

Hungry for knowledge

by Trina Leah Mendoza
and David Johnson

Every year in Bangladesh, millions of rural families suffer the privations of *monga*, the period after the previous season's food has run out and before the next season's harvest. Now, several technologies are helping to close the window of hardship.



BRRRI'S M.A. MAZID (front, with glasses and beard) and IRRI's David Johnson (behind sign) discuss direct seeding and *monga* mitigation.

Travel from the Bangladeshi capital of Dhaka to the district of Rangpur in the country's northwest takes about 7 hours by an increasingly rough road. In the course of that long journey, you get a feel for this largely flat, waterlogged nation, teeming with around 150 million people. Departing the crowded urban streets of Dhaka, you leave behind images of makeshift tents crammed between trees along the highway. Nearing Rangpur, you can see communities of tin houses. And in villages in neighboring Nilphamari and Kurigram districts, families live in thatch huts, most of them without electricity or plumbing. These simple dwellings represent home for millions of Bangladesh's poor. About one-fifth of the nation's population—around 30 million people—suffer from severe hunger each year.

Life for the rural poor, hard enough at any time, gets harder in northern Bangladesh from late September to mid-November. It is at this time that the annual famine known as *monga* bares its teeth. During these months, many cannot afford three meals a day,

often struggling to piece together a single decent meal. At this time of the year, most of the people who rely on farmwork—around 70% of the adult population—in the greater Rangpur District are jobless, waiting for the harvest of transplanted rice in December. By the time the *monga* season comes, they have consumed all of their stored food and opportunities for work have dried up.

Most of the men migrate to cities to find work pulling rickshaws, transporting bananas and logs, or similar. But these prospects are few and poorly paid. Often, families buy livestock and poultry before *monga* and sell them during these trying months. Even 8- to



DR. JOHNSON with local residents in Rangpur.

12-year-old children are sent to work for landowners. Boys receive about US\$28 and food for a year in exchange for hard labor in the fields. The girls, restricted to household chores, receive only food.

It does not help that northwest Bangladesh is transected by 21 rivers that regularly overflow, leaving thousands of families homeless. Floods usually arrive in August and September, bringing with them water-borne illnesses and hardship that are only intensified by the *monga*, which follows close behind.

To help ease the suffering during *monga* and improve farm productivity, the International Rice Research Institute (IRRI)-led Irrigated Rice Research Consortium (IRRC), the Bangladesh Rice Research Institute (BRRRI), and local nongovernment organizations (NGOs) have teamed up. Together, they are developing the means for earlier harvests through shorter-duration rice varieties combined with direct seeding of rice and weed control options.

IRRI weed scientist David Johnson, of the IRRC Labor Productivity Work Group, and M.A.

Mazid, head of the BRRRI Rangpur station, have been working closely with farmers to test the potential of direct seeding as an alternative to transplanted rice in different cropping systems. Direct seeding allows the rice to be established earlier and raises the chances for farmers to grow an extra crop, such as potato, maize, mustard, wheat, chickpea, or vegetables.

The IRRC team traveled to Rangpur on 22-28 October 2007 to capture the impact of direct seeding on *monga* mitigation. IRRI socio-cultural anthropologist Florencia Palis interviewed farmers and landless men and women in Rangpur, Nilphamari, and Kurigram districts.

One grief-stricken widow in Nilphamari said that her "life was miserable and useless because she had no work and no land to work on." Left with two daughters to take care of, remarrying was, in Bangladeshi culture, not an option. Another woman had descended into a spiral of debt, borrowing successively from several NGOs to pay for each previous debt.

Despite this misery, such landless women refused to lie down. Some formed groups to develop incomes during the *monga* period. Others borrowed money from NGOs to hire a teacher for their young children. Some sold poultry and livestock and also took on lac production, supported by the NGO Grameen Artto Unnayan Sangstha (GAUS). Lac (*Laccifer lacca*) is a scale-insect that secretes a resinous product, which can be harvested

and sold. Almost all the lac rearers in Bangladesh are women.

Direct seeding, too, is playing a key role. One Nilphamari rice farmer's direct-seeded crop yielded about a respectable 3 tons per hectare. Also able to grow ginger, he described his situation as "a miracle." With the introduction of direct seeding and the early-maturing rice variety BRRRI dhan 33, farmers can harvest 25 to 40 days earlier, sell at a higher price, and earn extra income from cash crops or as laborers for other farmers.

IRRI agricultural economist Arelene Malabayabas trained household surveys designed to collect rice and other crop production data from 200 farmers. The preliminary results indicated that the most effective ways of informing farmers about direct seeding are through television (a village's few sets are often watched by many farmers), demonstrations and training, farmers' field schools, other farmers' influence, and extension technicians. These data, along with those of Dr. Palis's interviews, will give the IRRC a better understanding of how direct seeding and improved weed management can be spread effectively to help improve farmers' harvests.

The team also discussed with government and nongovernment agencies the potential of direct-seeding technology as a way to mitigate *monga*. They met with officials of the Department of Agriculture and Extension (DAE) and the district commissioner of Kurigram, who agree that planting early-maturing varieties is vital in mitigating *monga*, but also stressed a need for more seeds and training.

DAE has been promoting early-maturing varieties since 2005, along with direct seeding by drum seeder, although their efforts were hampered by several floods in 2007.

The team also met with NGOs including Solidarity, Inter-Cooperation, GAUS, Rangpur Dinajpur Rural Service, and the Bangladesh Rural Advancement Committee (BRAC).

"These two technologies, early-maturing varieties and direct seeding, can stagger employment generation and, to some extent, combat *monga*," says Mahabub Hossain, BRAC chief executive officer.

For GAUS members, this project was a "dream come true" according to Matiur Rahman, GAUS executive director. "Before using direct seeding, the farmers were harvesting only 2.1 tons per hectare," he says. "Upon using direct seeding with BRRRI dhan 33 variety, and with good management and training, they were able to harvest about 4.7 tons per hectare."

There is still much work to be done to relieve the problem of *monga* by enabling farmers to harvest rice earlier. Further farmer training will be undertaken this year so that farmers themselves can become trainers in the community. The IRRC team will travel the road to Rangpur again, and the tents and thatch huts will probably still be there. But, by helping farmers make more of their natural resources, simple, well-managed technologies can go a long way to easing the misery of *monga*.

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IN RANGPUR, Bangladesh, direct-seeded rice can help people avoid the hungry *monga* months.

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