

Traditional and Contemporary Lowland Paddy Management Knowledge in the Duhiadaa Pohuwato Regency

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ABSTRACT: This article employs a qualitative ethnographic method to examine the role of traditional and modern knowledge systems in Lowland Paddy management. We believe that there are still variations in views in society, particularly among farmers, about whether farmers should keep traditional knowledge or contemporary information, and that this attitude has an effect on boosting Paddy output, particularly in the Duhiadaa community. The findings of this study represent the kind of farmer activity observed in the practice of traditional and modern knowledge, and it is hoped that a hybridization of the seasonal calendar of the Duhiadaa pohuwato community's practice of local wisdom would occur. To address issues that arise between traditional and contemporary farmers, it is envisaged that the government, in collaboration with other stakeholders, would offer hybridization in the form of a seasonal calendar controlled by the village or farmer group heads.

KEYWORDS: Traditional and Contemporary Knowledge: Paddy Management in Lowland Areas; Panggoba

I. INTRODUCTION

The Duhiadaa community is primarily engaged in Lowland Paddy farming using both traditional and contemporary methods. Traditional farming systems employ very little machinery and rely on traditional knowledge to guide farmers in Lowland Paddy management. For example, when it comes to selecting when to sow seeds, Duhiadaa farmers continue to utilize a seasonal calendar based on panggoba knowledge (someone who knows a good day to plant). Farmers believe that traditional wisdom should serve as a guide for planting, yet it cannot be disputed that modernism has begun to infiltrate the Duhiadaa community. Along with the passage of time and advancements in technology, this has an effect on agricultural modernisation. In general, new agricultural technology and innovations in agricultural operations are essential for attempts to boost production and productivity in developing nations such as Indonesia. Agriculture undergoes three stages of modernisation. The first level is a low-productivity conventional agricultural method. The second stage is agricultural product diversification, in which agricultural goods are marketed to the commercial sector but money and technology are still scarce. The third stage describes a high-productivity contemporary farming system. Apart from reforming the agricultural economy and implementing new agricultural technology, modernizing agriculture from the traditional (subsistence) stage to the contemporary farming system involves several other initiatives (Scoot 1981:35).

Indonesia is at the third stage, which is characterized by a modern farming system characterized by high production. Modern farming systems rely on technology in agriculture since the majority of agricultural output is for commercial purposes or to fulfill market demands, and therefore the use of human labor has switched to agricultural technology, which has higher production costs. Naturally, this issue will have an effect on the community's behavior patterns and lives, particularly in rural areas that transitioned from subsistence agriculture to modern farming. However, a research by (Scot 1981:35) contradicts the reality in the Duhiadaa community, where 80 percent of Lowland Paddy management is done through traditional knowledge. The purpose of this study was to compare traditional and contemporary knowledge on Lowland Paddy management. Farmers continue to hold divergent views on whether to preserve traditional wisdom or to apply contemporary information in order to increase Paddy output.

Knowledge from the Past and the Present : Panggoba's traditional wisdom in Duhiadaa has been passed down from generation to generation. Traditional society's proclivity for "total thinking" places a premium on the notion of "pars pro toto" (part for the whole). Traditional society often believes that in order to choose a good moment to begin rituals and farming, one of the 'good days' and 'good times' on that day are picked. Concerning the "good site," a tiny portion of the activity's area is deemed "good" for coming face to face at the time of initiating ceremonies and or farming operations (Arifin, 1987). The wholeness perspective is a mode of

thinking, experiencing, and perceiving that assumes that everything in this universe is naturally connected in such a way that it cannot be expressly separated from one another (Tobing, Ph, O.L in Sallatang, 1987)

Historically, researchers have been interested in conducting systematic analyses of traditional knowledge, such as (Hijjang, 2019) farmers are a reciprocal relationship between humans and environmental conditions as a factor in the formation of culture as a pattern and distinguishing characteristic of the community. Meanwhile, contemporary knowledge asserts that the present farming system exists because agricultural technology has displaced human labor, ensuring that solidarity amongst farmers was previously maintained solely via technology. Scott (1981:101) viewed farmers as distinct creatures reliant on subsistence. Subsistence is defined as a mode of existence that satisfies basic necessities in a secure manner. Scott (1981) discovered that when farmers' fundamental needs are addressed, they will not join in resistance movements. Subsistence ethics is a non-commercial way of existence. While Popkins (in Scoot 1981:103) discovered rationality in political economy. Farmers are not static things; they have the ability to choose their own life path. Numerous wants are rationally addressed, including those associated with economic transactions. Popkins believed that when mapped out, an agricultural community is not just a subsistence culture as Scott understood it.

Factors that influence farmers' utilization of traditional and contemporary knowledge. : According to Tamu et al. (2021), a combination of traditional and modern knowledge contributed to Duhiadaa farmers hybridizing Lowland Paddy management. For example, when sowing seeds in Lowland Paddy, farmers consult with the government, community leaders, and panggoba (someone knowledgeable about traditional Lowland Paddy management) to determine the best day for sowing seeds. Once determined, farmers with their own dynamo can sow seeds.

There are three distinct types of farmers in remote villages, according to Koentjaraningrat (1990): (1) a society with a simple social structure, subsisting on yam and taro gardens and hunting and gathering; (2) people who live in villages connected to small towns built by Dutch colonials, subsisting on Paddy farming; and (3) farmers who farm Paddy.(4) As the center of the indigenous kingdom and Dutch administration (influenced by Hinduism and Dutch Colonialism), the city was a hub for Paddy farming; (5) urban communities served as the center of government, where the industrial sector was still weak or called the type of society and small-town culture; and (6) a metropolitan city's society and culture, which was more developed due to its industrial sector.

Farming Systems: Traditional and Modern : Most of the community's farming practices draw on both traditional and contemporary methods. As a way of preserving local knowledge, this was done. Lowland Paddy management will not be hybridized if just one of these knowledge systems is used by farmers. Due to the fact that Duhiadaa farmers are not exactly proportionate to the land area in Duhiadaa, this may create delays in the production of crops. An informant made the following statement:

Generally, farmers do not employ either old or contemporary systems. Our time will run out if our energy consumption is not proportional to our land area; yet, if we utilize Paddy cutting machines, the process will be much faster; hence, we chose to employ both old and contemporary methods.

The informant stated the same thing; We employed traditional knowledge systems in harvest management methods, but we were not completed harvesting until the afternoon, despite the fact that the field adjacent to us was just an hour distant due to their usage of technology in the form of Paddy cutting machines. Indeed, we initiated it together, based on the advice of Panggoba and farmers' traditional wisdom.

The description above demonstrates that farmers do not want to rely on a single knowledge system but rather want to include both or hybridization into Lowland Paddy management in order to maintain normal yield.

II. MANAGEMENT OF PROCESSES AND DATA

Determination of location : Duhiadaa is one of the settlements with the greatest land area in the Pohuwato Regency, with 2404 Ha. According to the Pohuwato Agricultural Office's report, the village's Paddy yield averaged 12,460 tons across all sub-districts. Between 2017 and 2020, the Pohuwato Agricultural Office reported that Lowland Paddy output was quite high (57 percent) in comparison to other agricultural production. This region was chosen because of its abundance of natural resources, making it an ideal setting for research.

Source of information : The informants chosen as subjects were (a) male farmers between the ages of 40-60 years and (b) female farmers between the ages of 40-50 years. The informants listed above were chosen to

provide a comprehensive picture of traditional and current knowledge about Lowland Paddy management and its repercussions.

Surveillance and interview : The observation took place between early 2021 and late 2021 in order to document the environment of male and female Lowland Paddy farmers, local government, community leaders, and panggoba. The purpose of the interview was to elicit sociocultural explanations for traditional and contemporary knowledge processes in Lowland Paddy management.

Processing and interception of data : The following phases were used to analyze and interpret primary data (interviews with informants and direct observations) and secondary data (data from the Agricultural Office and the Gorontalo Central Bureau of Statistics). a) Data identification and categorization. Identification was used to categorize the interview findings in order to obtain a direct comment about Lowland Paddy management. Additionally, identification was conducted to acquire data on the amount of farmers who rely on traditional knowledge. Additionally, this step aided in validating and verifying the data's dependability and validity by data triangulation; (b) Data visualization was accomplished through the use of narrative descriptions of information gleaned through interviews, observations, and secondary data processing. (3) The conclusion was drawn by interpreting each symptom obtained from the data analysis results and then explaining them succinctly and clearly in order to answer questions about traditional and modern knowledge in Lowland Paddy management.

Findings : Male and female farmers in Duhiadaa used both traditional and modern expertise in Lowland Paddy management. This study discovered that employing traditional knowledge to manage Lowland Paddy is more beneficial and lucrative for farmers than applying contemporary knowledge to manage Lowland Paddy, which can result in the land being unproductive. Field observations and interviews with informants revealed that while planting Lowland Paddy, both traditional and contemporary knowledge were applied.

Pohuwato Gorontalo Duhiadaa Farmers : While Lowland Paddy management techniques based on traditional and contemporary knowledge were identified in all 13 sub-districts in Pohuwato Regency, only one sub-district proclaimed the use of traditional knowledge practices in Lowland Paddy management at roughly 80%, compared to the use of modern knowledge.

Table 1. Farmers utilizing traditional knowledge

Number	district	Village	Farmers/land ratio
1	Duhiadaa	Bulili	20
		West Buntulia	15
		Buntulia Jaya	10
		South Bunnntulia	16
		Duhiadaa	22
		Mekar jaya	10
		Mootilango	8
		padengo	9
Total			110

According to the Pohuwato Regency Agricultural Office, 110 Lowland Paddy farmers managed Lowland Paddy using both traditional and contemporary expertise till July 2021. (Table 1). Interviews and observations demonstrated that farmers employed contemporary knowledge in government entities at a far lower rate than traditional techniques. One of the female farmers mentioned that they continue to use traditional wisdom in the fields despite the assistance of contemporary information. This comment corresponds to one made by the leader of Buntulia village.

We still have a lot of land in the community, and we employ traditional knowledge because it is beneficial. The findings of interviews with farmers about the good quality of Paddy, together with statistics from the Agricultural Office, indicate that Duhiadaa Sub-District has a high level of quality and output.

Both Traditional and Contemporary Knowledge : In this period of development, technical advancements have begun to permeate many sectors, including the village of Duhiadaa Pohuwato's Lowland Paddy management.

Traditional knowledge on Lowland Paddy management : 1. Seed preparation; Conditional; 1 time; The seeds are chosen from the best and then dried on the stove to prevent fleas from eating them. Pakele, 2. Nursery preparation; Conditional; One-time; Provide planting beds; Pacul, 3. Seed planting; Conditional; Once; After soaking the seeds overnight, the water is drained and the Paddy is sown on the bed. Molapo, 4. Conditional land preparation; twice; The ground is plowed twice and leveled once. Pajeko/pacul, 5. Planting; Conditional; Once; Seeds from the beds are taken and sown in the fields. Molapo, 6. Cultivation; Implied; Molapo, 7. Fertilization; Conditional; 3 times; Molapo, 8. Pest control; Conditional; Molapo, 9. Weeding; Conditional; 2 times; Weed removed; Koroo, 10. Harvest; Conditional; 1.Sabit/arit; (Piles of Paddy or straw are collected after being courted and then threshed); 2.Porontok; 3.(Wayahu(wind blower); 4.Aya-aya; primus cleaning); 5.Sisiru (place for winnowing grain); 6.Tapata (place to put grain); 7.Terpal (material to be with the sun); 8. enough pole.

Modern understanding on Lowland Paddy management : 1. Seed preparation; Conditional; 1 time; The seeds are chosen from the best and then dried on the stove to prevent fleas from eating them. 2. Nursery preparation; Conditional; One-time; Provide planting beds; Pacul, 3. Seed planting; Conditional; Once; After soaking the seeds overnight, the water is drained and the Paddy is sown on the bed. Molapo, 4. Conditional land preparation; twice; The ground is plowed twice and leveled once. Traktor, 5. Planting; Conditional; Once; Seeds from the beds are taken and sown in the fields. Penanam mesin (many do not like), 6. Fertilizer; Cultivation; Conditional 7. Conditional Fertilization; three times, 8. Pest control; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted; restricted Fertilizer, 9. Weeding; Temporary; Two times; Weed eradicated; Fertilizer, 10. Lawnmower; Harvest; Conditional

The following is what informants stated;

“Farmers continue to employ these two forms of information, namely traditional and contemporary knowledge, regardless of the circumstances”

The description above demonstrates that when it comes to Lowland Paddy management, traditional and contemporary understanding are nearly identical; the main variation is in harvest management. Some farmers continue to utilize traditional tools, while others have embraced mechanized. Thus, the knowledge system of the two continues to exist in the Duhiadaa community to this day.

III. CONVERSATION

Not everyone in the Duhiadaa Pohuwato Regency has embraced hybridization of traditional and contemporary knowledge. While a result, farmers face significant hurdles, including the following: first, farmers endure poor productivity due to limited time, as some farmers continue to rely on traditional expertise, such as the use of traditional Lowland Paddy management instruments such as hoes. Some farmers that employ contemporary knowledge face a similar issue, since they do not consider auspicious days to be a guide for traditional knowledge, resulting in significant harm to their Paddy. Second, farmers will suffer significant implications if hybridization is not carried out, since it would result in losses for both parties (traditional farmers and modern farmers).

This traditional and contemporary knowledge is connected to farmers' efforts to retain and preserve indigenous wisdom, with the result that traditional and modern knowledge are expected to coexist in Lowland Paddy management, where they have survived to the present day.

IV. CONCLUSION

Both of Traditional and modern knowledge in Lowland Paddy management may be demonstrated in the practice from planting to harvesting in the Duhiadaa Pohuwato Regency village. The process was similar from planting to harvesting but differed in harvest management. In modern knowledge, some farmers utilize Paddy cutting machines, but in traditional knowledge, they continue to use traditional tools because they feel that the grain is cleaner when using traditional instruments rather than mechanization. Because the activities are frequently observed in both traditional and contemporary knowledge, it is believed that a hybridization of local wisdom practice would occur in the Duhiadaa Pohuwato Regency community, allowing for the publication of this work alongside modern science. To address the disparities between traditional and contemporary farmers, it is envisaged that the government, in collaboration with other stakeholders, will provide hybridization in the form of village or farmer group leaders' seasonal calendars.

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