Sprouting Up...

ICRISAT leads the charge to the private sector

Over the past few years, the only consistent message that has been coming out of the CGIAR is that its International Agricultural Research Centres (IARCs) need to take creative measures to keep themselves afloat. Declining public funding for agricultural research, increased private sector investment in the seed industry, the potential of the 'gene revolution' and the expansion of monopoly controls on genetic resources are all pushing them in this direction. Unfortunately, these 'creative' measures boil down to partnership with the private sector, which, since the development of genetically modified (GM) crops, has become much more interested in developing country seed markets.

None of the 16 IARCs has moved more boldly into the realm of *"private sector partnerships"* than the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the recent happenings at ICRISAT provide a telling picture of just where the IARCs are heading

As would be expected, the private sector's interest in partnering with ICRISAT revolves around hybrid seeds and GM crops. Thirteen seed companies are now involved with the hybrid sorghum programme and 16 with the pearl millet hybrid breeding programme that ICRISAT began in 2000. Companies like Advanta India, Mahyco-Monsanto, Proagro Seeds (Bayer), Syngenta India, Zuari Seeds, JK Agri-Genetics, Monsanto India and Mahindra Hybrid Seeds pay an annual fee of around Rs 2.5 lakh (US$5,000) per crop to participate in the programme and access the varieties developed. In 2003, ICRISAT launched a hybrid pigeonpea breeding programme with two seed companies, and in 2004 it intends to double the annual fees for all crops. ICRISAT has built up its technical capacity for GM research, and transgenic groundnut and pigeonpea are currently under field tests. Transgenic varieties of chickpea, pigeonpea and sorghum are in the pipeline, but nothing has yet been brought to market. As with its hybrid research, ICRISAT is embarking on a partnership strategy with the private sector to 'transfer' its GM technology to the poor.

In 2003, it looked like ICRISAT's ventures with the private sector in India might come apart when, in the run up to the CGIAR's annual meeting in Nairobi, there was talk of moving its headquarters to sub-Saharan Africa and closing down the Indian operations, where there is little justification for an IARC given the strong national agricultural system. ICRISAT's upper management resisted, and in the end they were able to water-down the proposal into a promise of *"programmatic improvement"* and to use the discussion to find support for a more pronounced shift towards biotech activities in Asia. ICRISAT's Director General, William Dar, told India's *Business Standard* that the new focus in Asia will be on *"re-engineering and expanding the institute's breeding program, while concentrating on the generation of biotech-assisted germplasm enhancement and new breeding methodologies."*

The centerpiece of ICRISAT's biotech plans for Asia is its new Agri-Science Park, which ICRISAT sees as part of its *"social marketing plan"*. This venture brings together an Agri-Biotech Park (part of the Andhra Pradesh government's Genome Valley Project); an Agri-Business Incubator, (where fledgling biotech companies can get advice and technical assistance) and a Hybrid Seed Consortium. The latter uses *"the vast genetic resources available in the ICRISAT genebank (currently 114,000 land races and varieties from more than 100 countries) to develop improved hybrid parents, with market and farmer-desired characteristics"*. The market might get a bit more say than the farmers in this since membership in the Consortium gives the companies five years of exclusive access to ICRISAT's hybrid parental lines, after which the lines are made available to non-members. Another new initiative is ICRISAT's foray into agri-ecotourism via the SAT Eco-venture. The rationale for this rather bizarre venture is that *"ICRISAT's research has made it an expert on the rich biodiversity in India's varied climatic regions, placing it in a prime position to educate nature lovers about the semi-arid environment including its wildlife"*. Hey ICRISAT, remember those farmers?

Private partners participating in the Agri-Biotech Park gain access to ICRISAT's researchers and biotechnology facilities as well as ICRISAT's intellectual property management office. ICRISAT has also set aside 200 acres of land that the companies can use for GM field trials. At present there are only two private partners: the

ICRISAT - in its own words

ICRISAT is headquartered in the State of Andhra Pradesh in southern India but, with centers in Mali, Zimbabwe, and Kenya, it also has a strong presence in Africa. It is mandated to work on five crops – sorghum, millet, groundnut, chickpea, and pigeonpea – that are particularly important to the semi-arid tropics of Asia and Africa. According to ICRISAT, its vision is *"'Science with a Human Face', tailoring research to address and resolve real human needs: to reduce poverty, hunger, and environmental degradation –across the semi-arid tropics of the world."* It describes itself as *"a bridge for technology and information sharing between developed and developing countries; a neutral broker in helping developing countries find fair ways and means for exchanges of technologies and related assets; and a catalyst in bringing partners together to take on major research thrusts and initiatives that none could have handled on their own."*

Seghal Foundation and Aquas. The Seghal Foundation is run by Suri Seghal, founder and CEO of the Indian seed corporation Proagro Group, until it was bought out by AgroEvo (now Bayer CropsSciences), while Aquas, a spin-off company of Bangalore-based Avesthagen, develops GMO testing kits.

The Agri-Business Incubator was set up in 2002 with $600,000 in funding over five years from the Indian Department of Science and Technology. To date there are two private-sector clients: Rusni Distilleries, which is collaborating with ICRISAT in generating fuel alcohol from ICRISAT sorghum varieties, and Bioseed Research India, a subsidiary of the DCM Shriram Group, which is working with ICRISAT to develop GM cotton hybrids. Under the agreement with Bioseed, ICRISAT will provide technology assistance for using molecular markers, gene marker identification and genetic transformation and will provide Bioseed with access to ICRISAT's greenhouses, biotech labs and agricultural land for field tests.

ICRISAT thinks that with the Agri-Science Park it can kill two birds with one stone: finance its biotech research and deliver products to small farmers. It describes the Agri-Science Park as its *"technology commercialisation arm":* using private partnerships to bring the center's research to the market where small farmers can access it (by paying for it!). The logic is summed up in Dar's enthusiastic message to the delegates of BioAsia 2004 (the biotech industry's Asian get-together): *"Hitch your venture to the Agri-Science Park at ICRISAT! It is a place where agricultural innovations, partnerships and products for the poor converge."*

Chinna Narsamma, DDS

ICRISAT has about 36,000 accessions (samples) of sorghum varieties developed by farmers in its collection.

It is clear that this focus on private partnerships is now directing ICRISAT's research agenda. ICRISAT is working on those technologies that interest the private sector (hybrid seeds and GM crops) for areas of India where there is a strong private seed sector. The cotton collaboration with Bioseed shows that ICRISAT is even willing to take on research into crops that are not within its mandate if this rakes in additional funding.

ICRISAT appears to understand that the link between these projects and the needs of poor farmers is weak, so it has churned up other justifications. The public is told that partnerships with the private sector are necessary to meet funding needs, build-up biotechnology capacity in developing countries and generate jobs. The 'capacity-building' argument is nothing new. From the start of the CGIAR more than 30 years ago, the IARCs were supposed to focus on building national agricultural research capacity so that they could fade away over a few decades. Yet, as national public agricultural research continues its steady but imbalanced decline around the world, ICRISAT refuses to fade away even where the national agricultural research system is strong (India) and from an area of agricultural research (biotechnology) that is clearly over-invested when compared with other areas. As to job creation, since when is livelihood security for scientists and entrepreneurs part of the mission statement of the CGIAR?

There's no doubt where ICRISAT's new agenda for Asia will lead. The big corporations will swallow up India's nascent agricultural biotech sector and hybrid seed industry as soon as it shows any potential, as has happened elsewhere. ICRISAT is really just helping to feed the multinationals, not the hungry.

Sources: "Conventional breeding: ICRISAT plans biotech-aided crop improvement group," *The Hindu Business Line*, July 18, 2003; "First Person: William D Dar, ICRISAT – In the cause of poor," *The Business Standard,* December 10, 2003; "ICRISAT not to shift HQ from India: CGIAR meet in Nairobi puts an end to speculation," November 6, 2003; "ICRISAT scouts for private sector players in biotech," *Business Standard,* Feb 28 2004; William Dar, Presentation at BioAsia 2004, available at: www.agri-sciencepark-at-icrisat.org/default.htm; "Agri biotech park at ICRISAT," *Business Standard*, December 11, 2003