techniques that complement indigenous knowledge. These opportunities contribute to rural development by enhancing agricultural education and human resources (Wallace & Nilsson, 1997), while also supporting socio-economic improvement among Indigenous Peoples (Reddy & Kumar, 2020).

Overall, the findings indicate that Aeta farmers rely on multiple sources for knowledge acquisition. While traditional and community-based learning form the foundation of their farming practices, external sources strengthen their adaptability, ensuring backyard farming remains a sustainable source of environmental income.

Table 3

Statistical Summary Table of Acquiring Knowledge through Different Sources

Code	Practice	No. of Respondents	Percentage of Response
OTK1	Learning by Apprenticeship	5	71.4%
OTK2	Learning through Observation	2	28.6%
LTC1	Sharing Knowledge within the Community	3	42.9%
LTC2	Learning from Community Leaders	4	57.1%
GKES1	Attending Seminars Training	5	71.4%
GKES2	Being Trained by external Visitors	5	71.4%

Using Resilient Strategies

The most common resilient strategy among Aeta backyard farmers was balancing backyard farming with other livelihood activities (100%), showing the importance of time management to sustain both food production and household needs. This reflects their ability to prioritize tasks, consistent with the Pickle Jar Theory of Productivity (Wright, 2002). Marketing and sales techniques (71.4%) were also widely practiced, highlighting their efforts to improve income and participate in the local economy.

For environmental adaptation, adjusting watering routines (57.1%) and seasonal planting (57.1%), were widely practiced, enabling farmers to cope with water scarcity and climate variability. These strategies support climate-resilient farming methods that improve yields despite environmental stress (Richmond, 2021; Feki, 2023). Meanwhile, spatial and resource adjustments, such as optimizing space (42.9%) and using available resources (42.9%), demonstrate effective ways to boost productivity through sack farming, recycled containers, and local materials (Peprah et al., 2014; Khurram, 2015). Although least common, seed saving (28.6%) is crucial for crop diversity and reduced dependence on external inputs (Ocbian & Lasim, 2015; Kennedy, 2024).

Overall, these strategies illustrate how Indigenous farmers combine economic, environmental, and resource-based changes to strengthen resilience, enhance food security, and sustain livelihoods in the face of climate and economic challenges.

Table 4

Statistical Summary Table of Using Resilient Strategy

Code	Practice	No. of Respondents	Percentage of Response
EA1	Adjusting Watering Routine	4	57.1%
EA2	Seasonal Planting	4	57.1%
EC1	Marketing and Sales Technique	5	71.4%

EC2	Balancing Backyard Farming With Other Activities	7	100%
SR1	Optimizing Space	3	42.9%
SR2	Using Available Resources	3	42.9%
SR3	Seed Saving	2	28.6%

Conclusion

The backyard farming practices of the Aeta communities highlight their strong connection to nature and their ability to respond to changing conditions. While backyard farming comes with challenges such as limited space, access to tools, and the effects of climate change, the Aetas rely on generations of traditional knowledge to respond effectively. They make use of practical strategies like sack gardening and water-saving techniques, demonstrating resilience and creativity despite limited resources. Their deep respect for the environment guides their sustainable practices, which help maintain soil fertility and biodiversity. These traditional methods, shaped by experience and cultural values, offer important lessons for sustainable farming and environmental care. By understanding and valuing the Aetas' way of farming, we also recognize the role of indigenous knowledge in addressing modern issues like food security and climate change.

This study, however, has several limitations that must be addressed in future research. First, the small sample of seven (7) informants may not fully represent Indigenous backyard farmers. Second, the lack of literature, particularly on Aeta communities in the Visayas, made it difficult to support the findings. Third, the limited farming space of the informants may not reflect the experiences of Indigenous farmers with larger land areas. Lastly, differences in years of experience indicate a need for stricter inclusion criteria to ensure more reliable data. Despite these constraints, the study offers valuable insights into Indigenous resource management, knowledge sharing, and adaptation to climate and economic challenges. It also lays the groundwork for further research on the livelihood and economic issues faced by Aeta communities in the Visayas.

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