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## WEALTH OVER HEALTH

TUSHAR MITTAL

The lack of government support sees farmers in Punjab selling toxic wheat mandis, while growing organic food for their own homes.



**I**N MEHTAGAON in southern Punjab, Raj Kumar has an 11-acre plot of land, clearly divided in the middle. On one side is a dense patch of wheat, where each seed sprouts several shoots and each acre gives 12 quintals of food. He uses 1,500 kilos of chemical fertilisers on the entire patch and sprays one litre of pesticides. The wheat shines and glistens in the sun. But Kumar doesn't eat any of it.

"The sprayed patch looks great, but *zahar to zahar hai* (poison is poison)," he says. "Why will I eat this and push myself into sickness? This is to sell only."

On the other side of the divide lie a few acres of land where the wheat is not as dense. Here, Kumar uses the same seeds his grandfather used decades ago. He needs 50 percent less water for this patch. Each seed sprouts only one shoot, each acre gives only six quin-

tals of wheat, and the patch looks dull and limpid. Yet, the *rotis* Kumar prefers to feed his family are made of wheat grown from this patch. He says the organic wheat is better for health. So, why the divide?

Kumar is not able to use the same natural method for his commercial crops because the yield is lower and experts say it takes at least two or three years for production to come up to the same level as chemical farming. For him, the divide is a business necessity. "The *mandi* rate is the same for both. I use fertilisers because I have debts to pay off," he says. The irony

**'Why will we need the poison if initial losses from lower yields are made good?' asks a farmer**

is that most of his debts are because of years of buying chemical fertilisers and pesticides.

Today, Kumar earns a sum of one lakh rupees every season from the 120 quintals of wheat his land produces. If the government ensured the same revenue, he says he would prefer to use the same natural method to grow all his produce. "If the initial losses from lower yields are compensated, of course we will grow without pesticides and fertilisers," Kumar says. "Why would we need this poison then?"

This poison wasn't always present in Punjab's soil. Indigenous seeds, bullock-carts, cowdung manure and a plethora of crops growing together — was the old mantra in India's golden bowl for centuries. Today, that formula has changed drastically. In the race for more food and greater production, the Green Revolution in the 1960s brought with it bagfuls of chemical fertilisers (urea, DAP), pesticides, hy-



the Centre for Sustainable Agriculture. She says natural solutions are possible with government support. For example in Andhra Pradesh, 18 villages have declared themselves pesticide-free with the support of the rural development department.

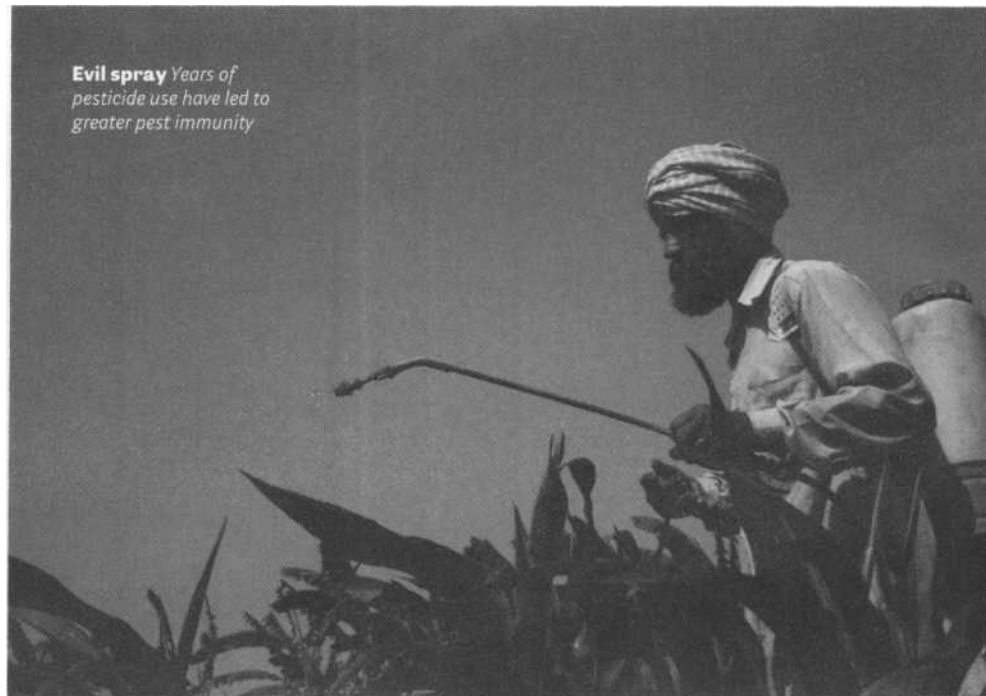
Among farmers, there is an increasing sense of helplessness. One word never fails to come up in their conversation — "nasha" Farmers compare fertilisers with alcohol — the more you pour it into the soil, the more the soil wants it and the less productive it becomes. **It's** a vicious cycle: more fertilisers but lesser yields, more pesticide but increased pest immunity. The majority of the farmers are aware that better alternatives exist, but they don't have the resources to adopt them.

On the days Surinder Singh, a small farmer in Ferozepur, sprays the fields, his hands burn and his head spins. Singh rents a five-acre patch from a zamindar and does not have the option of growing chemical-free food for himself separately, but he would welcome any way to do so. "When I was 16, one acre of this land would grow three quintals. Today it gives 18 quintals. But there was no illness in my village then. Now at least 20 to 30 people die every year because of pesticides," he says *(see box)*.

## On the days Surinder Singh sprays the fields, his hands burn, his head spins and he even vomits on the fields

While Punjab constitutes 2.5 percent of the country's land, it uses 18 percent of the pesticides and 12 percent of the fertilisers. According to Pesticide Action Network, around 2,00,000 people are killed worldwide every year due to pesticides. A recent Greenpeace study conducted in Punjab found 6-13 different pesticides in the blood samples of people. Yet, India continues to allow the use of Class I pesticides that are banned in several countries. In India, out of a total of 147 pesticides registered, the tolerance limits, health and environmental impacts of only 50 have been evaluated.

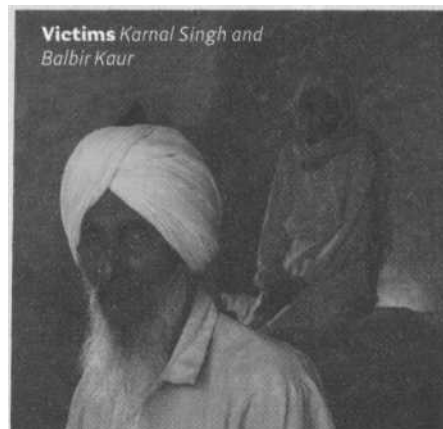
Conscious of the long-term benefits of organic farming, some amongst Punjab's farmers have made the switch. Hartej Mehta in Bathinda is one such. He practises what these organic farmers call the "farming of liberation" He owns 11 acres. One acre yields only 8-10 quintals of wheat, but sells for double the amount. While the current rate in the *mandi* is



**Evil spray** Years of pesticide use have led to greater pest immunity

## ON THE 'CANCER EXPRESS'

*Jajjal in Punjab's cotton belt has seen cancer growing widespread in the past 10 years, Studies say it's due to excessive farm chemicals. TUSHA MITTAL reports*



**Victims** Karnal Singh and Balbir Kaur

### TRACES OF DOT WERE FOUND IN THE CANAL-BASED WATER SUPPLY

**MASTER JARNAIL SINGH** stands in the centre of his village in Bathinda district pointing out houses where people have died. "That one" he says, "and that, and that, and this."

An eerie sickness has gripped Jajjal village. For the last 10 years, people have been rapidly crumbling to cancer; 40 since 2001. Two of Singh's relatives died, and two more, Balbir, 60 and Karnal, 70, are battling it out. Their medical reports don't explain the cause, but they are convinced it is because

the water they drink and the air they breathe is contaminated. "There was no illness in our village earlier," Singh says. "In the past 10 years that we have been spraying pesticides, the entire village has got cancer."

Jajjal falls in Punjab's cotton belt that accounts for 70 percent of the state's chemical intake. A recent study by the Chandigarh-based PGIMER linked cancer deaths in this region to excessive use of pesticides and chemical fertilisers. The Punjab Pollution Control Board found traces of DDT and BHC in canal-based water supply. Greenpeace has documented the impact that pesticides here have had on the arrested development of children.

Other skin and heart diseases abound. Children have gray hair and mothers wonder why so many are born with mental health problems. A woman named Vala Rani has been asked by the chief minister to keep a log of all the deaths in the region. The government has promised answers, more importantly a hospital exclusively for cancer patients. None exists today, and so locals travel to Bikaner for treatment. The percentage of cancer patients is so high that locals know the train between Bathinda and Bikaner as the "cancer express".



## Hartej Mehta

*Bothinda, 11 acres*

Mehta started with one spray a month and reached 22, but the pests wouldn't die. Now he's given it all up. He grows organic wheat and vegetables and sells them for double the conventional rate. He doesn't take any 'organic' certification from external agencies.



## Balwinder Singh

*Ferozepur, 2 acres*

Singh has just given away the last 5-kilo can of pesticides he had. He holds up a shoot of spinach from his natural farm. 'I have never seen spinach so high, almost taller than me,' he exclaims. He is using seeds from 1,000 years ago. 'I tell people, you must do natural farming on at least one acre,' he says.

Rs 1,000 per quintal, Mehta will sell it for Rs 2,000. "I started with two sprays and reached 20," says Mehta. "I went on spraying and the resistance of the pests went on increasing. Finally I decided not to use pesticides at all."

Mehta says he has found a replacement for the "nasha" and it is called *jeev amrit* — 200 litres water, 10 litre desi cow-dung, 10 litre cow urine, 2 kilo jaggery, 2 kilo cereal or flour, and mud never exposed to fertiliser or pesticide. He doesn't depend on the government for a minimum price; he sets the rate along with his peers. He doesn't depend on external certification agencies either for they charge exorbitant amounts for labelling his produce "organic". He markets by word-of-mouth and is part of the new identity the farmer is donning — that of a businessman. "All my wheat is already booked at Rs 2,000 per quintal even before the crop has been cut," he says.

The cost of production per acre of organic crop is lower, and even though the yield per acre is lower too, natural farmers say there is definitely a higher profit margin. They can sell their produce for higher because people are willing to pay more for healthy food.

Ironically, even the men selling the toxics are aware of the benefits of organic. In the heart of Ferozepur's bustling old *sabzi mandi*, the racks of Surinder Sharma's shop are stacked with an array of fertilisers and pesticides. Large plastic bags advertise hybrid and genetically modified seeds. One expects Sharma to tout his products with the usual claims of high yield. But he does the opposite.

"Chemical fertilisers destroy soil friendly

bacteria and lead to soil degradation. The Green Revolution came at a very high cost of soil health, human health and water and air pollution," he says. Most of the products he sells were introduced in that very Green Revolution. Sharma may need them for his livelihood, but not for his meals.

"I grow vegetables for my home consumption. I don't use any chemical fertilisers at all," Sharma says with a sense of pride. "I think every farmer should grow his own veggies without any pesticides or fertilisers." He has a 10-acre plot of land of which seven acres are used for chemically grown wheat. "As farmers, we cannot compromise on yield for the sake of the nation," he says.

## 'As farmers, we cannot compromise on the yield for the sake of the nation/ says Surinder Sharma

The state government echoes the same argument. GS Kalkat, chairman of the Punjab Farmers' Commission, agrees that the current scenario is not positive but says "there will be a famine" if every farmer switched to organic farming. Ask him what he would prefer eating and he says food without chemical residue.

Dr Ujagar Singh Walia, head of the agronomy department at Punjab Agricultural University, says the current situation is problematic but sees no need to switch gears. "The government is not going to promote organic farming, they will

discourage it," he says. "The government needs food. We need quantity. Quality is second."

It is almost too obvious: in the "expert" world of policymakers, agriculture researchers and sellers, everyone says they would obviously choose the healthier option. And yet, they are the same people who are the first to say that it is not possible for everyone to exercise the same choice.

**I**N 2001, the Ministry of Agriculture formed a Task Force on Organic Farming that made several key recommendations. One of them was to equate the economic value of organic manures with chemical fertilisers in terms of soil productivity, and accordingly provide financial support to the organic movement. Most of the recommendations of this task force have stayed in files. In 2004, however, one recommendation was accepted and the National Centre for Bio-fertilisers was converted, rather renamed, to the National Centre for Organic Farming with a budget of Rs 57 crore. Yet, no concrete policy has emerged

Dr P. Bhattacharya, director of the Ghaziabad-based National Centre for Organic Farming, made a presentation to government officials in New Delhi's Krishi Bhavan. His presentation clearly acknowledged that a domestic market is "yet to be developed" as "no market structure is there" and that a "change in mindset" is needed.

There are around 15,000 registered organic farmers in India. In 2002, from a total food production of over 200 million tonnes, India produced only 14,000 tonnes of organic food. Most of what is produced is either exported or sold at a 20-30 percent premium to elite organic stores. The value of organic exports in 2006-07 was Rs 300 crore, according to the Agriculture Production and Export Authority. Thirty-five organic products are currently exported including basmati rice, wheatflour, gram pulses, mango pulp, spices, coffee, tea, honey, cashew nut and some vegetables.

For example, in Delhi's Dubden Green store, a five-kilo bag of organic wheat is priced at Rs 135. The standard price in local stores ranges from Rs 50 to Rs 75. The result is a division that should come as no surprise in a country like India: organic for the rich and toxic for the poor. Environmentalist Vandana Shiva calls the phenomenon "nutritional apartheid" The food production debate, sadly, is about how many kilos and not about how much nutrition.