Cultural Farming Practices of Indigenous Cultural Communities: The Case of T'boli Farmers in Lake Sebu, South Cotabato, Philippines

原住民たちの農法にもその良さがある。伝統的な農法と現代的なものを組み合わせることがベストなのだ。それは古来の文化を保存することでもある。

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Abstract

This study aimed to analyze the farming practices of T'boli rice and corn farmers in Lake Sebu, South Cotabato, Philippines. Through key informant interviews, focus group discussion, and other personal communications, data were collected primarily from T'boli rice and corn farmers, extension workers, and community leaders. Data were analyzed qualitatively.

Results show that T'boli farmers practice indigenous farming practices and belief systems side by side with modern ones. For instance, intercropping indigenous crops for consumption and hybrid crops as cash crops and combining the use of indigenous and modern tools are a common practice.

Findings also show that use of cultural practices has its benefits as farmers are able to appreciate their heritage while adopting modern practices. Farmers believed that merging indigenous and modern farming knowledge could bring about farming practices that are suitable to their capacities and needs. However, findings also show that the younger generation is no longer knowledgeable of their indigenous farming knowledge and practices.

Recognizing the reflexivity of the learning systems of farmers calls for more participatory extension practices where farmer experimentation showing indigenous and modern farming practices should be emphasized. Likewise, efforts to record these agricultural indigenous knowledge and farming practices should be undertaken as a contribution to ensuring preservation and appreciation of their culture.

Keywords Indigenous knowledge, indigenous farming, indigenous peoples, extension

Introduction

According to the International Work Group for Indigenous Affairs (n.d.), indigenous peoples (IPs) are estimated to comprise some 10 percent or around 9.40 million of the Philippines' projected population. Also called indigenous cultural communities, IPs are not only carriers of a rich cultural heritage but are also sources of invaluable knowledge.

One indigenous cultural community in the Philippines is the T'boli tribe of Lake Sebu, South Cotabato. Because of geographical barriers, inadequate means of communication, and less advanced infrastructure, the T'bolis managed to remain autonomous when Islam reached the lower valleys of Mindanao. Even the Spanish colonization failed to influence the way of life of the T'bolis (MPDO, 2010).

T'bolis live in an ancestral domain blessed with natural resources. Despite such blessings, they

often face development problems such as poverty, discrimination, and marginalization. Consequently, many T'boli families lose their land in their struggle to meet their daily needs (ILO, n.d.).

Globalization may be to blame for the development problems of the T'bolis. The current phase of globalization, which is underpinned by neo-liberal economics and liberal political theory, has increased the risks and vulnerabilities of IPs. As a result, many of these IPs have remained poor and marginalized (Tauli-Corpuz, 2010).

There are more than 300 million IPs in the world. While these IPs make up fewer than 5 percent of the global population, they account for about 10 percent of the world's poor (Patrinos, 2010). It is a common generalization that Third World poverty falls heavily on ethnic minorities and IPs (Todaro & Smith, 2004, as cited in Grande, 2008).

With the presence of local and international organizations that help IPs improve their lives, it is assumed that modern knowledge has already infiltrated these indigenous cultural communities. Thus, it would be interesting to look at the co-optation of indigenous and modern agricultural farming practices among T'boli farmers in an effort to improve extension services and, consequently, agriculture in Lake Sebu.

According to David (2010), international science communities have already acknowledged the partnership of indigenous and external knowledge and research. It has been argued that indigenous knowledge (IK) provides effective alternatives to western knowledge. Instead of considering only western technologies, local people and development workers may choose IK or combine it with western technology (Mathias, 2000).

In the Philippines, many technology transfer and agricultural extension efforts were unsuccessful, because they failed to launch from where the local people are in terms of their knowledge system, skills, preferences, and ways of perceiving and doing things (Serrano, 1997, as cited in Seco, 2000). To improve the benefits of development assistance, the development community is encouraged to find ways to learn about indigenous institutions and practices and where needed adapt modern techniques to local practices (World Bank, 1998). The World Bank asserts that investing in the exchange of IK and its integration into assistance programs can help reduce poverty.

This study aimed to analyze the cultural farming practices of T'boli farmers in Lake Sebu, South Cotabato. This study may be used to enrich the literature on IK and its collaboration with agricultural science. Roling and Engel (1991), as cited in Scoones and Thompson (1994), acknowledge the importance of exploring the transmission and transformation of local knowledge in extension practice. It has been argued that managing IK may strengthen and sustain local institutions and capacities (Marsden, 1994).

Methodology

As indicated in related literature, qualitative research design is more appropriate in studies exploring IK and its partnership with external knowledge (Akullo, Kanzikwera, Birungi, Alum, Aliguma, & Barwogeza, 2007; Singh & Sureja, 2006). Hence, the case study research design was used. Creswell (2007) views a case study as a methodology "in which an investigator explores a bounded system (a case) or multiple bounded systems (cases) over time through detailed, in-depth data collection involving multiple data sources." For this study, the researcher focused on the T'boli rice and corn farmers and their indigenous and modern farming practices. Data were gathered from various sources.

To answer the research problems, personal experiences of the research participants were explored. Byrne (2001) explains that truth and understanding can emerge from people's life experiences. Thus, T'boli farmers and other stakeholders were interviewed.

The farmers are full-blooded T'bolis with a farm area of at least one hectare. In each *barangay*, about three to five farmers served as key informants. Interviews were conducted until the responses of the farm-

ers were already similar and sufficient to describe their case. A total of 18 farmers were interviewed.

The municipal agriculturist, the agricultural technologist in-charge with rice, and the agricultural technologist in-charge with corn—all from the Municipal Agriculture Office (MAO) of Lake Sebu—acted as key informants, as well.

The Municipal Tribal Council (MTC) of Lake Sebu, two former Lake Sebu mayors, and the two local research guides also served as research participants through focus group discussion (FG), key informant interviews, and informal discussions, respectively. Moreover, the researcher herself is a major source of information through the field observations made.

Interviews were transcribed and translated, transcriptions read thoroughly, and clusters of meanings or themes identified. Based on the themes surfaced, assumptions and conclusions regarding the cultural farming practices of the T'bolis were made.

Results and Discussion

Though many farmers have already adopted modern farming practices, research participants revealed that they still respect and follow some of their indigenous farming practices. It was also observed that some farmers adapted their cultural beliefs to modern times. Farmers thus end up merging the old and the new, developing farming practices that are considered more progressive and at the same time easier to use, practical, appropriate, and culturally sensitive.

Pre-planting. In modern farming, farmers do not practice rituals or offerings. However, in Christian tradition, which the T'bolis have embraced, asking for grace and thanking God is taught. Thus, evident among the T'boli farmers is an overlap of their indigenous practice of *demsu* and the relatively modern teachings of the church. *Demsu* is a ritual wherein the farmer offers *kefilan* (sword), *kegal nesif* (T'boli clothing), and *malong* (handwoven cotton cloth) and prays to *fun koyu* (the god of the forest or trees), *fun tonok* (god of the soil), and *fun el* (god of water).

Though some of the old farmers still practice *demsu*, most of the farmers interviewed said they no longer practice the ritual. Instead, they pray or make offererings in church. The essence of *demsu* is still there—praying for bountiful harvest and good health; however, the farmers now pray directly to one God. Sabang Kala who used to practice *demsu* said: "You just pray; you no longer do the ritual." Eding Sugan shared that even until now they offer—but in church. "When you go to church, you have to offer something, so you would have something to plant again."

Nevertheless, the farmers said they would never forget their rituals, and if they want, they could still practice them. Eding Sugan added: "[Our traditions] are the legacy of our ancestors." Fulfilling their traditions may even result to better harvest, according to Badoy Langgong. Hence, some farmers like Lita Singkan still practice the T'boli tradition of having a feast before planting.

The feast, however, is no longer grand, unlike those during the time of their early ancestors. Lita Singkan and her husband said they prepare a small feast for their family and those who would plant for them. Lita Singkan said she prepares the feast for her family and laborers in the morning before they start planting. "I cook rice, tilapia, and whatever is available like cassava."

With regard to schedule of planting, some farmers are still guided by the moon, opting to plant during the full moon as it has been proven to give better harvest. However, they now consider as well their available capital and the market prices of rice and corn. When the prices are or projected to be high and there is available capital, farmers like Floro Tony prepare immediately for planting. It could be noted then that co-optation is done to ensure good harvest, improve productivity, and, ultimately, increase income.

Land Preparation. Even if there is already a *dadu* (plow), farmers still use the *sangkol* when cultivating areas that could not be reached by

the *dadu*. Also, women corn farmers still use the *sokbong* for cutting grass when weeding. The *sokbong* is handier than the *kongo* or *bolo* (large jungle knife) or the *klo* or *pisaw* (knife with metal handle) that male farmers opt to use nowadays, presumably for ease of use. In the earlier days, T'boli farmers used the *bangkong*, a metal sword that is bigger and heavier than the hand tools that farmers use nowadays.

Meanwhile, part of the indigenous farming practices of the farmers is leaving organic material on the soil to make the soil more fertile. Thus, when farmers plow the field using the *dadu*, they combine organic material such as dried leaves—a practice they have inherited from their ancestors.

Tony Gek, for example, uses the dried rice stalks. He shared: "If you leave the rice stalks there in the rice field, they would rot and would fertilize the soil." Thus, when Tony Gek uses the thresher, the following day, he scatters the rice stalks all over the rice field. "Then the next day, you can already plow the field. You mix the rice stalks with the mud."

By combining the best attributes of the indigenous and modern farming practices in land preparation, the farmers were able to make their work less strenuous. Moreover, their expenses for fertilizers were minimized.

Planting. In earlier times, T'boli farmers planted different indigenous varieties of upland rice: *halay alang, halay awot, halay bukay, halay goling, halay himales, halay hitem, halay katumbil, halay kenumay, halay lemobong, halay malabod, halay sendangan, halay teng, hulut delong,* and *hulut fenandi.* "Halay" is the T'boli term for *palay* or rice, while "hulut" refers to the *pilit* or sticky rice. Waye Qugan, one of the oldest farmers in their *barangay* (village), said *halay sendangan* and *halay teng* also had *pilit* versions. However, all of these indigenous varieties have disappeared. Nowadays, farmers plant native and hybrid varieties introduced by settlers and the MAO.

Meanwhile, there was only one indigenous corn variety mentioned that is indigenous to Lake Sebu: *kesila taho,* a *pilit* variety. It is sticky and can be used as a substitute for rice. Its kernel is a combination of white and violet. The two other traditional corn varieties, *masipag* and *tinigid,* are native white corn and were introduced by settlers.

Intercropping is an indigenous farming practice among T'bolis. Crispin Salif said: "You plant rice first, and then corn. That's how my father did it... When the rice is already high, you can plant *pilit* (sticky) corn in the middle of the rice. But the rice and corn should be apart [so as not to hinder the growth of rice]."

Intercropping was observed to maximize the use of land and to have more harvest. It is expected that the rice and corn would be ready for harvest at the same time. It only takes 60 to 65 days to harvest *pilit* corn, according to Lake Sebu municipal agriculturist Zaldy Artacho.

However, due to their limited resources, farmers are unable to plant both hybrid rice and hybrid corn at the same time. Hence, Alejandro Fitan supplements his rice production with native corn production. Partnering hybrid rice with low maintenance native corn could help optimize the earnings of the farmer. On the other hand, Ufing Uga mentioned planting native white corn or hybrid yellow corn for marketing, and planting *pilit* (sticky) corn for consumption.

As a result, farmers are able to maximize their available resources and improve their agricultural productivity. Such results could also be observed in combining the indigenous practice of mixed cropping to the modern practice of contour farming.

Mixed cropping is an indigenous farming practice common among T'bolis. Aside from rice and corn, T'bolis are known to plant a variety of other crops—from root crops to fruit bearing trees. Mixed cropping provides farmers with something to eat while waiting for their harvest. Planting different crops also complements contour farming, which entails strip cropping wherein strips of corn are alternated on the side of a hill with strips of denser vegetation such as the cassava that farmers often plant.

Nutrient Management. To keep the soil fertile, some farmers use inorganic fertilizers like urea and triple super phosphate; however, many have reverted to the use of organic fertilizers. It should be remembered that even before the coming of the settlers and Santa Cruz Mission, T'boli farmers were already using banana leaves, together with other leaves and twigs, to fertilize the soil. Now, however, they also use other organic fertilizers like animal manure.

Reverting to the use of organic fertilizers may be attributed to the high cost of chemical fertilizers and to the harmful effects of excessive use of these chemical fertilizers. Nevertheless, there are farmers who still rely on chemical fertilizers, but they supplement them with organic fertilizers to lessen expenses.

Water Management. Looking at the terraces of the T'bolis, one would notice the trees planted around the terraces. The presence of these trees around the terraces could be regarded a co-optation of indigenous and modern farming practices.

Planting trees to prevent soil erosion is an indigenous farming practice among T'bolis. On the other hand, the terraces are a modern technology that allows farmers to have paddies in upland areas and maximize spring water. By planting trees, farmers are ensured that their terraces would not erode. It could thus be assumed that co-optation perhaps occurs because farmers find the combined practices useful.

Aside from planting trees and permanent crops, upland corn farmers also make canals to prevent soil erosion. Badoy Langgong said: "You have to put a waterway, so [when it rains] the water would not flood the field." Both practices were noted to be effective; thus, combining these indigenous and modern farming practices could make water management more effective.

Pest Management. Farmers continue to adopt their indigenous belief that their area should be clean to ensure good growth of crops and avoid pests. A combination of indigenous and modern farming tools is used for weeding corn areas: the *bangkong*, *sokbong*, *kelo*, and *klo*. Instead of the *klo*, rice farmers use the *garab* with their indigenous tools. In addition, they use herbicides. Nene Tuan shared: "First you clean the sides of your plot. Then, you spray."

Also, some farmers still believe in prayers and *anting-anting* to combat pests. They still make traps, as well. But farmers supplement these indigenous practices with the use of pesticides. Thus, though rice farmer Jovanie Salif has his *anting-anting* to keep away the rats, he also buys poison. During the interview, the farmer said: "As I have told you earlier, nowadays, our practices are combined." Other farmers like Julises Panes even practice crop rotation.

Furthermore, it was noted that among the modern tools, none were actually designed specifically for women. Thus, the indigenous tools for women are still popular among farmers. Meanwhile, the *anting-anting* (amulet) may be preferred due to minimalize costs if there are any; however, farmers use poison, as well, perhaps for additional peace of mind. It could also be that the poison is expensive for farmers, so they supplement it with their *anting-anting*.

Harvesting. A combination of indigenous and modern practices is likewise used when harvesting rice and corn. For example, even if corn farmers harvest their corn exactly 105 days after planting, they still use an indigenous tool in dehusking: the *blis*. Made from bamboo, the *blis* is a small hand tool with a pointed tip.

It was also observed that upholding traditions and cultural values are still evident among T'bolis. This shows that T'boli traditions and values could not be separated completely from their farming practices even if farmers have adjusted to the times and have become more practical.

For instance, though the practice of *kemini* (a harvest ritual wherein the farmers harvest a portion of their rice field and later cook the rice to share with the relatives or neighbors who would help the them harvest the rest of their produce) is no longer prac-

ticed, the essence of sharing is still alive among most of the farmers interviewed. They still make it a point to share a portion of their harvest with their neighbors, but they have become less wasteful by securing first what they need and would sell, and then giving only the excess. This allows farmers to increase their income.

Post-harvest. Though some farmers still prepare feasts after harvesting, such feasts are no longer prioritized. In fact, Jovanie Salif said that instead of preparing feasts for the entire community, he would just have a drinking session with his friends. Unlike his ancestors who give baskets of rice to all their neighbors, Jovanie Salif only gives to those who helped him harvest. Instead of paying money, he gives sacks of rice to the harvesters. He said: "For every 13 sacks of rice, the harvesters get one sack to be divided among them." Doing so helps minimize expenses.

Nonetheless, there are rice farmers like Alejandro Fitan and Lita Singkan who hold feasts. Feasts are a form of thanksgiving; therefore, if their harvest is good, farmers roast chicken, grill tilapia, and cook the rice that they harvested to share with others. Farmers keep their feasts simple and only invite their immediate family and close neighbors. Hence, co-optation allows farmers to uphold their tradition of sharing even during difficult times.

Corn farmers also share portions of their harvest to their neighbors. For instance, when Tony Gek and the other farmers harvest their upland corn, they share their harvest with their neighbors. Tony Gek said he would invite his neighbors to eat in his house. But similar to other farmers, he would no longer prepare an elaborate feast. This allows Tony Gek to minimize expenses and increase his income.

Meanwhile, though sacks are often used to store rice and corn, those who wish to store seeds for a longer period of time may still use the *sokong*. The *sokong* is the term for the main stem or culm of the *sufu*, a variety of bamboo. Sabang Kala shared: "If you plant immediately, you put the seeds in a sack." But if the farmer would not plant right away, he or she could use the *sokong* to store the seeds. "You can keep about two cans of corn seeds in one bamboo," Sabang Kala added. Combining the indigenous and modern ways of storing seeds may thus provide farmers with the storage system that is most appropriate for their needs.

Economics and Marketing. Though farmers now sell their harvest, they still keep a portion of their produce for their own consumption. By merging the indigenous practice of planting for self-sustenance and the modern farming practice of selling their rice and corn, farmers are able to save on food expenses.

Table 1 summarizes the existing cultural farming practices of the T'bolis.

Conclusions and Recommendations

Conclusions. Cultural practices continue to underlie the farming practices of T'boli farmers despite the fact that they have embraced the use of modern seeds and are now very much part of the market system. While at the outset some outsiders may consider these as traditional or even worst, backwards, results show that such practices which are continued or altered actually complement modern practices. This complementation results in the preservation of specific knowledge or skills such as the making of the *sangkol* or *sokbong* that help the T'bolis identify with their unique cultural heritage.

However, combining indigenous and modern farming practices requires reflexivity. Farmers relate themselves with their social contexts and vice versa. Hence, they only adopt farming practices that deem fit to their needs, culture, and conditions. Consequently, farmers adopt what is useful, easy to use, practical, sustainable, appropriate, and culturally sensitive.

The ability of the farmers to discern what is appropriate and useful for them shows their potential as partners in knowledge development and sharing. Hence, extension services should acknowledge that

Table 1 Cultural farming practices of T'bolis

PRODUCTION AND MARKETING PHASE	CULTURAL FARMING PRACTICES			REMARKS
	Indigenous Practice	Rationale	Modified Indigenous Practice	
Pre-planting	*Demsu:* Offering and praying to the gods of the forests, soil, and water before they plant Ritual involves praying in the rice field and having a feast to ensure that gods are pleased	Asking for bountiful harvest and good health	Praying in church	Ritual seldom practiced but incorporated in Christian tradition Offering is made to the Church Feasts are simple; food is prepared for the family and farm workers
	Planting schedule is guided by the moon	Belief that harvest is bountiful when planting is done during full moon	Practice has been stopped	Current planting is guided by cropping calendar
Land Preparation	Use of *sangkol* for cultivation and *sokbong* for cutting grass when weeding	These tools are made by local experts and found very useful and handy	Using the *sangkol* in areas that the plow could not reach Women use the *sokbong* in lieu of other hand tools that are heavier	T'bolis may be sensitive to the needs of women farmers, so they designed tools that are handy, such as the *sokbong*
Planting	Intercropping upland rice and *pilit* corn Multicropping; crops include staples, vegetables, root crops, taro, sweet potato, banana, coffee, and abaca	Maximizes land and available resources and increase income	Planting hybrid rice in one area and native corn in another Practicing contour farming	Some corn farmers plant native corn for marketing and *pilit* corn for consumption Planting different crops complements contour farming
Nutrient Management	Use of organic materials like leaves, twigs, and animal wastes as fertilizers	Increasse soil fertility	Stopped practicing these for a while but have now reverted to organic agriculture	Farmers combine use of organic fertilizer with inorganic fertilizer
Water Management	Planting trees around the sloping area	Prevents soil erosion	Planting trees and constructing canals Making rice paddies and terraces Planting trees at the side of the terraces	Combining old and new practices made their water management more effective
Pest Management	Weeding by hand and with the use of the *tok*, *bangkong*, *sokbong*, and *kelo*	Controls weeds	A coping mechanism only when labor is available or when cash is limited	Farmers combine hand weeding with use of indigenous tools with application of herbicides, pesticides depending on availability of cash and labor
	Praying and using *anting-anting* to eliminate field rats	Controls rats	Same practice used by elders	Practice is combined with use of rat control pesticide
Harvesting	Using the *blis* for dehusking when harvesting corn	Makes harvesting easier	Same practice used by elders	Because of practicality, ease of use, and effectiveness, simple hand tools like the *blis* are still being used
	Practicing *kimeni*	Thanksgiving	Sharing a portion of their harvest but securing first what they need	Farmers have become more practical, but they still value community spirit
	Neighbors helping one another; portion of harvest given to neighbors	Thanksgiving and promoting camaraderie	Paying harvesters a portion of the harvest	Farmers try to lessen their expenses by paying in kind
Post-harvest	Preparing feasts	Promotes communality	Preparing simple feasts	Feasts are made simple to maximize harvest and to save.
	Using the *tebungos* or *sokong* to store rice grain	The *tebungos* and *sokong* were found to be effective storage for rice grain	Use sacks for short term storage and *sokong* for longer storage	Combining indigenous and modern ways of storing seeds may provide farmers with a more appropriate storage system
Economics and Marketing	Harvest for consumption and bartering	Secures needs	Saving a portion of their harvest for consumption	Saving a portion of their harvest for consumption and selling the rest to middlemen and buyers

T'boli farmers are carriers of useful and adaptive knowledge. Consequently, these farmers could be partners in knowledge development and in the delivery of more appropriate extension interventions.

Recommendations. There should be specific extension programs or projects for T'boli farmers. These programs or projects must acknowledge the T'boli farmers' available resources and recognize and integrate their traditional beliefs, values, and practices. Extension workers should provide services and technologies that are more responsive to local conditions, more accountable, and more sustainable.

Requisite to improving extension services among indigenous communities such as the T'bolis is an extension framework that recognizes and supports the cultural farming practices of indigenous farmers (Figure 1). Guiding the development and implementation of extension services are the principles of participation, pluralism, empowerment, and cultural sensitivity. These key principles recognize the strengths and opportunities as well as the weaknesses and challenges of the current extension system in Lake Sebu. Adhering to these principles would ensure that the extension system would be able to address the needs of the farmers and make the most of available resources.

At the very heart of the framework are the farmers. This framework recognizes the potential of farmers in taking a more active role in the development and sharing of knowledge to address the difficulty of reaching out to farmers in remote areas. It is believed that the synergy among extension actors may translate to better outputs.

The proposed extension framework thus adheres to the principles of participation and pluralism. The proposed framework recognizes the need for MAO and the farmers to partner with other stakeholders: other government agencies; the private sector such as agro-chemical companies; religious groups; NGOs; and the academe such as SCMSI and the School of Indigenous Knowledge and Traditions (SIKAT). When farmers, agricultural educators, researchers, and extensionists work together, they could harness knowledge from various sources to improve farming and livelihoods (Rivera, Qamar, and Van Crowder 2001). By collaborating with other stakeholders, MAO would be able to enhance knowledge sharing; maximize available resources and manpower; minimize costs; and reach more marginalized farmers such as the T'bolis.

Furthermore, pluralism in extension services makes it possible to capitalize on the competitive advantages of different actors who may vary in their effectiveness in reaching specific groups of farmers (Heemskerk & Davis, n.d.; GFRAS, 2012). It also enables farmers to choose among alternatives, because these different extension providers offer a wide range of services (Hanyani-Mlambo, 2002).

Meanwhile, the proposed extension strategies are anchored on the opportunities and challenges in the extension delivery system given the uniqueness of the T'boli farmers as revealed in the study. Through the proposed strategies, it is expected that farmers would be able to improve productivity, increase self-reliance, and develop culturally sensitive and environment friendly farming practices.

In the proposed extension framework, the extension strategies are anchored on the principles of an effective extension system and the cultural farming practices of the T'bolis. Hence, these strategies are geared towards building the capacities of the farmers through social mobilization and participatory rural appraisal. Farmers are also empowered to mobilize their own capacities through capacity building, financial participation, networking and collaboration, and organizing farmer groups. Organizing farmer groups maximizes the collectivistic nature of T'bolis.

Also part of the extension strategies is the provision of a participatory learning environment through farmer field schools (FFS). FFS have shown remarkable impact in reducing pesticide use, increasing productivity, improving knowledge, and empowering farmers (Davis, 2008). The development of farmer leaders is also prioritized. These farmer leaders would be trained to address some of the information

needs of fellow farmers in the absence of extension workers or in instances extension workers fail to communicate effectively due to language barriers.

Lastly, MAO could partner with academic institutions in Lake Sebu in popularizing the indigenous farming practices of the T'bolis. As noted in this study, some farmers have already stopped practicing their indigenous farming practices. To ensure that the younger generation of T'bolis would still know about their indigenous farming practices, MAO may collaborate with the School of Indigenous Knowledge and Traditions (SIKAT) and Santa Cruz Mission School, Inc. (SCMSI) in recording and popularizing indigenous farming practices. It is crucial that the youth are educated in their indigenous farming practices as this may help preserve their cultural heritage.

In sum, the proposed extension framework responds to the weaknesses of the current extension system in Lake Sebu as reported in this study: insufficient funds; failure to reach remote areas; inappropriate technologies; inability to speak the local dialect; and the absence of indigenous farmer organizations. It maximizes the strengths of the current extension system and the opportunities identified such as networks and linkages; the T'boli farmers' willingness to learn and adopt; and the collectivistic nature of the T'bolis.

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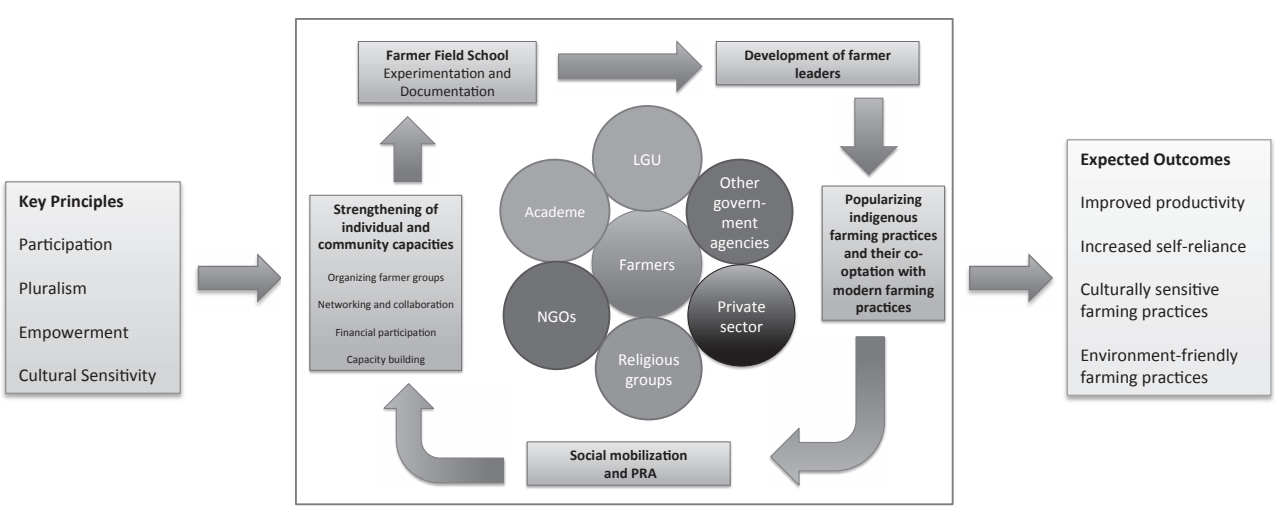

Figure 1 Proposed extension framework for T'boli farmers

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