

Intervention:	Redefining pest management in Pudukkula
Country:	India
Date:	Since 2000
Challenge:	Cotton monocultures with high use of pesticides led to health problems, decreasing biodiversity and the development of pesticide-resistant insects.
Objectives:	Non-pesticide management is aiming at replacing expensive external inputs with cheap and locally available biological agents, diversified field management and physical plant protection.
Approach of the Intervention:	The major techniques for pest management are physical pest control and biological pesticides. CSA advocates the use of neem seed powder (as pest control for all crops and pests), pheromone traps and trichocards, the spraying of cow urine and cow dung, as well as the application of chilli and garlic solutions. In addition, farmers are encouraged to include intercropping systems in their farming system. Moreover, physical plant protection such as shaking plants as stem borer prophylaxis is promoted. In concert with organic farming methods such as the use of vermi-composts, the application of organic manure and intercropping, a profitable and low cost farming system is created, which depends only a little on external inputs and mainly focuses on the use of farmers' knowledge and expertise. This was summarised by the CSA staff as follows: " <i>It's a transformation from Input centric agriculture to knowledge centric.</i> " (Self-Assessment report). In addition, the diversification of the crop production system is practiced.
Benefits and Impacts:	<p>While this scaling-up effort is still in its infancy, the results of the initial stages are encouraging.</p> <ul style="list-style-type: none"> □ By the end of the first year, the positive results from the new approach were apparent. In 2001–2, eight farmers in Pudukkula tried non-pesticide management on 6.4 hectares of cotton, and another three farmers tested it on another 7 ha of pigeonpea. Farmers who had used conventional pesticides lost money, but the non-pesticide farmers made a profit. □ In the second year, more farmers who had seen these results first hand joined in. The NGOs arranged for farmers to go on exposure visits to other districts. There were more training workshops in the village. Slowly, word spread. Along with it spread the conviction that getting rid of chemical pesticides was the only way out. □ By 2002–3, the farmers were trying out non-pesticide management on rice, pigeonpea, cotton and chilli. The number of participating farmers rose to 59, cultivating an area of 58 hectares. The farmers were happy when they found their incomes rising. □ In 2003–4, the area under non-pesticide cotton went up to 480 ha in Pudukkula and neighbouring Pullaigudem villages, and covered all the cotton area of Pudukkula. The average yield was 3 t/ha. Cultivation costs per hectare amounted to about Rs 21,400, leaving farmers with nearly Rs 52,600 in net income. □ Cutting out pesticides also meant a great improvement in the quality of the chilli crop, so the produce fetched higher prices in the market. □ Each participating farmer has saved Rs 2500–5000 per acre (Rs 6200–12,400 per hectare), averaged across crops and across districts on pest management expenses. The ecological and other benefits promise to be enormous. Initial estimates indicate that in the first year alone, farmers have already saved Rs 60 million on

	<p>pesticides – equivalent to the amount spent on the project. With larger areas and more farmers coming into the programme, savings will be higher.</p> <ul style="list-style-type: none"> □ Self-help groups have set up nearly 30 village enterprises to make neem seed powder and another 15 have established units to produce NPV (nuclear polyhedrosis virus, a biopesticide used to control bollworm). □ Farmers have come to understand clearly the role of beneficial insects, and to manage pests without resorting to chemical pesticides. Neighbouring farmers who still use chemical pesticides and genetically modified crops continue to invest a great deal and get low net returns.
Implementing agency & partners	<p>Centre for Sustainable Agriculture (CSA) (www.csa-india.org) Socio-Economic and Cultural Upliftment in Rural Environment (SECURE); German Agro Action (Deutsche Welthungerhilfe, www.welthungerhilfe.de)</p>
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