

Seed Supply System In Commercially-Irrigated Areas: A Case from Sultan Kudarat, Philippines



In the province of Sultan Kudarat in Central Mindanao, Philippines, the total irrigated rice area for the year 2001 was noted to be 94,705 hectares, with a production of 294,739 metric tons, averaging 3.88 metric tons per hectare. Of the entire province, the municipality of Lambayong is the most widely irrigated area.

The Rice Almanac accounts that in an irrigated rice area, average yields vary from 3 to 9 tons per hectare. In Lambayong, farmers have an average 5-6 tons of rice per hectare during the wet season (around 100-120 bags of 50 kg per bag), and 4-5 tons during the dry season. From these, it can be said that the municipality belongs to the high-to-medium yielding areas.

Normally, there are two major cropping seasons in Lambayong: wet and dry. Some communities that have good access to irrigation “sacrifice” a third cropping, usually right after the dry season, maximizing the water that is still available in the irrigation canals. The yield, however, is much lower than they normally get.

Commercially-Irrigated Rice Production Areas: Features and Consequences

The following characterize an area as commercially irrigated:

- presence of an institutionalized irrigation system;
- proximity or accessibility to agricultural markets;
- kind of varieties planted in the fields;
- interplay of the different actors involved in the seed supply system; and
- government programs that affect the whole rice production process.

Institutionalized in the mid- to the late 80s, (NIA-LAMRIS) is the main office handling irrigation services. The water source is the Kapingkong River, which is a tributary of the Allah River originating from Lake Maughan in South

Cotabato. NIA-LAMRIS began construction in June 1984, and in 1999, it covered a total of 13,414.52 hectares (for both cropping seasons).



Irrigation System

The irrigation system is under the jurisdiction of the national government agency, but has been localized to cater to the farmers' needs.

There are still areas in Lambayong that are not reached by the National Irrigation Authority - Lambayong River Irrigation System (NIA-LAMRIS). These areas are far from the concrete irrigation canals, and farmers have to source out their irrigation water from the streams and small water outlets.

Some farmers have hydro-pumps which they use in the dry season. In some areas, farmers either plant another crop (i.e., corn, mungbean, onions, or watermelon) or just leave the area to fallow.

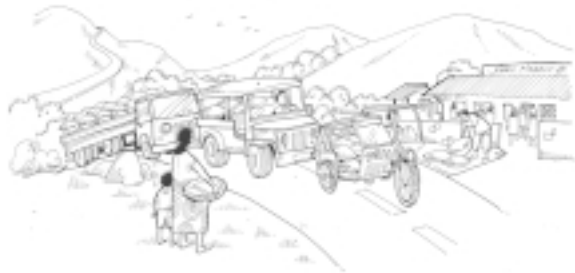
Agricultural Markets

The rice output of Lambayong is highly productive, thus, the market outlets for these products are necessary. The proximity of the municipality of Tacurong City makes marketing of the produce very convenient for Lambayong farmers. Farm-to-market roads are already well established, with several more under way. The national highway has been concreted to make transport of the products easier. Even small vehicles, such as multi-cabs (a 10-seater vehicle smaller than the 16-seater jeepney) and tricycles, can easily transport sacks of rice to the nearby city for selling. In most cases, however, the big trucks of traders go to the farms and pick-up the sacks of rice, especially for farms netting more than 200 sacks (for farmers with landholdings of more than 2 hectares).

The price of products for the second cropping is normally higher than the main (wet) cropping. The prices differ for wet and dry seeds, with the latter priced higher. Farmers most often prefer to sell their harvest wet or fresh from threshing, even if the price is lower (about P1.00 difference) because of the need for immediate income and the unavailability of drying space. Wet cropping price is lower because of the volume of products coming in, making the supply higher.

There is an imbalance in this economic aspect of rice production. The inputs (chemical sprays, fertilizers and seeds) are priced at high costs, but farmers' products are priced low. Though government programs allow for subsidies for some inputs (i.e., seeds) there is still no assurance of the price of the product upon harvest time.

Farmers tied to loans cannot do anything with the price given by the traders. Control of markets is not in the hands of the farmers.



Seeds/Varietal Diversity

There is very limited varietal diversity in a commercially irrigated area. The varieties that the farmers plant become limited because of the demands in the market for high-yielding varieties. These are normally modern varieties, formally released by the Department of Agriculture (DA), the Philippine Rice Research Institute (PhilRice) and the International Rice Research Institute (IRRI). However, though formally released varieties are in-demand, farmers still practice selection from these modern varieties and continually plant farmers' selections.

Interplay of Actors

Different actors are involved in a commercially irrigated area, which are responsible on how the seed supply system of the area works. These are the:

- farmers;
- seed growers;
- the government agencies including the Municipal Agriculture Office (MAO), National Food Authority (NFA) and NIA;
- traders/businessmen; and
- farmers' cooperatives.

Central to the local seed supply are the farmers, or the farming communities. In Lambayong, there are over 54,000 farmers in irrigated rice areas. Other actors in commercial irrigated areas are the seed growers, who are producing certified seeds that they procure as foundation seeds from PhilRice. Seed growers in Lambayong are mostly big landowners and belong to rich families who migrated from Northern Luzon in the 1930s and 1940s. The DA is also an important actor in the area, being the main arm to implement the government's agriculture programs. Agriculture Technicians provide assistance to farmers in terms of information dissemination on the government programs, as well as coordinating with the farmers' associations in the communities with regards to project implementation.

In any commercial area, there is always the presence of traders (middlemen) and agricultural businessmen. The prices of products are controlled by agricultural businessmen, whose business



establishments are in the nearby city. These businesses do not only engage in buying products, they also sell products and farm inputs, even providing credit. Farmers who obtain inputs from these traders on loan are obligated to pay off through their harvest.

There are also farmers' cooperatives who buy the products, but only from farmer-members. These cooperatives in turn sell seeds back to farmer-members, while also delivering to the NFA. The NFA works with the DA in seed distribution programs, and the DA in turn distributes the seeds to farmer-beneficiaries in subsidized schemes. Farmers cannot directly deliver to the NFA unless they are members of a cooperative.

Government Programs

The Certified Seed Procurement and Distribution Program of the DA and NFA, and "Seeds for the Province" of the DA and Provincial Government are some examples of government programs that promote the use of certified seeds to attain the goal of increasing rice production in the area. Government funds are provided for the procurement of these seeds from the accredited seed growers. Usually, only one kind of variety is distributed to farmers, thus, limiting varietal diversity to a few modern varieties.

Currently, the hybridization program of the DA is being implemented. This introduces new hybrid varieties to be planted on over a thousand hectares in the municipality. Most of the first farmers to plant hybrid seeds are the big farmers and seed growers. Another government program is the

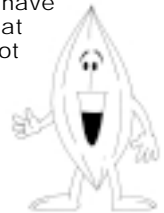
Sustainable Technology to Accelerate Rice Sufficiency (STARS). This is also a DA-led program in collaboration with a farmer-curator in planting new rice varieties for trial and to conduct a 'harvest festival' open to other farmers.

The synchronous planting program of the government, on the other hand, affects the number of varieties that the farmers need to plant. This program requires that all farmers plant at the same time to maximize the availability of water coming in, and use varieties of the same maturity to ensure harvesting at the same time. The DA recommends the use of only one to two varieties with the same number of maturity days.

The Interplay of the Formal and Informal System in a Commercially-Irrigated Rice Area

The flow of seeds in an area is facilitated by two systems: formal and informal system. These two systems have continuity, as observed in Lambayong. Though distinguishable from each other, the two systems have a connection. Though the general system working in Lambayong is the informal system, with farmers practicing the exchange of seeds (barter or in exchange of money or labor), the formal system (facilitated by the government agriculture agency) is still a main actor in distributing new varieties that have been formally developed.

Though the communities in Lambayong benefited from the programs of the government, these programs do not really allow much for the innovations and participation of farmers. The programs distribute seeds that are sometimes not what the farmers need, or have characteristics that the farmers are not looking for. But because these are dole-out programs, they are just at the receiving end.



The seed growers are responsible for the multiplication of the newly recommended varieties to produce certified seeds. Seed growers either sell directly to farmers, or they produce under the government program. The

MAO also distributes seeds to farmers as part of their services and programs. These are passed through the local village council and local cooperatives.

There is still a need to distinguish whether the traders or businessmen would belong to the formal or the informal system. In some cases, they become agents of the formal system in terms of seed distribution or market. On the other hand, their direct involvement and dealings with the farmers make them also a part of the informal system. Either way, theirs is a role that could not be ignored because of their control of market prices.



Responding to the Lambayong Situation

The situation in Lambayong being a commercially irrigated rice area may not be unique in terms of its productivity and agro-ecosystem. Addressing the identified problems or consequences that occurred may, however, vary. Government programs respond differently to these situations, resolving to dole-out programs and concentrating more on the productivity and profit of the farmers and the community as a whole. However, in maximizing profit, the other factors become forgotten such as social relations or community dynamics, the role of farmers, environment, market control and access, and the diversity of rice.

Community plant genetic resources (CPGR) projects in several communities of Lambayong have been set up. The projects, in the context of the community's rice production and seed supply systems, aim to increase the diversity of rice varieties in the community through participatory crop improvement method, and to empower farmers, strengthening their role in the production and seed supply system while engaging with the other actors and stakeholders in the existing system.

Introducing Diversity Back to Farmers' Fields

Varieties from farmers are sourced according to the characteristics and criteria that the farmers have identified. Through Farmers' Field Schools, the varieties are planted on communal farmers' fields for evaluation and adaptability trials, at the same time training the farmers in breeding and selection skills. The varieties that have "passed" the evaluation of farmers are now slowly being spread in the community, with the farmers participating in the field schools continuing the crop improvement methods. These varieties, and soon enough the varieties that they have also developed, will be part of the existing seed supply system as additional varieties to provide diversity.



It is inevitable though that several varieties will be discarded as these are not suited to the area and do not have the characteristics that the farmers want. Thus, in developing the new varieties through breeding and selection, the farmers get to select 'parentals' that possess the characteristics that they prefer.

It was observed that as the area is highly market-integrated, Lambayong farmers do select characteristics suitable for market. High-yielding varieties are still top on their list, with long grain characteristics. Some select for good eating quality, but they mostly produce these for their own consumption and not for mass production.

Emphasizing the Role of Farmers

It is important to fully involve the farmers in any community endeavor for it to succeed. Once the farmers take on more skills in crop improvement and engage with the other stakeholders in the seed supply, theirs will be a more active role and not just at the receiving end. A more functional relationship could be developed between the formal seed sector and the informal seed sector, suitable and more sustainable in the context of a commercially irrigated area. In this context, farmers should really take on a more important role as they will be mainly responsible in adapting the new varieties, or discarding them. They are responsible in spreading the varieties through their practice of seed exchange.

The Southeast Asia Regional Initiatives for Community Empowerment (SEARICE) facilitates farmers' cross visits and participation in activities that enable the farmers to observe other farming systems, and integrate with other farmers. Seed exchanges also occur during these events, and thus they get hold of new varieties, at the same time acquiring new experiences and knowledge from other farmers. This enables them to gain back their confidence in controlling their own seed production, and explore more on crop improvement. (<http://www.searice.org.ph>)



Working with the other Actors

It cannot be avoided, though, that there are several actors who see the farmers' activities/projects as a 'threat.' Some agriculture technicians of the government are not quite receptive of the project, especially concerning the introduction of new varieties. Because of their role in facilitating the distribution of newly-bred formally released varieties, they question the varieties that were introduced as whether these are registered under the Philippine Seed Board or whether they have already been tested.

Market Access and Control

With the vast effect that market has on the production system, this aspect should not be neglected. There are limited experiences in intervening with market forces, like engaging with farmers' cooperatives and engaging in discussions with marketing of organic rice. In some projects, marketing has already gone underway but there is still a need to better understand its dynamics, especially in the context of a highly commercial area as Lambayong. Farmers are asking about addressing marketing, especially for those who have already been practicing organic rice farming. They produce organic rice for their own consumption, but still practice chemical/conventional farming methods to meet the demand of high rice productivity, their normal market.



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