

have to conform to rigid bureaucracy or face heavy fines. I fought it like blazes at the time and just about survived. But I know how destructive the process is to the quality of food and the quality of life. My job, as President of ICPPC, is to warn the Polish farmers: 'Don't follow us; keep your traditions alive and you will come out ahead in the end'."

Even before joining the EU, Poland had undergone rapid economic change, stemming from the collapse of the Soviet Union. The economy was opened up to market forces, and multinationals snapped up cheap assets. One of the corporations to move in was Smithfield, the US meat processing giant, which in 1999 bought up Animex, Poland's largest meat processor. Since then Smithfield has set up a dozen huge pig farms, often buying up bankrupt state farms. Intensively feeding its tens of thousands of pigs with genetically modified soya meal imported from North and South America, Smithfield has been able to produce pork more cheaply than the local farmers. Indeed, since 2004 the price of pork has dropped 30 per cent, causing additional problems for local farmers. Although consumers have been shocked by reports of the overcrowded conditions in which the pigs are reared, many are still purchasing the cheap pork products.

Smithfield's products are sold in supermarkets, another innovation for Polish consumers. "When we were under Communist rule, we heard about supermarkets and we were fascinated by the idea of them", says Jadwiga Łopata. "The food looked so good and it seemed cheap. When supermarkets finally arrived, after the collapse of communism,

people at first flocked to them. About 90 per cent of the food came from Western countries. It looked attractive as it was so well packaged. But quite soon people found that the food didn't taste as good as it looked and actually was often quite awful. So some people have gone back to buying local food, but a lot of people still buy in supermarkets because the food is so cheap there."

Julian Rose thinks it tragically ironic that Polish farmers, who survived first the German invasion during the Second World War and then the collectivisation of agriculture under the Soviet Union, are now threatened with annihilation by the European Union. Few Poles expected the current problems. After 77 per cent of the Polish population voted to join the EU in 2004, the European Commission announced with satisfaction: "A great, proud nation is turning the page of a tragic century and freely takes the seat that should have belonged to it right from the start of the process of European integration." A new era was dawning, the Poles were told, and they bought into the dream.

But the new dawn has ended, at least for farmers, who still constitute about one-fifth of the workforce. So what should they do? Jadwiga Łopata and Julian Rose don't hesitate to respond: "We must organise at the grassroots level and resist. We must ignore the EU regulations and continue to support a way of life that has been going on for centuries. If enough country folk do this, they won't be able to stop us." So isn't it possible to get the EU to change? "I used to think that we could get the EU to accept radical reforms", said Julian Rose, "but I don't

believe that now. It's a waste of time and energy. In the longer term change will come. Monocultural chemical farming is doomed." "Our mixed way of farming is the future", added Jadwiga Łopata; "our farmers don't destroy biodiversity, and they're not dependent on oil".

"Farmers were beginning to replace their workhorses with 35-horsepower tractors, but now, with the price of diesel rising so quickly, they're having second thoughts", continued Julian Rose. "And don't forget, horses are sustainable, as they reproduce. Not something tractors do! In many ways, the hike in oil prices is good news, in so far as it means that people are beginning to go back to the time-tested, sustainable ways of farming. It's not a case of opposing new technology, which can help us a lot by providing new forms of renewable energy and better implements. It's a question of combining the best from the past with the best that the modern world has to offer."

As if 12 hours a day campaigning to support local farmers and keep GMOs out of Poland (see Box) was not enough, Jadwiga Łopata and Julian Rose are embarking on a regional campaign to raise awareness among farmers of the importance of saving their native seeds and developing "living seed banks". They consider it crucial that this tradition is maintained at a time when both corporations and EU seed processors and regulators are acquiring unprecedented control over the food chain. "We see it as a basic community concern all over the world. How can there be food security without home-grown seeds?" asks Jadwiga Łopata.



Saying "no" to chemical farming in India

GRAIN

"My conversion to chemical-free farming began about ten years ago", said Malliah, a farmer from Yenabavi village in Warangal district in Andhra Pradesh. "I had an infestation of red-headed hairy caterpillars. I used all kinds of pesticides and couldn't get rid of them. I was getting desperate, as the caterpillars were spreading all over my cotton crop and castor beans." An agronomist from

the Centre for World Solidarity (CWS), an Indian voluntary organisation, was visiting the village, and showed him how to set up solar-powered light traps. He put several of these traps on his land and they were "100 per cent effective".

Buoyed by this success, Malliah gradually developed other natural ways of controlling pests. He and other villagers started to go out early in the morning and

late at night to study the life cycle of the pests so that they would learn when was the best moment to deal with them. With the help of the Centre for Sustainable Agriculture (CSA), they began to use seeds from the neem tree, a native species used for centuries to control pests. They began to grind the neem seeds, put them in water to soak overnight and then spray the liquid on their crops. The neem treatment disrupts the development and

reproduction of harmful insects without harming the birds and beneficial insects that provide natural pest control.¹ Similar plant-based formulations were also developed.

They moved on to other techniques. They started planting “trap crops” of sorghum, marigold and castor around their fields to attract pests away from their crops. They applied a mixture of cow dung and urine to combat leafhoppers and aphids. They started summer ploughing to disrupt the life cycle of bollworms and other pests. To increase soil fertility, they began producing green manure, tank silt and vermicompost. Encouraged by what they were achieving, Malliah and some other farmers went a step further in 2003 and stopped spraying or using chemicals of any kind, including fertilisers, on their land. With the support of the CSA and other organisations, they adopted completely organic farming. More recently still, they declared their village both organic and GMO-free. There are now 50 organic and GMO-free villages in Andhra Pradesh. They form part of the GM-Free India coalition, which brings together farmers’ organisations, agricultural activists, NGOs, consumer groups and women’s federations from over 15 states in India. Since 2006 they have been working together as an informal network to hold an informed debate on GM and to create alternatives.

Malliah himself has become an advocate of organic farming and visits other villages to encourage them to follow his

example. He doesn’t pretend that organic farming is easy. Making and applying natural fertilisers and managing pests is hard work, he says. Farmers can also face a drop in yields in the first year of non-chemical farming, either because the soil needs time to recover or because the farmers have not yet mastered the new techniques. But the compensations are huge. Putting an end to chemical farming frees the villagers from the grip of middlemen, who sell the villagers on credit a “package” of hybrid seeds, fertilisers and insecticides, supplied by corporations such as Bayer, Syngenta, Dupont and Monsanto. The villagers are then forced to sell their crop to the middlemen in order to pay back their loan.

As Malliah explains, credit is very risky for small-scale farmers. “A few years ago we had a severe hail storm”, he said. “It destroyed everyone’s crop. But all I lost was the work I had done. I just had to pick myself up and press on. Some neighbouring farmers had bought their chemical pesticides and fertilisers on credit. They lost their crop, just like me, but they had the added burden of debt, and no way to pay back the money.” All too often this initial unpayable debt is the first step in a process of debt entrapment that drives the farmers to despair.

There are other problems with chemical farming. Pesticides are often applied in excessive concentrations. Some farmers are illiterate and cannot read the instructions. Others increase the dose to try and deal with pests that have developed resistance. Farmers in Lakshminayak Thanda, another village in Warangal district, have started farming without the use of chemical pesticides (which is often, as in the case of Yenabavi, the first step towards organic farming). Sattermma, president of the women’s self-help group, said that her family used to grow *Bt* cotton (Monsanto’s GM cotton), “I was never happy with *Bt* cotton. Some goats in the village died after grazing on a *Bt* cotton field after the harvest”, she said. “Then there were the pesticides. We at home used to feel ill because of the pesticides. We’ve all been feeling so much better since we stopped using them. We also spend much less on medical care. Altogether I’m feeling much happier now.”

Very often farmers obtained high yields in their first year of growing *Bt* cotton, the result of applying chemicals on fields



Photo: GRAIN

Malliah, a farmer in the organic village of Yenabavi, Andhra Pradesh

that still contained a great deal of natural fertility. This obscured the fact that they had begun a process that was degrading their soils. The chemical-dependent crops soon became less resistant to disease and unseasonal weather. Malliah gave an example. “Last year we had a three-month drought. Most of my crops survived whereas those of farmers using chemicals died.”

Pesticide-free farming is spreading in the region, partly because in the medium term it brings farmers a larger and more reliable income. In Lakshminayak Thanda they have a regularly updated chart in the centre of the village in which they compare the income of cotton farmers who have given up the use of chemical pesticides, compared with that of farmers using them. Farmers not using pesticides are practising NPM (non-pesticide management). As can be seen in the photograph, the two kinds of farmers had comparable yields for cotton last harvest (520.2 kg for the NPM farmer, compared with 522.5 kg for the farmer using chemical pesticides), but the net income of the NPM farmer was considerably higher (3,512.60 rupees compared with 2,861.50 rupees), because his costs were much lower.

Andhra Pradesh is the pesticide capital of the world. In the 1970s and 1980s the state government encouraged farmers to adopt high-yielding varieties (HYVs) of cotton, telling them that industrial-scale production would save them time



Photo: GRAIN

*Sattermma, a farmers’ leader in Lakshminayak Thanda, Warangal district, Andhra Pradesh, where villagers have abandoned *Bt* cotton*

COTTON CROP ECONOMICS
2007-08 (Rain fed) Comparative Analysis

Sl. No.	Particulars	NPM	Non-NPM
1.	Total Expenditure	6371=20	7066=00
2.	Cost of Pesticides	456=00	1040=00
3.	Yield (in Kgs)	520.2 Kg	522.5 Kg
4.	Total Income	9883=80	9927=50
5.	Net Income	3512=60	2861=50
6.	Expenditure for 1kg. Yield	12=58	13.67
7.	Pesticide Cost 1kg. Yield	0.88	1.99

Photo: GRAIN

Comparative analysis of yields, income and expenditure involved in using chemical pesticides (right) and natural pesticide methods (left), taped to a wall in the village of Lakshminayak Thanda, Warangal district, Andhra Pradesh

and bring them much greater wealth. Over half of pesticides used globally are applied to cotton.² By 2004 the state was in the midst of an agrarian emergency. By then, thousands of farmers had taken their lives – some of the 150,000 indebted farmers who committed suicide in India between 1997 and 2005.³ The deaths are an extreme symptom of much wider rural distress. For every farmer who kills him- or herself, countless others faced morale-sapping despair. A survey carried out in Andhra Pradesh in 2004 and covering scores of rural households across many districts showed that all had very high levels of debt.⁴ Almost every household had been forced to sell cattle or land or both in the previous few years. Although a severe drought had made the situation worse, it was clear that the move from food crops to cash crops made the farmers much more vulnerable than they had been in the past.

Although many of the problems persist today and the suicides are continuing,

an alternative is arising. Already 1,897 villages have adopted NPM – an area totalling about 700,000 acres. Raghuvendra Reddy, Andhra Pradesh's minister for agriculture, has become a supporter. The plan is within a few years to have 2.5 million acres (about 1 million hectares) under community-managed sustainable agriculture. The long-term goal is even more ambitious – 10 million acres (about 4 million hectares), which is 45 per cent of the cultivable land in the state. Such rapid progress may not be possible, for it takes time to wean farmers off chemical inputs and to develop the labour-intensive alternatives. Already some corporations are trying to sell farmers commercially produced organic fertilisers and pesticides, which would defeat one of the key objectives, which is to increase the farmers' self-sufficiency and to extricate them from the debt trap.

Even so, there is hope that real progress will be made. A strong network of women's self-help groups is managing

the programme, with support from the government and a network of NGOs. It is heartening to see that many, like Malliah and Sattemma, are so sure that they are on the right course that they are going from village to village to talk about their experiences.

1 Gerald Marten and Donna Glee Williams, "Getting Clean: Recovering from Pesticide Addiction", *The Ecologist*, December 2006.

2 Rhea Gaia, "Return to Organic Cotton & Avoid the Bt Cotton Trap", ISIS press release, 5 January 2006.
<http://www.i-sis.org.uk/ROC.php>

3 P. Sainath, "Farm suicides rising, most intense in 4 states", *The Hindu*, 12 November 2007,
<http://tinyurl.com/43pya9>
The figure of 150,000 farm suicides is recognised by the compiler of the statistic, Professor K. Nagaraj, to be a "serious underestimate".

4 P Sainath, "When Farmers Die", *India Together*, June 2004,
<http://tinyurl.com/4hzva4>

