

**Despite the fanfare about soaring yields, hybrid rice has not been a successful crop. Three decades of subsidies and research have failed to bring it into mass production, except in China. But now, with the world facing a serious rice crisis, hybrid rice is back on the agenda. It is being strongly pushed as the only way of boosting rice production. The consequences of a large-scale shift from conventional rice to corporate-friendly hybrids would be devastating not only for small farmers but also for future world rice production.**

# The food crisis and the hybrid rice surge

GRAIN

**H**ybrid rice has not been a success in the Philippines. The few studies of it have painted a bleak picture.<sup>1</sup> Official statistics from 2003 for one town in Isabela Province in the north-west of the country show that for every hectare of hybrid rice that yielded above the national average for conventional inbred varieties, currently 4.2 million tonnes, seven hectares of the same variety yielded well below it. More recently, in 2007, the World Bank concluded that the Philippines' hybrid rice programmes had not produced "much net social benefit", noting a farmer drop-out rate of 50–99 per cent.<sup>2</sup> The Bank said that the conventional varieties were more "socially profitable" than the hybrids.

One might expect corporations, faced with such setbacks, to have quietly abandoned hybrid rice. But it has become clear that, far from losing interest in its development, they have been quietly moving forward. The explanation for this is simple: the potential profits from the technology are huge. Hybrid rice seeds cannot be saved from the harvest, so farmers have to buy new seed every

year. And hybrid rice seeds are supplied almost exclusively by private seed companies. Indeed, the whole logic behind hybrids is to make profits for corporations. In this sense, hybrid rice is the key to building a corporate-controlled market for rice. This is something that corporations have achieved for crops like maize, but not yet for rice.

In May 2008 the Philippines Department of Agriculture signed an agreement with the International Rice Research Institute (IRRI) to boost rice productivity and achieve rice self-sufficiency in the country by 2010.<sup>3</sup> A cornerstone of this programme is a US\$216-million project for the production and distribution of subsidised hybrid and certified seeds (which comes out of the budget of the government's larger FIELDS initiative<sup>4</sup>). The target is to triple the number of hectares under hybrid rice cultivation to 900,000 ha by the 2009–10 season.<sup>5</sup>

"We find this difficult to understand, given the poor performance of the hybrid rice programme and the many issues that have been raised against it over the years", said Centro Saka executive director

1 See GRAIN, "Fiasco in the field – an update on hybrid rice in Asia", Briefing, March 2005. [grain.org/briefings/?id=190](http://grain.org/briefings/?id=190)

2 See GRAIN, "Philippines: World Bank condemns hybrid rice", Hybrid Rice Blog, 28 August 2007. <http://www.grain.org/hybridrice/?lid=190>

3 International Rice Research Institute (IRRI), "Rice Solutions", 15 May 2008. <http://tinyurl.com/622pyg>

4 FIELDS stands for Fertiliser, Irrigation, Education and training for farmers and fisher folk, Loans, Dryers and other post-harvest facilities, and Seeds of the high-yielding, hybrid varieties.

5 See Inquirer.net, "Taking steps to ease RP, global food shortage", 28 April 2008. <http://tinyurl.com/5u796r>



Omi Royandoyan and National Rice Farmers' Council president Jimmy Tadeo.<sup>6</sup> "The package is no different from those that have turned us into the world's biggest rice importer. By subsidising hybrid rice, we are subsidising big seed companies like SL-Agritech, Bayer and Monsanto, when we should be using that money to support our own rice farmers. FIELDS will actually make us dependent on private companies that are not accountable to the public", they added.<sup>7</sup>

### Seductive promises

The main beneficiary of the various hybrid rice schemes that the Philippines has pursued over the past decade is SL Agritech,<sup>8</sup> owned by Filipino-Chinese businessman Henry Lim. In 2006, SL Agritech supplied 65 per cent of the hybrid rice seeds purchased through the country's hybrid rice programme – earning the company over US\$4 million, according to some farmers' organisations. Lim argues that farmers can become millionaires by converting to hybrid rice. "Better earnings will allow rice farmers to expand their areas and also become millionaires", he told the *Manila Times*.<sup>9</sup>

With the current rice crisis, the stakes are now much higher for the government's rice policy. Choosing to press ahead with IRRI on a hybrid rice programme that has so far failed is a huge gamble. But it is one that other governments are also being persuaded to take. Indonesia, for instance, says it will spend US\$651 million this year to provide farmers with rice seeds, including high-yielding hybrid varieties, to boost production.<sup>10</sup> Last year the government launched a programme to distribute 2,000 tonnes of free hybrid rice seed to farmers to be planted in more than 135,000 ha of prime rice land, even though local studies had not found that hybrid rice increased production. The pilot programme produced disastrous results for participating farmers.<sup>11</sup>

This renewed drive for hybrid rice is being pushed by China, which is using the crop as a way to develop its own multinational seed corporations. Much of the hybrid rice seed sold in Asia is imported from Chinese companies. Indonesia, Bangladesh, Pakistan and Burma all import most of their hybrid rice seeds from China. Vietnam has invested heavily in developing a national hybrid rice seed industry, but it too currently imports most of its hybrid rice seeds from China.

China has some advantages: its seed companies have access to the varieties developed over decades by China's public breeding programmes; it has the right climatic conditions for these seeds; and it

has the cheap labour needed to make production economical. The giant multinational seed companies, such as Syngenta and Bayer, are thus ramping up their investments in the Chinese seed industry, even though, under Chinese law, they are restricted to a 49 per cent stake. In 2007 the world's fourth largest seed company, Vilmorin/Limagrain of France, took a 46.5 per cent stake in China's largest hybrid rice seed company, Yuan Longping Hi-tech Agriculture.<sup>12</sup>

But for China, the hybrid rice gambit is not just about seeds. The Chinese government is interested in expanding its control over rice production beyond its borders, both to secure national rice supplies and to feed the growing teams of Chinese labourers working for national companies on mining, oil and infrastructure projects around the world. Beijing is currently considering a proposal drafted by the Ministry of Agriculture to make supporting offshore land acquisition by Chinese agribusiness a central government policy.<sup>13</sup>

Burma is one country that has been a focus for the outsourcing of hybrid rice production by Chinese business, with the support of the military junta. In an August 2007 exposé of the hybrid rice programme in northern Burma, near the Chinese border, freelance journalist Clifford McCoy described how four consecutive years of poor harvests with Chinese hybrid rice varieties had driven many ethnic minority farmers into heavy debt or out of rice farming altogether. "After successive bad harvests and lacking the funds to service their debts, many farmers have been forced to sell their land, in many instances to the same Chinese business people who sold them the seeds, fertilisers and pesticides", says Clifford.<sup>14</sup> "Farmers who cannot afford to pay off their debts incurred from the now higher costs of growing [hybrid] rice often end up selling their land to the same Chinese companies that sell the farming inputs. The companies then frequently turn the land into commercial rice farms."

### Africa offensive

Similar scenarios are played out much further from China's borders. On 30 April 2008, France's TF1 television news reported on a Chinese effort to outsource rice production to Africa. The new report investigated a 10,000-ha project in Cameroon, managed by a Chinese company, which, through an agreement with the Cameroonian government, is producing rice for export to China.<sup>15</sup> During the 2006 Africa–China Summit, China agreed to establish ten agricultural centres on the African continent, and delegations of Chinese rice experts

6 Inquirer.net, "Saying no to hybrid FIELDS of rice", 1 May 2008.  
<http://tinyurl.com/5wsqrq>

7 Inquirer.net, "Hybrid crops a poor solution to rice crisis", 29 April 2008.  
<http://tinyurl.com/55bl73>

8 GRAIN, "Philippines: Who's really benefiting from hybrid rice subsidies?", Hybrid Rice blog, 19 April 2007.

9 "Rice farmers can be millionaires, says executive", *Manila Times*, 14 April 2008.  
<http://tinyurl.com/639tx5>

10 "Indonesia to triple rice seed budget to lift output", Reuters, 26 April 2008.  
<http://tinyurl.com/6ndmh3>

11 GRAIN, "Indonesia: More hype than hope on hybrid rice", Hybrid Rice blog.  
<http://www.grain.org/hybridrice/?lid=196>

12 GRAIN, "China: Vilmorin lays claim to top hybrid rice seed company", Hybrid Rice blog, 20 August 2008.  
<http://www.grain.org/hybridrice/?lid=187>

13 "China eyes overseas land in food push", *Financial Times*, 8 May 2008.  
<http://tinyurl.com/5ujnl6>

14 GRAIN, "Burma: seedlings of evil", Hybrid Rice blog, 27 August 2007.  
<http://www.grain.org/hybridrice/?lid=189>

15 <http://tinyurl.com/5l7xsn>



and businessmen have already been in Guinea, Sierra Leone, and Mozambique to begin projects for the production of Chinese hybrid rice varieties.<sup>16</sup>

This year China's Chongqing Seed Corp announced that it had selected 300 ha of land for production of its hybrid rice in Tanzania, beginning next year. The company says that it will contract out production to local farmers and export the harvest to China. Chongqing began similar projects in Nigeria and Laos a couple years ago, but it already plans to shelve the Laos project. "The system there doesn't have any leverage over farmers, so labour is not very efficient. But we can't send Chinese workers to plant there", the company's deputy general manager, Huang Zhonglun, told Reuters.<sup>17</sup> "They charge a lot for land rent, and there's no irrigation infrastructure, so we have to rely on the rainy season." Other hybrid rice ventures by Chinese companies include Suntime International's 5,000-ha project in Cuba<sup>18</sup> and a 1,050-ha project in Mexico.<sup>19</sup> The China Daily reports that a company from Heilongjiang has a 42,000-ha hybrid rice project in the far east of Russia.<sup>20</sup>

Some Chinese officials are questioning the wisdom of this outsourcing policy. "It is not realistic to grow grains overseas, particularly in Africa or South America", says Xie Guoli, deputy director of the agricultural trade promotion centre at the Ministry of Agriculture. "With so many people starving in Africa, can we really ship the grains back to China?"<sup>21</sup> But China is not alone in its outsourcing ambitions. On 11 May 2008, the *Financial Times* reported that the United Arab Emirates (UAE) government and other private entities had bought a large area of land – 800,000 ha – in Pakistan, primarily to produce wheat and rice to be exported to the UAE.<sup>22</sup>

Vietnam is also beginning to look to Africa for the outsourcing of rice production in order to make up for the 500,000 ha of rice lands it has lost since 2001 to urbanisation and industrial development. A team of Vietnamese scientists led by Professor Vo Tong Xuan, rector of An Giang University, has been in Sierra Leone since at least 2007 to test the productivity of 50 Vietnamese varieties. Later this year, 20 Vietnamese farmers from the Mekong delta will go to Sierra Leone to train local farmers in Vietnamese rice farming techniques. According to the website of the Government of Sierra Leone, 300,000–1,000,000 ha have been reserved for this "co-operation" project with Vietnam.<sup>23</sup> Xuan, who is also senior adviser to one of Vietnam's leading rice companies, Minh Cat Tan, says that, under the project, a stock company will be set up that will seek to replicate the model in other countries.<sup>24</sup> He

says that Vietnam expects to become Sierra Leone's main supplier of rice seed in the future.<sup>25</sup>

### The battle ahead

There are, of course, still large rice-growing areas of the world where hybrid varieties are not cultivated and where farmers will strongly resist their introduction. The big questions have already been defined in the battle that lies ahead about how the rice crisis will be tackled. Which seed will be supplied and by whom? How much seed is going to be imported? Will the seeds be traditional, or hybrids, or, even more controversially, GMOs? It is clear that corporations are taking advantage of all the current talk about the need to get "quality" seed to farmers, so that they can increase production to fend off the growing food crisis, as an opportunity to push their products. And they are making headway. An indication of this came in November 2007 when IRRI, which runs the only significant public hybrid rice breeding programme outside China, announced the formation of its Hybrid Rice Research and Development Consortium.<sup>26</sup> The Consortium will bring together private seed companies to bid for exclusive rights to IRRI's hybrid lines. The stage is thus set for a few multinational seed companies to take control of the global hybrid rice seed supply, just as they have with most of the world's other major crops.

With the food crisis and this renewed push for hybrid rice, the world is moving to an entirely new situation where large parts of its rice land will be planted with seeds sold by private seed companies and, in many cases, imported from zones of cheap hybrid rice seed production, notably China and India. And this shift to hybrid rice seeds is facilitating a shift to corporate farming, with companies either pursuing vertically integrated contract production or taking direct control over land and farming, with the collusion of governments.<sup>27</sup>

One lesson that should be learned from this crisis is that dependence breeds disaster. Those countries suffering most from the current rice crisis are those that abandoned local production and became dependent on imports. Today, hundreds of millions struggle to get enough to eat because they cannot pay the price for basic staples that the global market imposes on them. Meanwhile the corporations that control the global food system are reaping record profits. With the food crisis providing a golden opportunity for the companies to push hybrid rice, dependency will be created at an even more fundamental level: that of the seed. It is a recipe for another food crisis: one based not on access to food, but on access to the means to produce food.

16 GRAIN, "China's mission to bring hybrid rice production to Africa", Hybrid Seed blog, 12 April 2006. <http://www.grain.org/hybridrice/?lid=166>

17 "China overseas food push not realistic", Reuters, 9 May 2008. <http://tinyurl.com/67elgk>

18 Ibid.

19 "China to lease overseas farmland to solve food problems", People's Daily online, 25 May 2004. <http://tinyurl.com/6qxcw8>

20 "Firm will grow rice in Africa", CHINA Daily, 9 May 2008. <http://tinyurl.com/5magfg>

21 "China's overseas food push not realistic", Reuters, 9 May 2008. <http://tinyurl.com/67elgk>

22 "UAE investors buy Pakistan land", *Financial Times*, 11 May 2008. <http://tinyurl.com/4kmuud>

23 <http://tinyurl.com/56vheb>

24 "Vietnamese farmers share their experience with Sierra Leone", VNS, 29 November 2007. <http://tinyurl.com/5bscdf>

25 Forum for Agricultural Research in Africa, "Food's Failed Estates", 29 February 2008. <http://tinyurl.com/6ryjkb>

26 GRAIN, "IRRI Inc.", *Against the Grain*, November 2007. [www.grain.org/articles/?id=33](http://www.grain.org/articles/?id=33)

27 GRAIN, "Malaysia: Nestlé, Sime Derby lead corporate push into padi", Hybrid Rice blog, 1 February 2008. <http://www.grain.org/hybridrice/?lid=198>

