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WORKING WITH NATURE: PRACTITIONERS' PERSPECTIVES ON PERMACULTURE DESIGN IN AGRICULTURAL LANDSCAPES IN THE PHILIPPINES

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ABSTRACT – A reductionist view of agriculture as merely food production for profit often leads to the unsustainable management of agricultural landscapes and their surrounding ecosystems. Permaculture offers alternative views of agriculture. This paper looked into how various perspectives of permaculture have influenced different approaches to sustainable agriculture in the Philippines. The experiences of seventeen practitioners from twelve permaculture sites were compared using key informant interviews, focus group discussions, and direct observation using the video blog (vlog) technique. Interview transcripts were analyzed and interpreted while key messages were extracted from the vlogs. Results revealed three prevailing perspectives of permaculture in the Philippines: ecological, socio-cultural, and agricultural. The ecological perspective was shared in 7 permaculture sites, making it the most common among respondents. The view emphasized an individual's participation in the processes of a larger ecosystem and their symbiotic relationship with nature. A socio-cultural perspective highlighted the human dimensions of permaculture, such as food culture, personal relationships, and daily life. Moreover, an agricultural perspective focused on sustainable agribusiness models. The diversity of perspectives has enriched permaculture as a science and practice and is viewed as a regenerative design process benefiting farmers and non-farmers alike. Though approaches may differ, the goal of permaculture to design sustainable and nature-based farming systems remains the same.

Keywords: agroecology, nature-based solutions, sustainable development

INTRODUCTION

As a grassroots response to the global oil crisis of the 1970s (Aiken, 2017), permaculture led a philosophical revival of time-tested techniques in agriculture, merging perennial crop production with ecological landscape design. Its proponents, Bill Mollison and David Holmgren, urged people, especially those without farming backgrounds, to take local action and start personal initiatives for food security. To many of its practitioners, permaculture was their introduction to sustainability.

Permaculture is a framework that follows 12 design principles (Holmgren, 2002; Verma & Tiwari, 2020) applicable to several dimensions of life. These principles are 1) observe and interact; 2) catch and store energy; 3) obtain a yield; 4) apply self-regulation and feedback; 5) use and value renewable resources and services; 6) produce no waste; 7) design from patterns to details; 8) integrate rather than segregate; 9) use small and slow solutions; 10) use and value diversity; 11) use edges and value the marginal; and 12)

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creatively use and respond to change.

As the concept evolved, permaculture expanded its scope to the design of sustainable lifestyles in general, thus, the term 'permanent culture' (Holmgren, 2002). Its network of practitioners and teachers has grown at the global level as well (Ferguson & Lovell, 2014). This evolution to socio-ecological design broadened its influence in health and wellness circles (Corazon et al., 2012; Centemeri, 2020), landscape architecture (Bulut, 2008; Janos, 2015; Althouse, 2016; Mugwall, 2017), community development (Maye, 2016), politics and policy-making (Akhtar et al., 2016) and environmental activism (Haluza-DeLay & Berezan, 2010; Henfrey & Ford, 2018; Caraway, 2018).

Permaculture probably arrived in the Philippines in the 2000s, but how it was perceived and practiced locally presented a huge knowledge gap according to a study of permaculture social networks in the Philippines conducted in 2018 (Flores et al, 2023). Therefore, the objectives of the study were to determine the definition or concept of permaculture among practitioners, determine the prevailing perspectives of practitioners on permaculture, and determine how these perspectives have influenced the practitioners' approaches to farming.

Unraveling these different perspectives will help in mainstreaming efforts to collectively and radically reimagine agriculture from current industrial-scale conventional agriculture to a more sustainable and regenerative path to food security. In the era of climate change and scarce resources, urgent action should take place in the food system.

MATERIALS AND METHODS

Twelve permaculture sites representing Luzon, Visayas, and Mindanao were selected for the study using maximum variation sampling (Cohen & Crabtree, 2006). All sites were privately owned, and the majority (10) were managed by families. Permaculture practitioners, family members, and farm staff who were present at the time of the visit were all asked to participate in key informant interviews (KII) and focus group discussions (FGD). Only those willing to join were included. Data collection was conducted from August 31 to November 6, 2018. Three days were allocated for each location.

Definitions of permaculture were determined by conducting KIIs with practitioners and FGDs with members of the household and farm staff. These data collection methods provided information on personal backgrounds and land use history, technologies and practices employed, design objectives, and motivations and challenges in permaculture. Interviews were then transcribed and analyzed.

Transcriptions were analyzed based on word repetitions (Ryan & Bernard, 2003) and visualized using word cloud analysis (Atenstaedt, 2012; Dimlo et al., 2020; Bhoi & Patel, 2020). 'Stop words' (commonly used words such as 'the,' 'is,' and 'permaculture' for this study) were manually omitted from the 'word list' produced by an online word cloud generator (WordClouds.com). The analysis revealed personal definitions of permaculture and frequently used words that identified emergent subtopics that represented a certain perspective.

Perspectives were deduced from the analysis of KII and FGD transcripts. In addition, comments and discussions from video blogs or vlogs (Parker & Pfeiffer, 2005; Raun, 2014) were noted, and perspectives of practitioners were compared with views of permaculture in other countries.

Field observations were made using the video blogging, or vlogging (Young, 2007; Lim, 2013) technique—a form of field journaling that primarily uses the video camera of a mobile phone. The researchers followed practitioners for three days and documented how certain perspectives of permaculture

have affected actual practices on the farm. The 16-episode vlog series were all original and produced and edited by the researchers. The novel approach was intended to be interactive, and the vlogs were used to show permaculture practices on social media platforms such as Facebook and YouTube. Respective farm managers and participants were informed beforehand of the data collection activities of the research team. Participants were also informed that the vlogs will be used as free educational materials for the promotion of local permaculture. Participants who did not want to be filmed were not included in the vlogs.

RESULTS AND DISCUSSION

Practitioners' Definitions of Permaculture

Table 1 shows the profile of 17 practitioners from 12 permaculture sites. Nine sites were located in Luzon, while three came from Visayas and one from Mindanao. There were ten male and seven female respondents. Only three (18%) had a background in agriculture, while the rest had a non-agriculture professional career and/or education. The majority of respondents (13) owned land, while four worked as staff. Fifteen respondents had some form of permaculture training, either from a workshop or a permaculture design certificate (PDC) course.

Table 1. Profile of permaculture practitioners. All except two respondents have permaculture training or have finished a PDC course.

Site	Freq.	Sex at birth		Educational/professional Background	Position/role	With training/ PDC
		Male	Female			
LUZON						
Cavite	1	1	0	Information Technology	Farm Manager ('Earthworker')	Yes
Isabela	1	1	0	Information Technology	Owner/farmer	Yes
Laguna 1A	1	1	0	Development Communication	Owner/farmer	Yes
Laguna 1B	1	1	0	Agricultural Engineering	Resident	Yes
Metro Manila	3	2	1	Product Development Landscape Architecture Production Design	Manager/resident Staff Staff	Yes Yes Yes
Mountain Province	1	1	0	Political Science professor	Resident (ancestral land)	No
Nueva Ecija	1	0	1	Agriculturist	Farm Manager	Yes
Palawan	1	1	0	Ski Instructor/Christian Missionary	Proprietor/farmer	Yes
Quezon	2	1	1	Airline pilot/engineer Nurse	Owner Owner/farmer	Yes Yes

Table 1 (Continued). Profile of permaculture practitioners. All except two respondents have permaculture training or have finished a PDC course.

Site	Freq.	Sex at birth		Educational/professional Background	Position/role	With training/ PDC
		Male	Female			
VISAYAS						
Antique	1	0	1	Arts and design	Proprietor/gardener	No
Cebu	2	1	1	Engineering/educator	Owner/trainer	Yes
				Psychology professor	Owner/farmer	Yes
MINDANAO						
Zamboanga del Sur	2	0	2	Nursing graduate	Owner/farmer	Yes
				Organic farmer	Owner/farmer	Yes
TOTAL	**17**	**10**	**7**			

Diverse personal backgrounds produced different definitions of permaculture (Ferguson & Lovell, 2015; Fiebrig et al., 2020). Though educational/professional backgrounds, roles, and training were not found to affect how they defined permaculture, the diversity of individuals participating in permaculture practice was worth noting. Definitions were extracted from interview transcripts to determine practitioners' perspectives of permaculture. Table 2 reports how they defined the concept based on their personal experiences (Oliveira & Penha-Lopes, 2020).

Table 2. Practitioners' definitions of 'permaculture' derived from interview transcripts.

Site	Definitions of Permaculture
Palawan	*"[Permaculture is] food production and community empowering design systems that produce stable, productive villages or residences, or even cities at the right level. Permanent Agriculture."*
Antique	*"[Permaculture is about] observing, respecting, and emulating what you see in nature."*
Nueva Ecija	*"[Permaculture is] design from nature and our culture;*
Metro Manila	*"[Permaculture is about] energy and patterns [in nature]."*
Quezon	*"[Permaculture is like] what we call 'katam system'—let nature do the work for you; follow the movement of water; a collection of techniques with unique design."*
Laguna 1B	*"[Permaculture is] a philosophy and holistic approach to life."*
Cavite	*"[Permaculture is about] care for the environment and care for the soil."*
Isabela	*"[Permaculture is about] letting nature do the job for you."*
Cebu	*"[Permaculture is] a way of life; the problem is the solution."*

Table 2 (Continued). Practitioners' definitions of 'permaculture' derived from interview transcripts.

Site	Definitions of Permaculture
Mountain Province	*"[Permaculture is] a way of life—our way of life."*
Laguna 1A	*"[Permaculture is] Permanent/regenerative, energy efficient, resilient and self-sustaining, maximization of potential and elimination of waste, adaptability amidst constant change; application of organic methods."*
Zamboanga del Sur	*"[Permaculture is] observation of nature; maximization of energy; working with nature."*

To put these definitions in context, Table 3 reports the results of a text analysis of interview transcripts. The analysis identified eight keywords that were frequently mentioned by respondents during interviews. These repeated words (number of mentions) represented recurring themes during interviews, which supported respondents' definitions of permaculture.

Table 3. Keywords that supported respondents' definition of permaculture based on analysis of interview transcripts. Significant statements using these keywords are reported in the table.

Keyword	No. of Mentions	Significant Statements	Site
Organic	34	*"... kasi nga nakakasama sa katawan natin yung iniinom at kung anu-anong nilalagay pati yung ini-spray sa ano, kaya ang ano ko talaga, mag-organic farming."* ("...it is harmful to the body, and also the chemicals that we spray, that is why I practice organic farming instead.")	Isabela
	36	*"Ano kasi, yun nga, yung background na gusto ko talaga yung organic. To the point na, ang ano ko palang nun ay organic farming. Hindi pa permaculture. Pero malaking bagay din na nagstart sa ganon."* ("My background is organic farming. From the beginning, all I knew about was organic farming. Not permaculture. But it is very helpful that I started with organic farming.")	Nueva Ecija
	22	*"Whatever you do to the land, you do to yourself.' Ganon kami na-ano… So sabi namin, 'Paano natin yun ipapa…?' That's where we started to go into… with organic farming."*	Zamboanga del Sur

Table 3 (Continued). Keywords that supported respondents' definition of permaculture based on analysis of interview transcripts. Significant statements using these keywords are reported in the table.

Keyword	No. of Mentions	Significant Statements	Site
		("Whatever you do to the land, you do to yourself. That's what we were taught. We asked how we would apply what? That's when we started practicing organic farming.")	
Gulay (vegetables)	39	*"Ang paraan lang ay yung paglagay namin ng iba't ibang klase ng mga gulay o ornamentals, o ibang klase ng weeds na simple lang pero akala mo kung anu-ano lang… pero nakakaligaw din sa insekto."* (To manage pests naturally, we plant different kinds of vegetables and ornamentals. Even simple weeds contribute to diversity and also help to drive away plant pests).	Cavite
	36	*"Kasi you are what you eat. Naisip ko na what if kumain ako ng gulay? Nagcome together siya as a realization."* ("They say that you are what you eat. So I thought, what if I eat vegetables? It all came together as a realization.")	Laguna 1A
People	44	*"People can develop themselves, ideas can take root, plans can take shape, farms can be set up, and buildings can be built."*	Metro Manila
	30	*"You know what, sayang… Hindi naman ganon talaga yung pag-iisip kung bakit inumpisahan ng parents natin yung farm.' It was supposed to instill… the people of the importance of a relationship to the land."* ("Our parents did not originally intend for the farm to become what it is today. It was supposed to instill in our people the importance of our relationship with the land.")	Mountain Province
Baboy (pig)	31	*"Kasi gubat sya. Like for example ito gubat dito namin sila irerelease. They will clean it up. The baboy will clean it up."* ("It is a forest. For example, we will release the pigs here in the forest. And they will clean it up for us.")	Quezon

Table 3 (Continued). Keywords that supported respondents' definition of permaculture based on analysis of interview transcripts. Significant statements using these keywords are reported in the table.

Keyword	No. of Mentions	Significant Statements	Site
Soil	18	*"But there's documented research out there that many crops and most soil organisms benefit from some aeration. Aeration is not the problem. The problem is inverting the soil."*	Palawan
Seeds	12	*"A lot of times, we let the plants dry on the vine or wherever they are growing. If we do have a decent amount that has successfully grown, we'll pick the nicest one. Save seeds."*	Antique
Food	32	*"Ang hirap, but that's the goal. Grow your own medicine, grow your own food, grow your own house, grow your own furniture. Parang ganon ba? Magtanim ka ng puno, then gawin mong furniture mo."* ("It's difficult, but that's our goal. To grow our own medicine, grow our own food, grow our own house, grow our own furniture. It's like that, plant a tree so you can make furniture.")	Cebu
Work	8	*Holistic approach lagi. Kahit san naman pwede mo iapply ang permaculture. Hindi lang sa pagtatanim. Kunyari sa work mo, pano yung habits mo. Diba.* ("It always has to be a holistic approach. You can apply permaculture in any aspect, not just farming. For example, in your work, in your daily habits, right?")	Laguna 1B

Figure 1 shows examples of word cloud visualizations of interview transcripts. The frequent mention of the word '*gulay*'—the Tagalog word for vegetables in Cavite (Fig. 1.1-A) and Laguna 1A reflected routine interactions with vegetables through planting, tending, and consumption thereof as documented during data collection. The farm in Cavite, in particular, is known for its practice of seed-saving, and its farmers devote much of their time sorting seeds. They do not raise farm animals, and so their efforts are focused on the production and marketing of vegetables. It must be noted that none of them considered themselves vegetarians.

'Organic' was a common word mentioned in Nueva Ecija (Fig. 1.1-B), Isabela, and Zamboanga del Sur. Frequent mention of this word referred to the practice of 'organic agriculture'—a concept closely associated with permaculture (Garnett, 2015; Fiebrig et al., 2020). Organic production is a common (almost default) system of crop management in permaculture. Though not all are certified organic, all respondents have claimed to make and use organic inputs such as compost, botanical sprays, and organic fertilizers.

The interviews also revealed that, for most, their permaculture journey began with exposure to the organic agriculture network.

Another notable word that appeared in the analysis is 'people,' which was frequently mentioned by respondents in Metro Manila (Fig. 1.1-C) and Mountain Province and used in the context of personal empowerment, stewardship, and culture (Suh, 2014). This pertains to sustainable resource management and having an overall culture of respect for nature as a giver of life.

Figure 1. Examples of word cloud visualizations of interview transcripts from (A) Cavite, (B) Nueva Ecija, and (C) Metro Manila show keywords in large, teal-colored fonts (word clouds generated in https://www.wordclouds.com/).

These definitions of permaculture were classified into three types: 1) nature-oriented, 2) lifestyle-oriented, and 3) production-oriented definitions. A nature-oriented definition communicated three main points. First, it recognizes the value of ecological design. Second, it uses permaculture as a platform to interact with the environment. And third, it personifies nature as a designer or co-worker. These were validated by statements from interview transcripts.

"Follow the movement of water," said one practitioner from Quezon, referring to how the flow of rainwater on the ground has shaped the contours of their farm landscape. *"Permaculture is about energy and patterns,"* added another from Metro Manila, sharing the use of observational skills to harness the benefits of natural design. Referring to the ability of nature to shape outcomes, a practitioner from Isabela declared, *"Let nature do the job for you."* Keywords mentioned in the definitions include 'nature,' 'respect,' 'care,' 'energy,' and 'work/job.' Shared by practitioners from 7 sites, this definition type was the most common.

A lifestyle-oriented definition, on the other hand, provided a more concise yet holistic picture of permaculture. Viewed as "*a way of life*," respondents who shared this definition understood permaculture in the context of a sustainable lifestyle philosophy that can be practiced by all, not just farmers or gardeners (McManus, 2010). *"Our way of life,"* says a practitioner from Mountain Province, linking the similarities of their family's indigenous Igorot heritage with their practice of permaculture. *"The problem is the solution,"* a famous permaculture principle by Mollison, was quoted by practitioners in Cebu referring to how they use permaculture in solving day-to-day challenges in their family businesses and personal advocacies.

Lastly, the production-oriented definition type offered a more 'traditional' or 'commercial' outlook on permaculture, recognizing its origins in agriculture (Fiebrig et al., 2020). Although the two definitions grouped in this type acknowledged the importance of permaculture's holistic nature and a wide variety of applications, food production was the primary focus. *"Permaculture is…the application of organic methods,"* a practitioner from Laguna 1A emphasized in his definition. A respondent from Palawan reminds us that permaculture from 'permanent agriculture,' *"[Permaculture is] food production and community empowering design systems that produce stable, productive villages or residences, or even cities at the right level. Permanent Agriculture."*

Though none of the definitions were necessarily correct or incorrect, they were incomplete as they only represented fragments of the full permaculture concept. It is important to keep in mind that the personal definitions gathered from the interviews do not represent a practitioner's full understanding of the concept. Rather, definition types only revealed a certain "bias" or emphasis towards a specific aspect of permaculture, reflecting what truly matters to a particular practitioner.

Prevailing Perspectives of Permaculture Practitioners

Based on these findings, three prevailing perspectives of permaculture were identified: 1) *ecological*-- an ecocentric view (Hoffman & Sandelands, 2005) that prioritizes the intrinsic value of nature; 2) *socio-cultural*-- a holistic lifestyle view that extends permaculture applications beyond the farm; and 3) *agricultural*--a farm management view that emphasizes the sustainable production of food. Each perspective is discussed in this section as compared to experiences in other countries.

Ecological Perspective. Seven (7) practitioners shared an ecological perspective of permaculture. From their point of view, permaculture provided an opportunity to observe and learn how natural phenomena affected their daily lives. In an ecocentric sense, practitioners view themselves as participating in the processes of a larger ecosystem (Rhodes, 2015; Aiken, 2017). This perspective is also found in other countries. According to Caraway (2018), permaculture in Cuba shares a similar view in which the harmonious relationship between humans and nature is emphasized. The latter is viewed as something sacred, possessing an intrinsic value (Caraway, 2018). Through personal experiences and daily observations, permaculture provided a way to see the value of nature. This was demonstrated in Quezon when a respondent shared how their native pigs consume all the vegetation in the forest when left to roam. This intrinsic characteristic of the pig gave them the idea to let it wander around and clear patches of land while fertilizing the soils with its manure. Another example observed at the same site was how stingless bees made their hives in discarded coconut husks. This gave the practitioners an idea to design beehives out of the husks which were in abundant supply. With an ecological perspective, practitioners assume the role of an observer of nature and a designer.

"Organic" or organic agriculture was identified as a recurring topic among practitioners with an ecological perspective. Interest in organic agriculture was also documented in the ASEAN country of Myanmar, where it is part of their permaculture education (Garnett, 2016). Organic management of crops is also practiced in permaculture farms in Indonesia (Putro & Miyura, 2020). In their view, organic was a system of farming that was appropriate to their context because it relied on natural inputs and biological ways of managing pests. A perspective like this may not create a farm that is as productive as a conventional farm in terms of crop yield (Gabriel et al., 2013). But in the long term, it will be beneficial to biodiversity, soil health, and the sustainable management (Vitari & David, 2017) of natural resources. Table 4 presents key messages from the vlogs that featured practitioners in permaculture sites that have an ecological perspective.

Table 4. Key messages derived from vlogs featuring practitioners with an ecological perspective. Equivalent environmental and ecological concepts (Krebs & Bach, 2018) conveyed in the vlogs are in the third column.

Site	Key messages from vlogs	Environmental/ecological concepts conveyed (Krebs & Bach, 2018)
Quezon	Observe natural processes (biotic and abiotic) to guide farm design decisions. Prioritize the multifunctionality of components by finding creative and sustainable uses for abundant natural resources Develop appropriate technologies	Decomposition Nutrient cycling Soil erosion Water retention Animal behavior (ethology) Habitat diversity
Nueva Ecija	Plan according to zones based on the frequency of land use Prioritize the multifunctionality of components by finding creative and sustainable uses for abundant natural resources Develop appropriate technologies	Plant species diversity Water retention Conservation biology Ecological succession Habitat diversity
Isabela	Practice permaculture regardless of personal background Protect biodiversity, such as avifaunal species. Actively participate in the design process using less energy	Plant diversity Avifaunal diversity Conservation
Metro Manila	Contextualize the use of permaculture Communicate the complexity of nature in simple ways that people can understand. Educate people to become agents of change	Systems theory Environmental communication and education
Antique	Engage the community by promoting a culture of cooperation and collaboration. Experiment with planting techniques and observe what works. Plan according to zones based on the frequency of land use	Adaptive management Ecological succession Water retention Plant diversity

Table 4 (Continued). Key messages derived from vlogs featuring practitioners with an ecological perspective. Equivalent environmental and ecological concepts (Krebs & Bach, 2018) conveyed in the vlogs are in the third column.

Site	Key messages from vlogs	Environmental/ecological concepts conveyed (Krebs & Bach, 2018)
Cavite	Reduce waste by using renewable and biodegradable packaging Prioritize multifunctionality by finding creative and sustainable uses for abundant resources such as banana leaves. Encourage problem-solving and sharing of knowledge.	Decomposition Nutrient cycling Plant diversity
Zamboanga del Sur	Apply permaculture beyond the farm or garden and incorporate it into local agenda-setting. Promote the use of local products through training, skill-sharing, and capacity-building Prioritize multifunctionality by finding creative and sustainable uses for abundant resources such as *adlai*	Adaptive management Plant diversity Circular economy

Socio-cultural Perspective. A socio-cultural perspective of permaculture was shared by practitioners in 3 locations. What sets this group apart is although they grow crops, they are not full-time farmers. This is similar to middle-class permaculture households in Turkey (Abiral, 2019) that have the educational, financial, and social capital to imbibe an 'ecological disposition' with a general dislike for politics and large corporations. Residential non-farming communities in Malaysia have also been documented to grow their own crops and fruit trees (Ismail & Affendi, 2015). This perspective may seem elitist on the surface, but it emphasizes the human dimensions of permaculture, such as food culture, personal relationships, and applications of design principles beyond farming, such as business, transportation, and education. This is the most commonly shared view among practitioners all over the world, according to studies. Practitioners in Australia (Crosby et al., 2014), Belgium (Kenis & Mathijs, 2014), Brazil (Abdala & Mocellin, 2010), El Salvador (Millner, 2016), and Japan (Chakroun, 2019) all demonstrate a degree of a socio-cultural perspective that values self-development, cultural heritage, environmental stewardship, and respect for nature which is similar to those in this study.

Table 5 shows that even with a socio-cultural perspective, practitioners still designed their landscapes according to permaculture principles with permaculture landscape features. This shows that a certain perspective does not necessarily hinder or limit what an individual can do but rather gives emphasis on a certain aspect.

Table 5. Key messages derived from vlogs featuring practitioners with a socio-cultural perspective. Equivalent environmental and ecological concepts (Krebs & Bach, 2018) conveyed in the vlogs are in the third column.

Site	Key messages	Environmental/ecological concepts conveyed (Krebs & Bach, 2018)
Laguna 1B	Catch and store rainwater underground using swales Prevent soil erosion and nutrient loss in sloping areas using swales. Develop appropriate technologies	Water retention Soil erosion Nutrient runoff
Cebu	Plan according to zones based on the frequency of land use Observe natural processes such as soil erosion and seawater inundation to guide in design. Conserve local biodiversity to benefit from regulating services of mangroves.	Plant diversity Conservation biology Ecological succession Water retention Habitat diversity
Mountain Province	Preserve the cultural heritage and indigenous traditions with food Diversify food preferences by learning how to prepare and cook available and abundant crops. Obtain a yield from the land and the wisdom of ancestors	Biodiversity Cultural diversity

Agricultural Perspective. Lastly, an agricultural perspective was shared by practitioners in only 2 locations. Although all practitioners produced crops, those who possessed this view were more focused on farm output through sustainable means, citing natural farming (Khadse & Rosset, 2019), organic agriculture (Muller et al., 2017), and aquaponics (Goddek et al., 2015) as the main systems of production. A focus on agriculture is shared by peasant farmers in El Salvador, where permaculture is a pathway towards food sovereignty (Millner, 2016). The same is true in Nepal, where Mayer (2018) reports that farmers who practiced permaculture became more food secure and diversified their diets. Studies on permaculture farming for climate change adaptation and food security have also been the main topic of studies in Kenya (Dewey et al., 2014), Uganda (Namulili, 2011), and Malawi (Rivett et al., 2017). Also, of all three perspectives, this has the potential to be the most balanced view of permaculture.

Based on interviews, this was not a popular perspective of permaculture since most of its practitioners were part-time farmers and only grew food for household consumption (Sutherland, 2019). It was also believed that a focus on yield narrows the scope of permaculture as a 'culture.' Yet, according to one respondent, there are few permaculture farms that earn from the crops that they produce but rather earn income from other sources such as conducting training. Whether this is a good thing or not is still up for debate.

Based on the vlogs, Table 6 reports how practitioners with an agricultural perspective use the farm to apply ecological concepts (Hathaway, 2015). Though the function of their landscapes is primarily for crop production, it was observed that there was still a diversity of services and revenue streams as both farms are venues for training workshops, agritourism, sustainable tourism (Epuran et al., 2020), and agribusiness.

Table 6. Key messages derived from vlogs featuring practitioners with an agricultural perspective. Equivalent environmental and ecological concepts (Krebs & Bach, 2018) conveyed in the vlogs are in the third column.

Site	Key messages	Environmental/ecological concepts conveyed (Krebs & Bach, 2018)
Laguna 1A	Observe natural processes, such as the role of animals in nutrient cycling Appreciate and respect animal behavior. Recognize the cultural value of farm animals	Decomposition Nutrient cycling Animal behavior (ethology)
Antique	Maximize limited space by stacking multiple spatiotemporal functions Value diversity of crops and its corresponding outputs in the form of goods, services, and revenue streams Develop appropriate technologies	Ecological succession Plant diversity Habitat diversity

The following section discusses how permaculture perspectives affected practitioners' ways of farming.

Influences of Perspectives on Approaches to Farming

Discussed in this section is evidence of how certain perspectives have influenced approaches to farming or gardening (Table 7).

Table 7. How each perspective influenced farming and gardening approaches based on observations from vlogs, KIIs, and FGDs.

Perspective	Site	Influences on Farming/Gardening Approaches	Sources of Data
Ecological	Quezon	● Use of coconut husks for compost bins, berms, and *hugelkultur* raised bed construction ● Use of coconut shells for stingless bee beehives ● Use of pigs to cultivate the soil	Vlog KII FGD
	Nueva Ecija	● Use of rainwater catchment pond for aquaculture ● Use of a pond-irrigated raised bed garden ● Use of bamboo for infrastructure	Vlog KII FGD
	Isabela	● Allocation of habitat for avifaunal species ● Reforestation	Vlog KII
	Metro Manila	● House made from natural materials like clay ● Multi-cropped vegetable garden	Vlog KII
	Antique	● The restaurant is made from bamboo ● Use of greywater irrigation for the garden ● Multi-cropped vegetable gardens	Vlog KII FGD
	Cavite	● Use of banana leaves for seed pots/seed trays ● Use of banana and gabi leaves for vegetable packaging ● Selling herb and vegetable salad bouquets	Vlog KII FGD
Socio-cultural	Laguna 1B	● Minimal gardening activity ● Management of food forest ● Simple lifestyle ● Practice seed saving	Vlog KII
	Cebu	● Focus on the development of appropriate technologies ● Use of mangrove forest for education and recreation	Vlog KII

An ecological perspective influenced the creative use of natural components and appropriate technologies (Backhurst, 1985) in organic farming systems. In Quezon, practitioners demonstrated how they maximized the various parts of the coconut for making multifunctional components such as raised beds/compost bins (mounds of soil and compost mix held in place by coconut husks used for planting vegetables and making compost), *hügelkultur* beds/berms (layers of dry organic material used to line hill slopes to control erosion), and beehives for stingless bees (for local honey production).

In the vlogs in Nueva Ecija, the practitioner explained how rainwater was collected using a series of manmade catchment ponds (Marquez et al., 2021) that are also used for aquaculture (Tezzo et al., 2020). The water collected is also used for irrigation of the vegetable garden. In Isabela, the practitioner explained why a forest corridor (Pliscoff, 2020) was maintained inside his property to attract birds and provide a natural habitat for them (Lindenmayer & Nix, 1993). In Metro Manila, the practitioner gave a tour of his house made from a clay mixture and powered by solar energy and passive lighting systems. In Antique, recycled bamboo was used to build a fully functioning restaurant that serves food from the garden and other local products. In Cavite, the farmers demonstrated how they use banana leaves as an alternative to plastic seedling trays and plastic bags. In Zamboanga del Sur, practitioners showed how they made plant-based organic soaps on-site for selling in their Organic Trading Post (OTP).

As an anthropocentric view, a socio-cultural perspective utilizes ecosystem services to provide water and food on the farm. In Laguna 1B and Cebu, both practitioners showed how they used the existing topography of their ecosystems to create swale systems to increase water infiltration that would benefit their tree crops during the dry season. In Mountain Province, it was demonstrated how they benefited from *sapsapon* (*Crassocephalum crepidioides* (Benth.) S. Moore) as a low-maintenance and sustainable food source that paid homage to the food culture passed to them by their ancestors.

Lastly, an agricultural perspective influenced the development of sustainable agribusiness models for home-based, small-scale farming. In Laguna 1A, the practitioner explained how native pigs for organic *lechon* became their main product and primary source of income. Due to their success in this niche market, the farm became the hub for the Department of Agriculture-Agricultural Training Institute's (DA-ATI) Farmers' Field School on Sustainable Pig Farming. In Palawan, the practitioner discussed how his productive and efficient soil-based urban aquaponics system produced a wide variety of crops for his family, the farm staff, the children in their orphanage, their walk-in customers, and their retail outlets.

Theories and models of human-environment interactions, or HEIs (Roosevelt, 1999; Bennett & McGinnis, 2008), have provided possible explanations for how human behavior is shaped by the environment and vice versa. One such model, the actor-based model of human ecology proposed by Rambo (1983), best demonstrates how permaculture is used as an adaptive strategy for the application of sustainable agriculture. The model emphasizes how individuals make personal choices to use a strategy to adapt to a certain environment. The success, or perceived success, of a strategy convinces other individuals to adopt it as an option until the collection of their successes becomes a culture on its own. However, the model needs an explanation as to what drives individuals to make such decisions and choices other than the success of others.

The study worked on the assumption that the perspectives of an individual are guided by past experiences, socio-cultural context, education, and personal values. It is an outcome of one's socialization. Even without measurable success indicators, an individual adopts a strategy based on strong convictions and a clear worldview. Therefore, the study revealed that perspectives influence decision-making, which in turn determines the form and function of the farm landscape. In other words, an individual's worldview is manifested in the design of their habitat. This observation is based on permaculture's bottom-up and proactive approach to societal change.

Permaculture is a people-oriented concept wherein diversity and sharing are the common denominators. It unites all kinds of people in the concept and output while allowing and encouraging diversity in practices and implementation.

The findings of one practitioner (either through experience, experimentation, or acquired knowledge as applied according to his perspective or interpretation) can be openly shared to benefit other practitioners—through social media, conferences, or community sharing. Since permaculture is inherently a social concept, the ideas learned or acquired are transferable, resulting in a greater impact on production, environmental protection, health, fair sharing, a wider market, and distribution of goods.

The perspectives described in this study are just the beginning of our understanding of how permaculture is viewed in the Philippines. We anticipate additions and changes in their views in the coming years as new knowledge is gained through education and experience.

CONCLUSION AND RECOMMENDATIONS

The study revealed three types of permaculture definitions: nature-oriented, lifestyle-oriented, and production-oriented definition. These correspond with specific perspectives of permaculture, which are *ecological, socio-cultural,* and *agricultural* perspectives. These were validated with an analysis of interviews and observations using vlogs.

Permaculture was used as an adaptive strategy by its practitioners to address the environmental and social shortcomings of conventional agriculture. Hence, the study revealed perspectives on permaculture. The differences among perspectives are important to study as these differences prove that permaculture is not limited to a singular approach to achieving the goal of a 'permanent culture.' It gives practitioners the freedom to explore and encourages creativity in analyzing problems and finding solutions. In addition, permaculture does not limit anyone from practicing it, regardless of whatever perspective they adhere to.

Diversity in perspectives enriches the science and discipline of permaculture through the sharing of information and exchange of knowledge with one another, which can result in the participation of more people from diverse backgrounds. Differences in perspectives also make it easier for a practitioner to own and respect their design (including their observations and discoveries) yet enjoy the freedom to share it with others to be applied differently as each practitioner exercises their own interpretation.

The assurance is that no matter what perspective a practitioner adopts in his design, the goal of a 'permanent culture' remains fixed and the same. Future studies using a bigger sampling population can reveal more variations in the perspectives of practitioners, which can easily be adapted or shared through open discussion and the use of social media. Sharing varying perspectives can help the general population of households and individuals to identify their style and preferences, thus identifying what truly matters to a practitioner within the ‘permanent culture.’ This allows flexibility and much freedom in the practice of permaculture.

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STATEMENT OF AUTHORSHIP

J.J.M. Flores conducted the literature search, prepared the conceptual framework, identified thematic points, formulated recommendations, and undertook the writing up. I.E. Buot, Jr. initiated the concept, identified some issues, formulated recommendations, and reviewed the paper.

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