Photo: CBDC-BUCAP

Farmers use all available space to dry seed in the Mekong Delta.

Good quality seeds from farmers' seed clubs

SEARICE

For centuries, rice farmers across Asia have relied on the practice of saving, exchanging and re-using harvested seeds as their main source of planting materials. They have been, and are still able to do so because rice is a self-pollinating crop and farmers are assured that there will be no significant change in performance after seasons of repeatedly using pure seeds. This, together with inherent knowledge systems, practices and innovated technologies, enables them to sustain their rice-farming culture. Farmers' access to the quality and quantity of seed they need depends on the types of seed available and the mode of seed supply. Certified seed from the formal sector becomes integrated and diffused into the farmers' seed system through their practices of saving, re-using and exchanging seeds. But farmers' efforts to mass-produce and market certified seeds and varieties at higher prices outside of their communities are usually restricted by seed regulations. Most often, there is no public sector support for producing farmers' varieties, which have to undergo the certification process. Farmers must be government-accredited seed growers and adhere to the technical guidelines set by government agriculture agencies in order to produce certified seeds.

Public institutions often have limited resources and cannot meet the communities' seed requirements. Even with the presence of commercial seed growers, the challenge of meeting farmers' seed requirements persists. Farmers often complain of the quality of the seeds being delivered, the efficiency of the seed delivery system and the availability of the volume of seeds required. So how do rice farmers address this chicken-and-egg situation?

Farmer seed clubs of the Mekong Delta, south Vietnam

The Mekong Delta region is the biggest commercial rice production area in Vietnam, annually producing about 18 million tons of rice. The bulk of the seed supply comes from the informal sector (farmers) through different modes of seed exchange. Farmers, however, tend to replace seed every two or three cropping seasons, mainly depending on purchased seeds to improve their rice production. The formal system cannot adequately supply this demand, which makes up between 5 to 15 percent of the total seed requirement.

Through the Community Biodiversity Development and Conservation (CBDC) Network, SEARICE initiated the Community Plant Genetic Resources Conservation and Development project. This ran from 1996 to 2000, and was managed by the Mekong Delta Research and Development Institute (MDI). Starting with 229 farmers in four provinces, the project has since expanded to reach eight other provinces. A network of 40 communities was established, with more than 1200 farmers actively participating. More than 1000 varieties have been selected from stable lines provided by formal institutions, and farmers were able to select and mass-produce seven new rice varieties from breeding or segregating lines. Two of these varieties are currently undergoing the process of formal seed certification at the provincial and national levels. By 2004, over 80 percent of the total seed requirement for rice cultivation in communities reached by CBDC Mekong Delta was supplied by farmers.

To cope with the growing demands for commercial seeds in Mekong Delta, farmers organised themselves into farmer seed clubs after participating in Farmer Field Schools. To date, there are 57 seed clubs facilitated by CBDC Mekong Delta, mostly engaged in varietal selection and breeding, seed production and marketing. The seed clubs also serve as marketing hubs for good quality seeds in local communities.

How a typical seed club operates

The farmer-members of the seed clubs produce seed on their individual farms. They are provided with seeds (by the Mekong Delta Research and Development Institute) from varietal selection and seed purification studies, for mass production. The farmers' seed club produces about 200 tons of seeds per cropping season from around 100 hectares. Seeds produced include the traditional variety 'Jasmine', and modern varieties such as 'OM 4498', '2517' and 'HD1'. Notably, 'HD1' is a farmer-developed variety that was successfully stabilised and selected after the FFS sessions.

As a form of quality assurance, the seed club maintains a core population of good seeds. Farmers clean the seeds after harvest and ensure that moisture content is below 14 percent before seeds are sold. Random samples for germination tests are also conducted before the seeds are sold. Germination rates should not

go below 90 percent. Samples of the seeds sold are also kept as a form of guarantee protection. In cases of poor quality, members repay the customers or replace the poor quality seeds. Under this "farmers' guarantee system", so far, no farmer has reportedly complained of poor quality.

The Provincial Department of Agriculture and Rural Development regularly inspects the seed production areas of the seed club, but they only provide verbal approval of the quality of the seeds, as the seed club is producing purified lines, not certified seeds. This "informal" approval of the farmers' seeds is seen as support for the farmers' seed system.

The seed club also undertakes a different kind of marketing. After harvest, farmers mill and cook the rice for taste evaluations. Samples of the milled grains and seeds are sent to other seed clubs and farmer groups for evaluation. The results of the evaluation are then uploaded onto the Mekong Delta Research and Development Institute website (in Vietnamese), and are also shared with other farmers. The most important method of sharing information is through Farmers' Field Days (FFDs), where other farmers are invited to observe the standing crops. Farmers in the seed club network make leaflets with information about the varieties available – including the name and location of the farmer, and contact numbers. CBDC Vietnam also produces seed bulletins detailing basic variety characteristics. These leaflets and seed bulletins are distributed during Farmers' Field Days. Farmers who are interested in a particular variety can place advance orders with the seed clubs.

In the context of Mekong Delta, it is the market that provides the impetus for the seed clubs. This is supplemented with access to better varieties from the Mekong Delta Research and Development Institute, and from the government Seed Centres (the seed procurement and certification units of the Department of Agriculture and Rural Development). The seed clubs have also benefited from the partnership between scientists from the research centre, local government extension agents and other authorities who have collaborated in providing technical, financial, marketing and facilitative support in setting up mechanisms to enable the seed clubs to take on the daily management of farmer's seed production.

Aside from the knowledge and skills gained and practised, farmers attested that they have been able to increase their income by 10 percent through the sale of seed. Farmers also remarked that seed clubs have facilitated the accessibility of quality seeds. Seed club members are committed to comply with the "farmers' guarantee system" observed by the organisation as this is their edge over commercial certified seeds.

Challenges confronting farmers' seed supply system

These experiences are some among many community initiatives addressing the issue of access and control of genetic resources – particularly quality seed. What the formal system cannot adequately supply, farmers' seed production initiatives, though limited, supplement. It should be emphasised that the informal seed exchange systems have not been replaced by the farmers' seed production activities. Farmers are paid in cash for the relatively large volume of seed produced as this is the standard

Rehabilitating preferred rice varieties

Nico Vromant

The Mekong Delta region is largely regarded as the Vietnamese rice basket. Since 2002, the Mekong Delta Agricultural Extension Project has been working on the introduction of participatory extension methodologies. With the Mekong Delta being famous for its rice production, it is not surprising that many of the farmers' extension demands are rice-related.

Old varieties

The ethnic Khmer rice farmers of the Giong Dau Extension Club (in Cau Ke district, Tra Vinh province) complained about the quality of their 'Hầm Trâu' variety – the seeds had different shapes, sizes or colour. Similarly, farmers in the Binh Nhi Extension Club, (in Binh Nhi district, Tien Giang province) complained about their 'VD20' variety – it suffered from similar loss of quality but also loss of fragrance. These varieties were introduced years ago ('Hầm Trâu' in 1990-1992, and 'VD20' in 1996-1997) and it has become impossible to get these seeds in local seed centres. Still, as farmers particularly like these varieties they continued cropping them by storing part of their rice yield as seeding material for the next crop. However, after some reproduction cycles, these seeds showed strong varietal degeneration: their stand and performance were no longer uniform, resulting in poor rice harvests and poor grain quality. Farmers had to sell their rice at lower prices. They clearly had their reasons to complain.

One response would be to introduce a new rice variety with high quality grains that can easily be exported and fetches high prices on the international market. However, this is not what the farmers were asking for. While they agreed that "older" rice varieties are not fit for export, they also knew that these varieties gave high and stable yields, and fetch relatively high prices at local markets (as this is the rice most local people use for daily consumption). New varieties fetch much lower prices, although they might have a better grain quality. According to the farmers, local middlemen refuse to give higher prices for high quality varieties, because they cannot sell them. Local customers continue to demand the local varieties such as 'Hầm Trâu' and 'VD20'.

The farmers in both clubs decided to rehabilitate these varieties, not for commercial production, but for their own use. While not all local authorities and organisations were entirely happy about this move (they felt it was a step back, not in line with current development goals in the rice sector), the farmers argued that if they could rehabilitate the 'Hầm Trâu' or 'VD20' variety, they would also be able to produce "improved" seeds in the future.

In 2005 and 2006 both clubs participated in a Farmer Field School (FFS) programme in their trial fields, organised by the Mekong Delta Development Research Institute and Can Tho University, on rice rehabilitation (covering issues such as removing off-type plants and seeds, transplanting, crop care, harvesting, and cleaning). They first tried out this –for them– new technology on small plots. Later on, when they were convinced of the efficiency of the methodology, they increased the plot sizes. The transplanting (instead of rice seeding) and continuous rogueing (the removal of undesirable rice plants from seed production plots) were seen as very cumbersome and labour intensive. However, after 2 or 3 consecutive seasons farmers got their much anticipated result: a brand-clean 'Hầm Trâu' or 'VD20' variety. The news spread very fast. At first

mode of exchange existing in the communities. However, they still give or exchange small amounts of seeds as they traditionally have. The farmers are just making the most of an opportunity, without displacing their normal systems of exchange.

However, due to the application of intellectual property rights (IPR) on registered varieties, farmers are restricted from exchanging and/or commercialising seeds without approval from a recognised plant breeder – they cannot use a protected variety as parent material. This dissuades small farmers from venturing into seed production as a value-added livelihood activity because whatever income generated will be subjected to royalty payments to plant breeders. However, it is quite ironic that there is no recognition accorded to farmers whose indigenous varieties are used by plant breeders as parent materials without any restriction.

Moreover, the introduction of technological forms of IPR such as hybrid rice has other adverse implications for community seed supply systems. For one, seed saving is not a viable option. Even under market-oriented situations where farmers rely heavily on purchased seeds, the "farmer-guarantee system" cannot work, as hybrid rice is only economically viable for one cropping season. Hence, customers are not assured of good performance just by observing the crop stand of a hybrid rice seed production area.

Photo: Nguyen Thi Hoai Chau

The practice of rogueing helped to rehabilitate rice varieties.

neighbours found out, then farmers in nearby villages, then those further away… they all came to inspect this "new" rice, their rice. They all wanted to buy this rice to plant in their fields. Even the governmental Seed Centres in the provinces bought some of these high quality 'Hầm Trâu' or 'VD20' rice seeds; needless to say that the work of the farmers in both clubs was a huge success. They were proud and understood that they could provide a service to their farming community. They soon planned to make leaflets, and share their newly acquired technology with other farmers.

Lessons learnt

When farmers are looking for a new rice variety they usually use different criteria than rice breeders, scientists and extension workers. Newer rice varieties might have improved characteristics, but these "better" varieties do not always suit the specific conditions and preferences of the farmers. Marketability is certainly an important criterion for farmers

when selecting a rice variety. However, many people talk about "markets" meaning export markets. Farmers sell on the local market. Therefore, introducing new rice varieties without thinking about the local market (and about the preferences and conditions of farmers) is doomed to fail.

Farmers not only know what criteria they are looking for, they are also able to select (and rehabilitate) their rice varieties if given the chance to do so. The farmers only got assistance for their first rehabilitation experiments and then continued on their own. Through the participatory extension approaches used in the project the farmers in these (and other) clubs became more independent and confident. They had learned how to go about rehabilitating, selecting and testing rice varieties (including designing small-scale experiments) and to draw conclusions from these experiments. When working with farmers on seeds the issue is not: "this is the best rice variety, try it", but rather "this is how you can do it, go ahead".

Epilogue

In the winter-spring rice season (2006-2007), rice farmers all over the Mekong Delta faced serious brown planthopper (and associated rice diseases) infestations. However, the Giong Dau and Binh Nhi farmers had a good night's sleep. Their rehabilitated "old-fashioned" rice varieties were not seriously affected, while many new varieties were heavily infested. ■

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The issue of whether farmers should subject their varieties to a certification process similar to that of certified seeds is a complicated one. Some argue that there are provisions in seed certification laws of some Asian countries that regulate the flow of varieties from one region to another as a form of protection for seed buyers. In order for farmers to sell seeds in another province, they have to comply with these regulations and have their varieties certified. On the other hand, the "farmer guarantee system" observed by the seed clubs demonstrates that farmer-seed producers, being first and foremost farmers, are very concerned with seed quality. Being recognised producers of quality seeds, their names and reputation in the communities are at stake.

What is seemingly inadequate in public agricultural policies is the formal recognition of farmers' contribution in sustaining genetic diversity and their capacity as plant breeders and quality seed producers. Without having to adhere to strict certification guidelines, it is vital for public policies to acknowledge the vibrancy and the informal nature of farmers' seed systems, and to translate these into technical, market, and infrastructural support that would enable farmers to continue with crop improvement and seed production initiatives. ■

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