

Village Pudukula's different

Managing yields without pesticides

A women's self-help group in Pudukula village approached a bank for a Rs 25,000 loan to buy an electric neem powdering unit last year, and was turned down. The group's credit history was good, say residents of this predominantly tribal village of 204 farming households in Palvoncha mandal of Khamman district. But they are confident they'll bag the loan this year. For they have reduced their cost of cultivation, maintained yield, made farming profitable, and are shrugging off the debt burden.

For about two years now, the village has avoided using chemical pesticides, the most expensive input into its cotton crop. They follow non-pesticidal management (NPM) of pests, with the help of SECURE (Socio-Economic & Cultural Upliftment in Rural Environment), an NGO based at the nearby town of Gattaigudem. On its part, SECURE obtained technological help from the Centre for Sustainable Agriculture (CSA) in Hyderabad. For pest control, the village uses hormone traps and trap crops, sprays of chilli-garlic, neem seeds and cow dung-urine.

SEEDS OF CHANGE: The village's link with SECURE began in 1999, via a successful watershed development programme. Soon after, SECURE encouraged villagers to use NPM methods. Could pests be controlled without pesticides? "They were talking about spraying neem," says Hemla Naik, secretary of the village's watershed committee. "I brushed my teeth with neem twigs every day and it didn't seem harmful. How was it going to kill the insects that couldn't be controlled with repeated sprays of pesticides the agriculture department staff recommends?"

Pesticides were avoidable, costing too much and forcing villagers to buy on credit from suppliers and shopkeepers. The latter would then buy produce at rates lower than the market, as 'adjustment' for loans. "They once took away my cotton when I wasn't home. They'd offer Rs 1,800 per quintal when the market price was Rs 2,800 per quintal," says Naik. With the cost of production exceeding the yield price, farmers would take loans from banks and private moneylenders each year, increasing the quantity of chemical pesticides for a better crop. Dhanamma recalls mixing acephate powder with alpha-methrine, among other things, under advice from pesticide dealers. There were also health effects. Man Singh, 35, remembers acute toxicity: poor eyesight, loss of coordination, and a hospital bill of Rs 14,000. Women mixing pesticides reported skin irritation. Naik's son fell seriously ill after spraying pesticides in 2000 and was hospitalised for 10 days — the hospital bill added to his debts, crossing Rs 1,00,000 in 2001.

FARMER TO FARMER: Around this time, SECURE organised a trip for some villagers to visit a village in Nalgonda district where another NGO was helping implement NPM. This clicked with Margam Mutthaiah, 60, an influential village elder with 1.2 ha of land, and the first to opt for NPM in 2001. "I had nothing to lose. I owed Rs 1,20,000. One season, I spent Rs 18,000 on chlorpyrifos, monocrotophos, endosulfan and other pesticides." His crop yield in 2001 was no different from those who used pesticides. Dhanamma and Naik were among the first to follow Mutthaiah. In the past two years, Naik's cost of cultivation has fallen down from about Rs 60,000 per hectare to Rs 10,000.

Profitability has brought back interest in land. Villagers say they'd like their children to be farmers. Mutthaiah, whose debt — to a cooperative bank — is now down to Rs 31,000, says there isn't any fallow land in the village anymore. The biggest coup came when N Venkateshwar Rao, a farmer of neighbouring Pullyagudem village with about 30 ha of land, didn't use any pesticides in the last season. The sweet irony is that he owns Anant Laxmi Fertilisers, a shop selling pesticides on credit. He said he stopped using the chemical pesticides because of a chain reaction in surrounding villages. This way, he saved Rs 6,00,000.

"They saw other farmers practice NPM. That meant more than all our talk," says Venumadhav. Says Ramanjaneyulu, executive director of CSA, "India seems to have forgotten that the Green Revolution succeeded due to rigorous extension work and farmer-to-farmer contact." Having invested in Pudukula, he now gets its residents to go and meet farmers elsewhere.

But isn't NPM very labour-intensive? It is, but the Pudukula experiment clearly shows it makes better sense for the small and marginal farmer who has the labour but not the capital investment. Most of the additional labour of NPM — collecting and grinding neem seeds, making pastes and solutions — falls to the lot of the women. They really want an electric powdering unit.

These farmers can compete in most markets due to the low cost of cultivation," says Ramanjaneyulu. But Pudukula is no model. "Each village requires a different solution," he says. "Hopefully, we will get to a stage where insects are not pests and their natural predators are aplenty. It is important to get out of this war of attrition with insects — they will always be a step ahead. We have to start looking beyond neem, for, who knows, the insects might acquire resistance to neem too."

Pudukula's experimenters: Dhanamma, and Margam Mutthaiah and Hemla Naik

