

Well over half of China's total rice-growing area of some 15 million hectares is planted with rice hybrids, making the country by far the world's largest producer of the crop. But little is known about the impact of the switch to hybrids. Are yields higher? Are farmers better off? Is the country losing its traditional rice varieties? Are farmers becoming dependent on the seed companies? GRAIN talked to rice farmers in the Chinese provinces of Yunnan and Sichuan to find out.

Hybrid rice in China

A great yield forward?



GRAIN

In a remote village in Yuanyang, one of the twelve counties in the Honghe (Red River) Prefecture in the south of Yunnan province, an old man in a tattered suit wearing the trademark peasant shoes stood by the roadside. He seemed to be marvelling at the wide expanse of centuries-old rice terraces below him. The village, situated about 2,500 metres above sea level, overlooks a valley of more than 3,000 terraced patches, which contain more than 11,000 hectares of paddy fields, with strands of food and fodder crops growing in between the rice. It's a famous destination and tourists flock to the area for the breathtaking view, which, especially at sunset, is magnificent. But the old man, who lives nearby and has been farming for the last forty

years, was pondering neither the wonder that he and his ancestors had carved out of the mountains nor the sunset. He was considering, rather, another disappearance: how the culture embedded in the rice terraces was slipping away in the face of a new technological wonder that claims to have solved the age-old riddle of how to maximise rice production. At the heart of the solution is a classic "one-size-fits-all" prescription: grow hybrid rice.

For countless generations, farmers in Yuanyang chose from a huge variety of traditional rice, suited to their local ecology and cultures. Farmers would select and save seeds for the following cropping season, and lend them to, or exchange them with, other farmers in the village. Over the past 20 years,

however, the Chinese government has encouraged farmers to adopt hybrid rice. Seeds from hybrids cannot be saved, as they lose their vigour (see box, page 6). So the farmers have to buy new seeds from the seed dealers every year. Apart from the financial cost, rice ceases to have its old social and cultural functions. The hybrids also fit poorly into the local ecology. Instead of switching to a different traditional variety to deal with new pests and diseases, as they would have done in the past, farmers began using chemical pesticides, along with chemical fertilisers, to try and reach hybrid rice's promised yields. For those who have made the switch to hybrids, growing rice has become merely a matter of production, with the farmers' energy channelled exclusively into achieving the much hyped "great yields".

Early beginnings

In 1971 China's top scientists were brought together for the country's first conference on hybrid rice. They were supporters of the theory of heterosis (which states that crossing two distant genetic lines results in superior first generation offspring), and were enthused by the apparent success of hybrid maize in North America. They decided to embark on the arduous task of developing the first rice hybrids. Their efforts were successful, and in 1974 China had its first variety, developed by the 'father of hybrid rice', Yuan Longping.

The government and its scientists were anxious to get the new technology into farmers' fields as quickly as possible because, according to one of the pioneering hybrid rice scientists, they "needed to catch up with the growing population"¹ and, in their eyes, the best way to increase production was to get as many farmers as possible to introduce the hybrids into their paddy fields. The Chinese communist state was well organised for the task. The 'local work units', as the collective agriculture bodies set up by the government were called, were charged with getting farmers to abandon their traditional varieties and adopt hybrids. This they did, in much the same way as many units in the 1960s had disseminated the high-yielding varieties of other crops during China's Green Revolution. The state also provided large-scale subsidies to help cover the initial investments.

Subsidised farming

Yuanyang got its first hybrid varieties (Sayou 63 and Diyou 63) in 1979. To kick-start the programme, the government provided the seeds for free and gave farmers trying them a 50 per cent discount

on chemical fertilisers.² Even so, three quarters of the farmers in the area turned down that first offer; most were sceptical of the promised high yield. Moreover, many of the farmers whom we talked to who had opted for hybrids had stopped growing them after bad experiences. Some suspect that the hybrids are ill-adapted to their climate, while others, including the local extension officer, believe them to be unsuited to the high altitude. The richer farmers in the irrigated areas are now the only ones consistently growing hybrid rice. Nevertheless, the state keeps promoting new hybrids from other provinces to the poor farmers on the terraces, luring them into trying out the new varieties with seed subsidies and more promises of high yields.

According to the chief of the Plant Protection Centre in Yuanyang, seed subsidy is central: "It's what encourages them to adopt hybrid rice", he says.³ But the farmers we spoke to in Yuanyang and other areas of Yunnan and Sichuan think otherwise. They say that the seed subsidy is small and has little influence over their decision to grow hybrid rice; after all, the Chinese government's seed subsidy varies greatly between different locations, and depends largely on the discretion of local seed dealers and village administrators. Indeed, the discounts range from about US\$2 per kilogram of seeds to nothing at all. So why do farmers continue to grow these hybrids? The lack of options is one factor: as the official admits, "we haven't tried introducing other varieties except hybrids".



The trademark "peasant shoes" – a symbol of hard work. With the widening gap between the urban and rural populations, they have also come to symbolise poverty.

1 Conversation with Professor Jiang Yongning of Yunnan Academy of Agricultural Sciences, 5 September 2006.

2 Conversation with Mr Long, head of the Plant Protection Centre in Yuanyang, Honghe, Yunnan, 8 September 2006.

3 *Ibid.*





The famous Yuanyang rice terraces carved out of the mountains. The entire valley contains about 3,000 terraces of about 11,000 hectares of paddy fields – planted with both hybrid and traditional varieties of rice – with strands of food and fodder crops growing in between.

Yield guarantee

By the side of the public market in Yuanyang is an inconspicuous store that sells hybrid rice seeds. On its walls are posters of long rice panicles full of burly grains. Each shows a hybrid variety, and carries a Chinese name and four numerical characters. The posters are produced by Sichuan Longping High Tech Seeds Company. The local seed dealer says the farmers are assured of high yields with these varieties (though the guarantee does not apply if the weather is bad). From the same dealer one can also purchase chemical fertilisers and pesticides recommended for these hybrids – a “package” not so different from the one offered during the Green Revolution era of high-yielding varieties. The yields may be “guaranteed”, but only if the farmers irrigate and fertilise the soil, protect the crops from damaging pests, and pray successfully for good weather!

Most farmers try to find the money for this technology package and gamble with hybrid rice, even though the results have often been poor. The hybrid ‘yield advantage’, achieved by most farmers in Yuanyang and the other areas of Yunnan that we visited, was generally modest. On average their yield was only 500–1,000 kg per hectare more than it would have been with conventional or traditional varieties. This was similar to the experiences of the farmers we spoke to in China’s second major hybrid rice growing region, Sichuan. In the village of Wenxiang, one farmer said that his annual income from growing hybrid rice was only about 80 RMB (US\$10) more than he was earning two years ago, when he was still using traditional

varieties (*Zhenzhuai* and *Guipigu*). This falls far short of the additional cost of the hybrid seeds. Yet such is the lure of modernisation that, for many farmers, traditional varieties are now synonymous with low yields, and few express regret about their disappearance. Over the years that Chinese farmers have shifted to hybrid rice, there has been a 46-fold reduction in local rice varieties.⁴ All for the sake of inconsistent high yields.

Even when the farmers we met had increased their yields by growing hybrid rice, they had not consistently exceeded the national average of seven tonnes per hectare.⁵ For the yields vary greatly, depending on location and conditions, making the high-yield “guarantee” almost meaningless. Interestingly, the farmers we talked to who had long experience of growing hybrid rice said that, despite the claims made for them, the yields of the current hybrid varieties do not seem to be any higher than those of the first hybrids. So it seems that two decades of research – and the experience of planting 15 million hectares with different hybrid varieties – have achieved very little. Some farmers said that they had experienced no change at all in yields when changing from traditional varieties to hybrids, while others claimed that their yields had fallen.

Just as in other countries where hybrid rice is grown, these Chinese farmers’ experiences reflect not only the risk of relying on just a few varieties from the commercial seed supply chain, but also – and more importantly – the inherent uncertainty of hybrid yields. As well as being a top-down affair dominated by scientists and agricultural

⁴ GRAIN, *Fiasco In the Field: an update on hybrid rice in Asia*, March 2005. grain.org/briefings/?id=190

⁵ The figure is supplied by the ‘father of hybrid rice’ himself. Yuan Longping, “Hybrid Rice for Food Security” (2004). <http://tinyurl.com/ygb3kh>

researchers, hybrid seed development is a rigid procedure that tends to ignore, rather than to address, the gap between the yields achieved in experiments and those experienced by farmers in the field. Hybrids are far from being dependable and, to judge from the very different experiences of farmers in the field, not designed for all conditions. Yet the Chinese authorities continue to promote hybrid rice, promising ever higher yields as each new variety pops out of the seemingly inexhaustible Longping production line.

It is interesting to consider what could have been achieved if the state had supported farmer-led research instead. Would it have produced entirely different lines of better-performing farmers' varieties attuned to China's diverse agro-climatic conditions? There seems to be little space for anything "farmer-led" at the moment, especially in the area of research. A local seed expert we spoke to said: "Farmers have no research capabilities. Research is very much tied up to resources, and resources mainly come from the state. It's not likely here that farmers will receive support from the government and be able to carry out research."⁶

Chemical dependence

Yield is not the only concern among the farmers we met. The general consensus is that hybrids are more susceptible to pests and diseases than the traditional varieties. Yet the state, despite its eagerness to persuade the farmers to grow hybrids,



"I've heard that other farmers in the village have had half-filled grains from their hybrid rice varieties. So I won't try them. I'm content with my traditional variety (Huagu), which I would even recommend to other farmers."

provides them with very little technical support. After they have bought the seeds, farmers are left to their own devices. The farmers identified stem borer, leaf hopper and folder, rice blast, sheath blight, rhizoctonia rot and rice smut as the major problems afflicting hybrid rice. Typically, they use chemical pesticides to deal with these problems, a practice they have adopted only since they began growing the crop.

In the far flung villages of Yuanyang, farmers have no memory of ever being visited by government extension agents, either to explain hybrid rice or to share knowledge about effective ways of dealing with pests and diseases. In the villages of Kunshan and Huangshui in Sichuan, farmers say no agricultural extension officers or local rice scientists from the public research station have ever visited them to ask about their farming problems. Most of their "visitors" came either to introduce something (such as a new seed) or to pass on an order (such as the need to participate in a field experiment). But no one has bothered to ask them about their experiences, much less attempted to understand their situation in order to address their basic problems.

Not surprisingly in these circumstances, farmers over the last half century have not fundamentally changed the way they till the land nor noted any great changes in village life. But these days pests



One of the many hybrid rice posters adorning the walls of a small seed shop in Yuanyang in Honghe Prefecture, Yunnan. From panicle length to seed density, everything from this variety looks tempting.



“Hybrid vigour”: reality or myth?

Hybrids are produced by crossing two inbred varieties of a particular crop. Breeders begin by selecting a number of crop lines with desired characteristics, and self-pollinating them for several generations, thus creating inbred “pure lines”: plants that are homozygous and produce exact clones of themselves. The theory is that if you cross two distinct inbred pure-line parents, the offspring will be “superior”, particularly in terms of yield. This is called the “heterosis effect”, or hybrid vigour.

However, the heterosis effect disappears after the first generation, so it is pointless for farmers to save seeds produced from a hybrid crop. This makes it very profitable for seed companies, since farmers need to purchase new seeds every season to get the heterosis effect each time.

Scientists have yet to explain how heterosis works and some, such as Jean-Pierre Berlan, of the Institut National de la Recherche Agronomique in France, believe that it is actually a myth. Berlan maintains that while hybrid seeds may demonstrate some hybrid vigour, they appear to produce high yields because they out-perform by a significant margin the parental lines they were crossed from. This is only to be expected, because the yields from the parental lines are depressed by the many backcrosses that breeders must make for them to be stable. Thus, hybridisation does not necessarily produce improved varieties; it only improves upon the parental lines.

While the scientific theory of heterosis remains unexplained, the economic impact does not. The costs of hybrid rice seeds are very high: up to 15 times higher than seeds from conventionally bred varieties. The major problem is that, in the hybrid seed production process, seed yields are very low, making it costly for companies to produce large quantities of hybrid seed.

Some farmers call hybridisation “the scam of the century”. Why? If you compare the recent history of two contrasting crops in a country like France – wheat, which is self-pollinated like rice, and maize, which cross-pollinates and can easily be hybridised – the picture is shocking. Wheat and maize were both grown from local populations until hybrid maize took off 40 years ago. Since then, the public research sector has continued to work on improving non-hybrid wheat, while the private sector has taken control of maize breeding, which has become entirely devoted to hybrids. The result for the farmer is clear. Between the early 1960s and late 1990s, wheat and maize yields both doubled, with wheat performing slightly better than maize. But with seed prices the picture is very different: by the late 1990s a kilo of wheat seeds cost the farmer three times more than he received for a kilo of wheat at harvest time, whereas for maize the ratio was a colossal 30 times. For hybrid maize, then, the yield increase has been somewhat lower than for non-hybrid wheat while the price increase has been spectacular. Research to improve the performance of open-pollinated maize varieties – which the private sector is not interested in, since farmers can save the seeds – might have provided much more productive and sustainable options than hybrids.

Adapted from: “Hybrid rice in Asia: an unfolding threat”, GRAIN et al., March 2000 <http://grain.org/briefings/?id=136>



and diseases are more prevalent and virulent, and pesticide use has increased to an alarming degree, giving rise to incidences of pesticide poisoning and cycles of pest resistance. A few farmers had also observed an increase in both the volume and the variety of pesticides now on the market to deal with the new pests and diseases.

But pesticide use is not the only input on the rise with hybrids. Farmers have also noticed an increase in their fertiliser usage. A local seed expert in Kunming with 40 years' experience in rice development confirmed this.⁷ “Farmers growing hybrid rice need to use more fertilisers”, he said. A researcher with the Society of Hani Culture in Honghe has a fitting way of describing what is happening.⁸ “It is as if the paddy field has got addicted to heroin”, said Li Qibo. “The more rice output you want from it, the more chemicals you have to give it.”

Meanwhile, the old man by the roadside of the Yuanyang rice terraces has no time for hybrids. He is sticking to the traditional red rice varieties that he has grown all his life, in rotating 3-year cycles, on his 3-*mu* rice field (1 hectare = 15 *mu*). He says his varieties taste better and command a better price than white rice. They are also resistant to pest and diseases, so he has never used any chemical pesticide or fertiliser. The yield is enough for the family's consumption – about 750–1000 kg from his rice field, or 5 tonnes per hectare. He has no desire to grow hybrid rice, as he has seen several other farmers in the village face misfortune because of it. Once in a while he misses his children, who have all moved away, preferring to take their chance in the city rather than to put up with the poverty in the countryside. The old man doesn't blame them, but wonders, in the face of continuing rural exodus, what will happen to his farm and the traditional varieties once his own generation has died.

7 Conversation with Professor Jiang Yongning, of Yunnan Academy of Agricultural Sciences, 5 September 2006.

8 Quoted in GRAIN, “Fiasco In the Field: an update on hybrid rice in Asia”, March 2005. grain.org/briefings/?id=190

Rice as cash crop

In Yangjiazhai village, an hour's drive from Gejiu city, a woman farmer carries, on two ends of a bamboo stick perched on her left shoulder, bundles of sweet potato cuttings collected from a neighbour's field. These are fed to her hog. This year she has no rice crop because some local officials decided to use her land for a tomato experiment. Growing rice has long been her family's main source of income, their primary cash crop. Last year, before the tomato experiment, she tried a new hybrid rice variety that she bought from a private seed company on the advice of a friend who works at a seed shop in the city. The hybrid was badly damaged by pests and diseases and her yields were very low. Next year, if she gets her field back, she will probably plant hybrids again, because she has few other options. With the hybrid invasion, the old practice of seed exchange is breaking down, making it almost impossible for farmers to obtain the traditional varieties. With money so tight, she wishes farmers could save hybrid seeds from year to year.

Like her, most of the rice farmers around Gejiu are growing crops for the market. Their focus is on yield and prices, and they grow primarily hybrid rice.

The hybrids are private sector varieties, generally sold by the local state seed companies, although some private dealers are now entering the market. Hybrid rice was introduced in this area in the early 1980s through pilot experiments organised by the local bureau of the Ministry of Agriculture. Two villages were selected for the experiment and all farmers were obliged to participate.⁹ After one season, the experiment was declared a success and the local government immediately began a major campaign to convert as many rice farms as possible to the production of hybrid rice.

According to one retired local seed specialist, the government invested heavily in the promotion of hybrid rice during those early years. They even guaranteed compensation should farmers fail to get yields of more than 400 kg/mu.¹⁰ Formerly, farmers grew over 70 local varieties of rice, none of which exists today. Once in a while a farmer would say to us, in a tone of resignation, "we have no choice today but grow hybrid rice", and most of the farmers we met – but few of the scientists and government employees – had fond memories of the distinct taste of certain traditional varieties, as compared with the bland flavour of the hybrids. They also pointed out that some old varieties were much better for specific uses, such as preparing

Farmers in Yuanyang threshing rice grains. It is a highly social process.



⁹ Conversation with local extension officer in Gejiu, 7 September 2006

¹⁰ Conversation with a former seed department head of the plant protection centre in Gejiu city, 6 September 2006.

rice noodles. But all of that has disappeared. They are left now with a vague hope that the scientists, whom they never see, will improve the yield, flavour and pest resistance of the hybrids.

A sad fact about growing hybrid rice as a cash crop is that farmers can produce only one harvest a year. This, together with the expense of having to buy seeds every year, means that the families have a very low income and do not have the assurance, as in the past when they grew rice primarily for their own consumption, that they will never go hungry. In fact, some farmers told us that they do not always make enough from the sale of their rice to cover the costs of their family's rice consumption for the year. Thus farmers regularly shift out of rice cultivation into crops such as sugar cane or vegetables, which can potentially bring in more money. In Gejiu, about one third of farmers grow sugar cane under contract with a local sugar factory. They normally get returns of about US\$250 per mu – a lot better than the US\$100 they earn from hybrid rice. But because the price of sugar fluctuates greatly, they do not grow cane on a regular basis. Some grow vegetables after harvesting their rice. Carrots, they say, need few inputs and give good returns. Still, there were very few well-off farmers in the villages we visited, and the objective of most crop diversification was merely to make ends meet. A common feeling was that they would rather be growing something other than hybrid rice – if only they had the choice.

A captive market

With hybrid rice grown in over half of China's rice lands, private seed companies are positioning themselves to cash in on this big captive market. Origin Agritech, a foreign-based seed company and one of the biggest in China, with a subsidiary in Beijing, recently bought about 95 per cent of Denong Zhengcheng Seed Company, which operates mostly in south-west China and owns the rights to 10 hybrid rice lines. It paid about US\$6.2 million in cash.¹¹ This take-over is accelerating the liberalisation of China's seed industry and introducing the dynamics of competition into a formerly state-controlled seed market. Indeed, foreign companies are beginning to move in. The German-based chemical company Bayer – responsible for the genetically modified rice Liberty Link, which contaminated farms in the United States – has announced plans to expand its operation in China. According to its South-East Asia manager, they plan to collaborate with a local seed company in a joint venture.¹²

Most of the farmers we visited were apprehensive about these developments. Some worry about the seed subsidy being scrapped, once private companies take control of China's seed sector. Others fear that the new companies may raise the price of seeds once they dominate the market. A number worried about the quality of the seeds, saying that some private companies had provided 'fake seeds'. They or their neighbours had bought hybrid rice seeds, advertised by the companies as high-yielding, to find at harvest time that the grains were only half filled. Some had experienced crop segregation (that is, inconsistent height and maturity), while others said that their seeds had failed to germinate. A woman farmer said she did not want to buy seeds from private companies. "Seeds are very important. If the seeds prove to be fakes, we will be in a very dangerous situation."

The state has introduced some safeguards. It has set limits on foreign ownership and established a cap on the price the seed dealers can charge.¹³ The state seed companies also provide some protection. The Gejiu Seed Company, for example, selects what it thinks are the best two or three hybrid varieties every year and sells only these varieties, thus providing farmers with some reassurance about quality. According to one farmer in Sichuan, "if too many private companies enter the market, they will sell so many different seeds that farmers will find it difficult to choose between them. We might end up planting bad seeds, because private companies do not provide a guarantee."

This farmer's comments highlight the dangers facing China's peasants. Few had any idea about the slow but sure liberalisation of the country's seed sector, and none knew anything at all about the pressures coming from abroad. They have no experience of dealing with the transnational seed corporations, which are set to pounce with their hybrid and genetically modified rice, once the gates are open. Perhaps most alarmingly of all, they retain a deep trust in their public scientists and do not realise that these people are already colluding with the private companies, with some scientists getting rich on the sales of hybrid rice seeds.

A leading Chinese researcher dismissed these concerns about the future. "I am not worried about private companies controlling the hybrid rice seed market. There's too much competition from the public sector," said Professor Jiang of the Yunnan Academy of Agricultural Sciences.¹⁴ But it's increasingly hard to separate the public from the private with hybrid rice in China. For instance, Yuan Longping, China's leading hybrid



11 "Origin Agritech Purchases Additional 42.42% Interest In Denong Zhengcheng", <http://tinyurl.com/wy9us>.

12 "Bayer CropScience Plans To Expand Global Rice Hybrid Opportunities", <http://tinyurl.com/y34ur3>.

13 Interview with Ms Xia, a pest and disease expert in Gejiu, 6 September 2006.

14 Conversation, 5 September 2006.

Do hybrids make a difference? The case of Canadian maize

It is easy to see why seed companies are so interested in hybrid crops: farmers can't save seeds from them. In the words of the late Don Duvick, one of the seed industry's most important hybrid maize breeders: "Private firms are attracted to the hybrid seed business because of the built-in plant variety protection of hybrids." Another hybrid crop breeder, Jeanne Crannell of Japan-based Sakata, the world's seventh largest seed company, puts it this way. "All of our focus is on hybrids," she says. "It's what you can control and keep ownership of."

The seed industry is not usually so candid about its interests in hybrids. More often it talks about hybrids' great yield advantage. In Canada, for instance, seed companies regularly point to the increase in maize yields after the introduction of hybrids in the 1930s and 1940s to justify their focus. But the real story is not so simple.

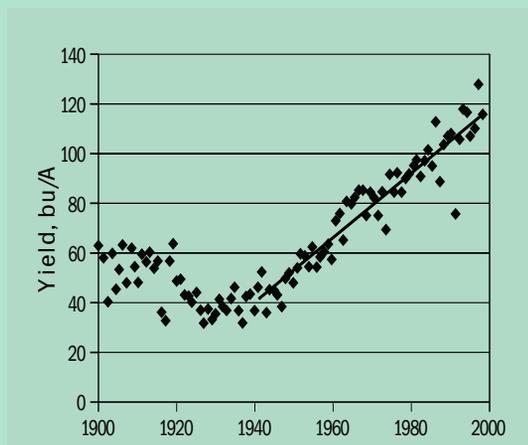
In the 1930s, just prior to the widespread adoption of hybrid varieties, yields of maize in Canada were at an historic low. Plant breeders had stopped working on maize a couple of decades earlier because maize, a plant which easily cross-pollinates, was not compatible with the new Mendelian genetics-based breeding systems. Overall production of maize had also bottomed out. There wasn't much of a market for the crop at the time and the traditional maize culture of Canada's indigenous peoples was all but wiped out.

When you go back a little further in the historical records, you see that the average yields of maize in 1930 were only half of what they had been in 1900. It wasn't until the mid-1960s, 40 years after Canada launched its hybrid maize breeding programmes, that yields returned to the levels that many farmers were getting with open-pollinated varieties at the beginning of the 20th century, without pesticides or chemical fertilizers (see Figure 1).

It was only in the 1950s that average maize yields began rising significantly, but hybrid breeding techniques by themselves have had little to do with these increases. The main factor was the changing production environment, especially the move to increasingly dense planting and the heavy use of chemical fertilizers and machinery, which began in the 1950s.

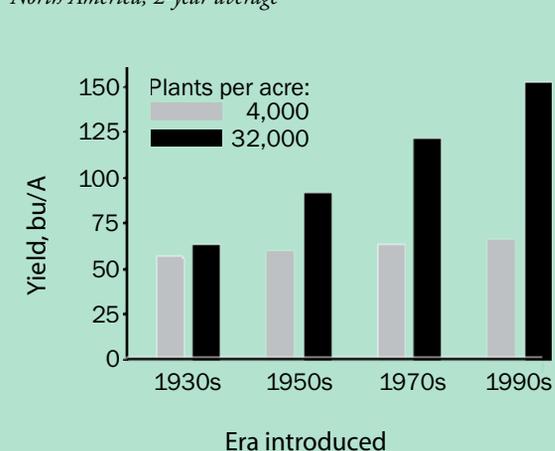
Recent studies show that, under low-stress environments, there are actually no significant yield differences between the maize hybrids grown in North America in the 1930s and those from the 1990s (see Figure 2). But there are big differences under high-stress environments, where plants are sown close together. The ability of today's maize hybrids to give higher yields under these dense conditions has nothing to do with "hybrid vigour". According to one recent study, "These changes in stress tolerance are likely the by-product of plant breeders selecting for yield at high plant populations and over a wide range of growing environments." In other words, the yield increases are really due to the old method of selection or population breeding, which farmers have relied on since agriculture began.

Figure 1. Maize yield averages in Canada during the 20th century



Source: Statistics Canada, as cited in T.W. Bruulsema, M. Tollenaar and J.R. Heckman (2000) "Boosting crop yields in the Next Century". *Better Crops*, 84 (1): 9-13: <http://tinyurl.com/ygl257>.

Figure 2. Maize grain yield response to low and high plant populations for hybrids from four eras of plant breeding in North America, 2-year average



Source: Pioneer Hi-Bred: <http://tinyurl.com/yzxxj4a>



rice scientist, is a shareholder in a hybrid rice seed company named after him. Moreover, the whole idea of “public” is blurred by the fact that hybrid rice is increasingly part of China’s empire-building strategy. China has been wooing African countries, where it wants access to energy and mineral resources, through a number of hybrid rice technology transfer projects, most recently in Sierra Leone, Guinea and Mozambique. In Asia, it signed a similar technical cooperation agreement with East Timor in which it committed itself to providing assistance in the production of hybrid rice. Projects to develop Chinese hybrid rice are also under way in Malaysia, the Philippines, Bangladesh, Indonesia, and Pakistan.

Sad truth

The great Chinese philosopher Lao Tzu once said “the people are hungry: it is because those in authority eat up too much in taxes”. In rural China today, farmers are celebrating the abolition of the agricultural tax, in force for almost half a century. The tax was enacted in 1958 during Mao Zedong’s “Great Leap Forward” and was finally abolished by parliament in January 2006. Farmers are saying that scrapping this tax has encouraged more farmers to grow rice, and has already improved

their standard of living. If this is true, there is a sad irony in it: during the last three decades the Chinese government has invested heavily in hybrid rice, with the declared objective of improving the living standards of farmers, something which it has largely failed to achieve; yet the simple abolition of an old law, achieved with the flourish of a pen, has brought about the wished-for benefits to the farmers in less than a year.

Most of the farmers who opted for hybrid rice depend on farming for their livelihoods and accepted the new variety because they were told, time and again, that it would bring them a higher income. Yet almost three decades of growing and improving hybrid rice have brought few benefits. The cost of farming is increasing, while real incomes remain stagnant. Most rice farmers remain poor and are becoming ever more dependent on chemical fertilisers and pesticides. The only improvements experienced by the farmers we spoke to came from the money that their children, working in the cities, had sent to supplement the family income. But they also said that their kids missed the countryside and would rather be back home, if only the poverty were not so desperate. Just like the Great Leap Forward, the promised “Great Yield” has failed to deliver. 

Farmers in Gejiu thresh rice grains at the roadside. The rice is spread on the road to dry in the sun.

