Rice is life

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Corporations are moving in to control Asia's most vital food crop. But, as Devlin Kuyek reports, their assault is not going unnoticed – or unresisted.

A couple of years ago I spent time with two farming communities on the island of Luzon in the Philippines. Although both were poor, one was much better off than the other. The first, in the province of Laguna, has successfully fought for control over their lands, farming their own plant and animal varieties. They have no irrigation or running water, no roads, and no electricity. But their farms provide an abundance of food: local chickens and pigs, coffee, coconuts, bananas, ginger, herbs, medicinal plants, and a wide assortment of maize, rice and potato varieties.

Farmers in the other community, in the province of Isabella, rent lands from the local landlord for exorbitant prices and grow hybrid maize destined for animal feed. They have no choice because the miller, who happens to be the landlord, will only purchase the hybrid maize. It's not surprising; he also sells them the maize seeds and the chemical inputs that they depend on [for the hybrid maize that is, because these plants are designed to need chemicals]. Local sources of food are rare in the community and pop and biscuits are the only foods served during breaks. The children are malnourished and the people drowning in debt. " I want to die," one woman farmer told me.

The critical difference between these communities is control over land. But lack of control over seeds keeps the farmers of Isabella locked into a cycle of exploitation. Despite struggles for land and more control over their seed supply, the windows of opportunity are rapidly closing. Industrial farming has destroyed much of the agricultural biodiversity in the area and the chance of reinvigorating it is jeopardised by the emergence of patent regimes on life. These monopoly rights prevent the practice of saving and selecting seed from year to year that farmers have used for generations to develop crop varieties suited to local conditions. It's what keeps the community of Laguna well fed.

Seed companies argue that seed saving threatens their profits. But patents on life threaten the very survival of farming communities. Nowhere is this more true than with rice – the mainstay of the world's most populous continent.

On the streets

In 1998 masses of angry Indian and Thai farmers rallied in the streets of their capitals to denounce US Company Rice Tec Inc's claim of monopoly rights over their basmati and jasmine varieties of rice. Jaya Jetlie of Hind Mazdoor Kisan Panchayat, an agricultural labour organisation at the protest in New Delhi, told reporters: "If we lose our [rice] exports and lose whatever tradition and wealth we have, we will soon become a country where every pebble and every stone is owned by somebody else."

Farmers from the northeast of Thailand, where jasmine rice originates, led the rally in Bangkok." Jasmine rice belongs to Thai farmers, to Thai communities," said organic farmer Lai Lerngram. "No-one, but no-one, could claim ownership or monopoly rights in relation to jasmine rice." Three years later, the farmers were back, protesting against yet another attempted 'theft' of jasmine rice – this time by a US rice breeder trying to develop a variety of jasmine rice for the US with samples that he had acquired by way of the Philippines-based International Rice Research Institute's (IRRI) large seed bank of Asian farmers' varieties. "The US is complaining about bootleg music cassettes in Thailand while simultaneously robbing our farmers' knowledge and heritage," said Witoon Lianchamroon of Bio Thai, one of the organisations participating in the protest. Chris Deren, the breeder in question, suggested that the farmers were overreacting.

The multinational biotechnology industry has global rice production in its gun sights. It is manoeuvring for control through intellectual property rights (IPRs), such as patents, and legislation is quickly being pushed into place in Asia and around the world to satisfy industry's demands. Yet farmer-led movements for sustainable agriculture are also in ascendancy. These farmers understand what is at stake with the push to patents on biodiversity and they are fighting back.

In Asia, rice is life. For the Filipino farmer-scientist network MASIPAG: 'Rice is more than just a food we find [on] our dining table. It is a cereal that has become the cornerstone of our food system, our language, our culture.' The region produces over 90 per cent of the world's rice supply. Rice accounts for up to half of Asia's farm incomes and makes up nearly 80 per cent of people's daily calories. Rural society itself is shaped by the cycles and demands of rice farming. There are an estimated 140,000 different varieties of rice that small farmers in Asia have generated – without the help of monopoly privileges or expensive laboratories.

Muscling in

In the 1950s, the US foreign policy establishment, dismayed by the rise of communism in Asia, put rice production at the centre of a strategy to address food insecurity and political unrest. The resulting campaign, led by the Rockefeller and Ford Foundations and known as the Green Revolution, transformed rice production dramatically. Traditional farming systems and varieties were replaced by a package of credit, chemicals, and varieties of rice that needed high inputs (such as fertilisers). By the early 1990s, just five of these 'super varieties' accounted for 90 per cent of the rice-growing area of peninsular Malaysia and Pakistan, and nearly half the rice lands of Thailand and Burma.

While the Green Revolution created pesticide and fertiliser markets for rice, the seed industry has had to wait for it's slice of the pay-off. Asia consumes a third of the world's agricultural seed, but accounts for less than a quarter of the $32 billion annual commercial seed market. The seed industry wants to tap into this potential and rice is the key crop. Several major transnational seed corporations – Aventis, DuPont, Monsanto, and Syngenta – now have rice programmes. But there are difficulties. Seed markets are generally built around hybrid varieties, which do not reproduce and so force farmers to purchase new seeds every season. Rice, however, is a self-pollinating crop, making hybrid rice seed production costly and difficult, and nearly all rice in Asia is still grown with farmer-saved seed. The seed industry believes that the combination of genetic engineering and patents can overcome this hurdle. Through patents and contractual agreements, seed companies will seek to prohibit farmers from sharing or saving seed, control what pesticides are used and even assert ownership rights over the harvest.

Hidden agenda

Patents serve the research and development strategies of big corporations, pure and simple. They do not encourage innovation in general; only a particular form of innovation – based on the interests of a small number of seed corporations. An October 2001 ActionAid study found that, of the 250 patents they identified on rice, 61 per cent are controlled by just six seed companies [John Madeley, 'Crops and robbers' ActionAid UK, October 2001]. These companies are also the world's largest pesticide corporations and the objective is to increase pesticide sales and produce a few elite varieties that can be planted on as large a scale as possible.

Vague promises of 'technology transfer' and exaggerated claims about genetic engineering are aimed at gaining social acceptance for the push for patents on biodiversity. Take 'Golden rice', a transgenic beta-carotene enhanced rice, promoted as an antidote to poor nutrition. But the proponents maintain that there are some 70 patents tying up the technology that have to be dealt with first. Fearing the complexity and expense of patent negotiations, the public researchers behind the rice quickly signed it away to Syngenta – one of the world's largest agrochemical and biotech corporations – under an agreement that Syngenta would make the rice freely available to farmers earning less than $10,000 from it each year and not producing it for export. The

International rice Research Institute is now working on developing commercial varieties for Asian farmers. But before they can transfer the rice to farmers, countries must have the legislation and monitoring mechanisms in place to ensure that the requirements of the agreement are met. So the technology will only be transferred to countries that recognise intellectual property rights on rice. Where IPRs are at stake, nothing comes for free.

Seed giants Monsanto and Syngenta successfully beat an international public consortium in the race to map the genome of rice and turned their victory into a public-relations ploy. In April 2000 Monsanto announced that it would share a 'working draft' of the rice genome and Syngenta promised the same shortly after for a more sophisticated map. The most influential rice research institute in Asia, IRRI, greeted the announcement with praise and hinted that Asian governments should respect corporate demands for IPRs in return. "We hope that the Syngenta announcement will be just the first of many by private companies that will allow much greater freedom in the transfer of technologies to the developing world. But, if this is to happen, we must allow these companies some way to recover their development costs," said IRRI Director General, Ronald Cantrell.

Dig a little deeper though and you see that the companies are not actually giving anything away. Both Monsanto and Syngenta said they would share 'their' rice genome data for research purposes only. Researchers accessing the companies data, have to grant them rights to any commercial applications. This works out great for the corporations. They reveal a partial map to get researchers to use their data and the researchers cede control of commercial outputs to them.

Dr Steven Briggs, head of genomics for Syngenta, told *The New York Times* that "whilst the companies would not seek to patent the entire genome… they would try to patent individual valuable genes. And he indicated that Syngenta and Myriad were well on their way to finding many of those." [Tom Hargrove, 'Rice Genome Map: science Triggers Global Controversy' Planet Rice, 31 January 200].

Sustainable futures

Patents are incompatible with sustainable agriculture. "If seeds are patented, it's like cutting off a farmer's arm since you are removing the farmer's freedom to choose seeds and preserve them," says Leopoldo Guilaran, a rice farmer from Visayas, the Philippines.

Guilaran is a member of MASIPAG, a farmer-led, community-managed breeding and conservation effort on rice and vegetables throughout the Philippines. It started in 1986 and now involves 50 trial farms. Some 534 farmer-bred lines and 75 varieties of rice are currently being grown and further improved by well over 10,000 farmers throughout the archipelago. There's also the Nayakrishi or 'New Agriculture' Movement in Bangladesh, where farmers typically use hundreds of varieties of rice and are having little trouble surpassing the productivity of the industrial model.

These are just two examples of larger movements towards sustainable agriculture sweeping across Asia. Farmers are demonstrating that they can look after food security and rural well-being without the use of costly chemical inputs or genetically engineered seeds. They don't need patents, they need the basics – land, stable markets and the freedom to pursue their own innovation.

Farmers have made these straightforward demands for years, but those in power would rather pursue distant promises of technology proposed by the seed and biotech industry. In the words of Orly Marcellana, a farmer from Quezon, the Philippines: "Nobody from the Government, nor from these companies, ever asked us what our problems are. For us farmers it's a never-ending story with these improved seeds. Every time they are introducing a new 'miracle' variety, after some time it turns out to be not so miraculous after all. And then, there they are with yet another

‘miracle’ and again they promise us that we will be the first to benefit. But after all these ‘miracles’ we are poor as ever. Do they really think that farmers still believe in these ‘miracles”?’

Farmers are doing what they can to resist patents: protesting in the streets, safeguarding traditional seeds, refusing to comply with IPRs. But in the current political context transnationals wield enormous influence over decisions. There are no easy solutions, just tireless political struggle.

The push for patents on life comes from the rich nations – emanating from corporate boardrooms and supported by most governments. Over the next few years these governments will be considering trade agreements and new legislation pertaining to patents on life, and deciding whether or not to support a biotech industry that depends on patents for its profits. This is a critical time for people and organisations in the West to take up the issue. At stake is not only the survival of poor farming communities in the Majority World, but the opportunity for any of us to live outside of a fragile dependence on corporations.

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