Pursuing Rice Agroecology

The APCO Model

Introduction

Rice is the Philippines' most important food crop and a staple food in most of the country. It is produced by two million farmers in four million hectares of land. It is one of the early adaptor countries of the Green Revolution which introduced the fossil fuel-based chemical agriculture in the 60's and intensified at the height of the Marcos' dictatorship in the 70s and early 80s. Farmers' cooperatives and irrigators associations were formed which became the vehicles for various government training and extension programs on "modern chemical agriculture". Impact studies of the Green Revolution revealed that while indeed, productivity and yield increased, farmers' incomes did not improve. In fact most of them got seriously indebted and because access to credit from formal institutions became restricted, many lost their land to usurers. More seriously, green revolution transformed agriculture in the country from poly-cultures to mono-cultures.

Understanding the negative economic, health, and environmental impacts of the Green Revolution to the rice farmers, civil society organizations, especially after the 1986 People Power Revolution, intensified work with scientists to evolve a more integrated, diversified, organic farming systems that would uplift rice farmers out of dependencies and poverty. One of these groups was PAKISAMA, a national Confederation of Family Farmers Organizations. The Confederation trained member organizations to train their member farmers to breed their rice seeds and produce their own organic fertilizers. Other partner NGOs helped PAKISAMA members to expand and systematize their marketing programs. Through conferences and study tours, the Confederation facilitated learning exchange among its members. This profile focuses on one of the young member organic rice cooperatives which in a short time was able to provide members with meaningful services resulting in increased farmers' social and financial capital, income, food security, health and biodiversity.

Description of the Agroecology system

The Agus Pinoy Producers Cooperative (APCO), a four-year old rice farmers' cooperative, started with 15 members in 2012 but now has 260 farmer members/partners cultivating 580 hectares of diversified organic rice farms in the Province of Agusan Sur, Philippines.

Its strategy by- line is from seed to seed, full value chain services to members. Its founders learned over the years that if it only addresses one aspect of the chain, the farmers cannot really make it, or improve substantially their income. Services of the cooperative must address each element of the value chain from production to processing to marketing.

Production

The farmers should be able to have land and input supplies such as seed, fertilizers, modern technology and financing.

1. *Asset control or landownership*. It is important that farmers own land so they can decide on the fate of their farms. Most APCO members are owners of their land, as beneficiaries of the government's agrarian reform program. Landownership carries with the power of the farmer to decide what to plant, how to increase productivity, where and what to sell.

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2. *Seed*. The farmers need good seeds, so the cooperative provides them with very good organic rice seeds. It currently has the following seed varieties sold to members: APR Black, APR Red, APR Aromatic, APR Traditional and APR Detoxified (APR means Agus Pinoy Rice). The cooperative developed the seeds, buying them from members who specialized in seed selection and breeding, in partnership with the Department of Agriculture. APCO seed breeders sold their seeds to the cooperative at USD 47 cents a kilo, which is USD 11 cents higher than the price fixed at the government's National Food Authority which buys at USD 36 cents per kilo of palay (pre-husked rice).

Figure 1. Organic rice seeds

3. *Labour and farm tools*. The farmers would need help in cultivating their farms. Planting, irrigating, weeding and harvesting have never been fun, they are literally back-breaking. The cooperative then supplies them with labour and machines to make the work more manageable. It has organized member-farm-workers into clusters of 10 to 15 farm service providers who in turn share a fee to the cooperative for the use of farm equipment. APCO acquired its tractors, water pumps, threshers, and harvesters from the Department of Agriculture as grant, but charges members a service fee for every use. So the clusters of farm service providers are able to reduce the job of rice planting, for example from three days to one day, and thus, are able to work on more farms during the planting season.


Figure 2. Farmers in the rice field

4. The farmers need more *modern rice farming technologies* to increase yields. The farmers are thought by the cooperative on various technologies of growing rice, including the System of Rice Intensification (SRI). However, the rice farmers cannot live by rice farming alone, as their income will still be low given the price of rice and the limited land area, therefore the cooperative taught them the Integrated Diversified Organic Farming System (IDOFS). Members grow ducks and fish in the rice fields. Others would also build separate fishponds, given that the province is water abundant. Most would set aside areas for rice, for vegetable, for fishponds, for livestock raising and for fruit trees. A farmer member named Benedicto Sendrijas is now earning USD 638 as a monthly net income in his four hectare farm, much above the expected monthly income of a conventional monocrop rice farmer with same land area as his at USD 399.


Figure 3. Farmer training


Figure 4. SRI (left), IDOFS (middle) and ducks in the rice field (right)

5. *Rice farmers would need fertilizers and pest management.* The cooperative provides farmers with organic fertilizers. The cooperative has its own processing plant and also buys from 16 individual member producers and two affiliate organizations who specialized in producing organic fertilizers. They are also assisted by the Department of Agriculture. Its Nature Farming Technology System (NFTS) Products, APCO Organic Granular Fertilizer, Vermi Cast, Vermi Compost and Active Compost are sold to members and non-members.

6. *Financing*. The provided services have costs, so the cooperative needs to have a stable fund source to capitalize organizational and members' farm investments. Farmer members are provided USD 426 loan by the cooperative and are repaid during harvest. The cooperative has partnership with a local bank (Cantillan Bank) to provide this financing service. It has also partnered with other banks. Negotiations with the Land Bank of the Philippines, a government- owned and controlled corporation, are on-going.

7. *Crop (and animal) insurance*. Critical to the viability of farmers is dealing especially with crop failures aggravated by more extreme typhoons and dry spell in a changed climate, making agriculture more risky. The cooperative makes sure that the farms of its members are ensured in the Philippine Crop Insurance Corporation (PCIC), a government corporation established precisely for this purpose.

Processing and Marketing

It is not enough to produce raw products such as a good palay. It is important to increase the value of farmer's produce through their participation in the processing and marketing segments of the organic rice value chain.

8. *Procurement*. The cooperative buys the palay at a price of at least one peso (USD 0.022) higher than the prevailing local market price. The cooperative only buys 50 percent of the member's produce (around 40 bags per hectare). This system encourages farmer members to patronize their own product and ensure their families eat organic and healthy rice. The system also provides space to members who are still relating and selling to their traditional traders.

9. *Trucking.* The farmers don't need to rent nor own transport vehicles to bring the paddy rice to the market. The cooperative does on-farm weighing and buying and hauls the palay and transport it to the cooperative's warehouse.

10. *Storage*. Post-harvest facilities are a must. The cooperative dries and stores palay in an owned warehouse. The cooperative has also been granted by the Department of Agriculture (DA) with a flat-bed dryer, three mechanical dryers, two solar dryers, and a big warehouse.

Figure 5. Rice mill

11. *Milling***.** The cooperative has recently been granted a rice mill by the DA, able to mill 1.5 tons of palay an hour. The mill is expected to provide to both members and non-members, in which the former pays lower fees (PhP1.40 vs PhP1.70).

12. *Packaging* and *Labelling.* The cooperative packages the milled rice into one kilo or two- kilo bags, carrying the Agus Pinoy brand logo, for distribution to buyers.

Figure 6. Packed rice

13. *Marketing*. APCO has forged marketing agreements with diverse institutions. It currently supplies organic rice to private institutions and local cooperatives and associations for their respective Employee Rice Allowance Programs. APCO has accredited retail outlets and participates in trade fairs and has display spaces at Department Stores & Malls. APCO supplies DA- RFU CARAGA, FEDARCCO, CREATE CARAGA, allied NGOs, banks, and the Agus Pinoy staff themselves. APCO is also negotiating with a corporation, the Glow Corporation that sells the organic rice to the capital centers and to

international markets. It is currently working on an institutional purchase agreement with different national Departments for children and school feeding programs.

Sustainability

The cooperative sustains its operations mainly through service fees. It makes sure that every service that provides charges fees. The cooperative hauls the palay upon harvest and automatically collects the palay (not money) intended for service charges and other farmer's obligations upon payment of palay sold. For a USD 426 loan, the cooperative collects 4 bags of palay as service fee. There is also an automatic savings and capital build-up of at least USD 11 every harvest. In this way it is possible to institutionalize farmers' savings program. To date, APCO employs a total of 14 mostly professional staff from its revenues and service charges. The staff includes a full time manager, a Finance manager-bookkeeper, a cashier, two professional agriculturists, two marketing-quality assurance officers, three organic inputs personnel, three rice mill operators, and a driver. Current net value is USD 659,574 (Asset is USD744,681 with USD 85,106 liabilities).

APCO plans in five years to be able to serve 2,000 organic rice farmers and sell 495 tons of organic rice and 55 tons of organic palay seeds and to generate 1.2 million dollars net income.

Replicability

APCO is a model for complete value chain services to individual farmer members. APCO believes the model can be replicated in every rice municipality with 15 million peso capitalization with a 3 year-payback period. PAKISAMA is in the process of further managing the knowledge accumulated and to upscale and adapt this model to other value chains and to the rest of PAKISAMA member cooperatives and associations across the country. Given this business model there are two factors that are needed to replicate the model in 1,500 municipalities and to uplift at least 5 million farmers from poverty in the country: availability of outstanding professional managers and technical staff and availability of ready financing that can be accessed by family farmers.

Political Space

The 1987 Constitution enacted a year after the 1986 People Power Revolution is strong on social justice, environment, and people empowerment. It has enshrined labor as a major political and economic force. Asset reform laws such as the Comprehensive Agrarian Reform Law, the Fisheries Code, and the Indigenous People's Rights Act have been enacted since providing opportunities for more farmers to own land, indigenous peoples to have control over their ancestral lands, and small fishers to have control over their vast municipal waters. As more farmers and fishers gaining ownership and decision making powers over their natural-resource assets, they are in a better position to adapt a farming system that could give them greater economic, ecological, social, political, and nutritional benefits. The National Organic Agriculture Act of 2010 and the Cooperative Code are complementary legislative measures that promise to upscale the APCO model. But a lot of challenges remain in the political system and the bureaucracy which have remained largely captured by ruling elites driving public funds to personal pockets. APCO and PAKISAMA believe that cooperatives need to strengthen and broaden their membership to the point they become not only economic players but also real vehicles of people in meaningful participation in electoral and political processes. The current Chair and founder of APCO, Jimmy Geronimo, is now a member of the National Organic Agriculture Board (NOAB). He participated as representative of PAKISAMA and AFA in the gathering in Bangkok on August 2015 of researchers and practitioners organized by the Global Forum on Agricultural Research (GFAR) to generate and exchange ideas on how best agricultural research institutions could be most meaningful to family farmers.

Outcomes of the practices

No systematic evaluation has been done yet on the APCO Model. But its dramatic growth could be an indicator of a model that is worth serious consideration for upscaling and replication as it impacts on farmers' food security, income, social and financial capital, environment, health and nutrition, and local economic development. Majority of APCO members can claim to be among the most food secure farmers given their integrated, diversified, organic farming system (IDOFS) technology. Farmers' income from organic rice production is at least 26% higher compared to the mainstream chemical rice agriculture. Due to the growth of beneficial micro-organisms, and the crop practices that restore soil fertility an increasing number of farmer-members are using less and less fertilizers. The farming system as described above promotes polycultures and biodiversity as it integrates diverse crops, livestock, and aquaculture into the farming system. Farmers are now preparing healthier and a more diverse and nutritional menu of produce found in their respective farms. Local citizens also have gained access to healthy organic rice sold in the traditional town markets. The Cooperative has given members social protection, community support, larger networks and access to various services of government, business, and civil society organizations. It has also created scores of jobs to local populace employed as professionals or technical and manual laborers in various businesses owned by APCO: in the office, in the warehouse, in the farms, rice-mill, packaging, and marketing. Unlike before when money would go out to multi-national corporations and traders, today more money circulates within the community impacting on various sectors including home-based variety stores and tricycle drivers.

Conclusion

In sum, to pursue and promote rice agro-ecology, it is important to build a strong institution of family farmers which would provide or facilitate their access to services that would make them viable agroecological farmer-entrepreneurs. In this case, an agri-cooperative such as APCO has proven to be most useful due to three core success factors:

First, it provides *complete value chain services* with *built-in sustainability measure*. It addresses comprehensively the needs of members, from production to processing, to marketing, with the latter patronizing and paying these services to sustain and grow the businesses of the cooperative.

Second, it has *dedicated and competent governance and management. C*haired no less by an experienced and hands-on founder and peopled with professional and dedicated staff, the cooperative is governed and managed following established policies, systems and procedures.

Finally APCO has an established *network of support institutions.* Government agencies especially the Department of Agriculture provides the machines and initial grants. FSSI and Banks provide production and marketing capital. GlowCorp promises to grow and enlarge APCo's market. And a confederation (PAKISAMA) and its networks such as the Asian Farmers Association (AFA), Agriterra and other Agri-Agencies provide continuous organizational and technical assistance, policy advocacy and networking support.

Message from farmer to farmers

"We love our cooperative APCO for understanding our needs and for providing all the services we need as family farmers to uplift ourselves from poverty and hunger. I hope we have more APCOs in other parts of the country."

—Jeffrey Baroa, one of the IDOFS practitioners since 2011 from Talacogon, Agusan Sur