

# Conversion to organic farming; experiences from Punjab and Uttarakhand

A.M. Nicolaysen

*Post-Doc, Agroecology, Department of Plant and Environmental Sciences, Norwegian University of Life Sciences, PO Box 5003, N-1432 Ås, Norway*

## **Implications**

This research indicates that it is possible for farmers to convert from an intensive conventional system (Punjab) to organic farming, or to make a living on a smallholding in difficult terrain (Uttarakhand). Both alternatives can provide a good livelihood with sustainable methods. I also found that the organizations that assist the farmers in this transition are crucial, because they teach the farmers new methods and give practical and moral support during a time when they feel uncertain making such a large change in how they make their living. One of them is Navdanya, which has been working in Uttarakhand and in several other states in India for nearly three decades. The organization trains and supports farmers converting to organic practices and helps to improve the farming methods of those farmers who have been using traditional, natural methods all along. While a reduction in crop yield, especially during the conversion period, is seen in intensive production systems such as those in Punjab, traditional, low-input production systems as in Uttarakhand often see an immediate increase in the yields after converting to organic methods. This is because in organic agriculture, the farmers make use of a number of on-farm fertility sources including vermi compost, crop residue, and animal manure. Multi-cropping is also used to increase production on small plots and to reduce the risk of loss where there is drought or other difficult climatic conditions.

## **Background and objectives**

This research was undertaken to learn more about conversion to organic agriculture among small farmers in India. I wanted to look at how organizations like Navdanya, Kheti Virasat and others teach small farmers about organic agriculture and biodiversity conservation. Even though a growing body of research indicate that the farmers using sustainable, organic methods are better off, both economically and in terms of health (Brandt and Molgaard 2001; Gala and Burcher 2005; Magkos, et al. 2003) little research has been conducted on the work that social movements like Navdanya have done in facilitating this conversion in India, and more importantly on how the local farmers perceive, and adopt or reject this "traditional," now called "alternative," farming philosophy and strategy.

## **Key results and discussion**

In Punjab, a relatively minor number of predominantly small, but also some medium and a few large farmers have converted to organic farming methods, either independently or through cooperation with Kheti Virasat. The number is increasing. Farmers are converting to organic farming methods to become more independent in terms of seed and other farm inputs. The organic farmers use traditional seed brought in from nearby states, which they now grow and conserve in seed banks in Punjab, because local seed were lost during the GR. Those who convert to organic also cite ecological reasons for this change: to restore soil fertility or manage farming with less water and to avoid pollution of the environment and negative impacts on their health from excessive application of agrochemicals. Many farmers who converted were able to become economically independent in the years after the transition, as they could gradually repay their loans taken up in earlier years.

In Uttarakhand it is estimated that roughly eighty percent of the farming is organic by default in rainfed areas, and in the hills, ninety percent of the agricultural land is rainfed (Sitling, et al.

2008). Some farmers had experienced depletion of the soil with the use of mineral fertilizers, especially when rain did not come as expected, but the influence of the GR was much less in this state than in Punjab. Uttarakhand has a rich biodiversity both in wild plants and agricultural crops and there are ancient as well as new seed banks in use around the state. The farmers reported that their local food security is improved through biodiversity conservation and control over their own seed and other inputs. Local farmers cultivate a number of traditional crops that are famous for their taste and quality, which are sold as niche produce in Delhi and Mumbai, but there is a need to improve marketing. Many certified organic producers often receive a market premium only in urban markets, while at local markets a similar price to that of conventional produce is frequently paid.

When the farmers convert to organic, they experience a period of roughly three years of lowered crop yield while they transfer from using mineral fertilizers to using compost and dung, before the soil has regained fertility and moisture related to enhanced organic matter within the soil. This pattern of reduced yields is common, ranging from ten to 30 percent, depending on the crop (Badgley, et al. 2007; Mäder, et al. 2002). While yields are lower initially, the organic farmers obtain similar levels of profit compared to conventional farmers per given unit of land, because of less expenditure on inputs. Some farmers reported that crops grown organically would later give a similar yield to that of conventional methods, while others argued that they got a little more, or a little less yield compared to conventional methods.

My findings are consistent with much research on agricultural systems and sustainability in recent years throughout the world; for example the extensive scientific literature that the IAASTD reports and reports presented by the UN Human Rights Council are based on. In one sentence it could be phrased as: Reinvestment in sustainable agriculture is vital to the realization of the right to food for all, rural economic development with economically independent farmers, healthy environments, adaptation to climate change, and biodiversity conservation.

### **How work was carried out?**

Fieldwork was conducted between February 2007 and October 2008, and I divided my time between field sites in the states of Punjab, Uttarakhand, Tamil Nadu, and West Bengal. Living in the villages for about a year, I interviewed 250 farmers and staff from farmers' organizations. In addition I carried out informal conversations with many farmers, community members and farmers' organizations staff on the 77 farms in the 56 villages, and in the three towns and five cities, where I did interviews. Data from interviews and field observations in Punjab and Uttarakhand are included in this paper.

### **References**

- Badgley C et al. 2007. Organic Agriculture and the Global Food Supply. *Renewable Agric. Food Syst.* 22(2): 86–108.
- Brandt K and Molgaard J 2001. Organic agriculture: does it enhance or reduce the nutritional value of plant foods. *J. of the Sci. of Food and Agr.* (81): 924–31.
- Gala R and Burcher S 2005. Are Organic foods more healthy? *Science in Society* 25(16).
- Mäder P et al. 2002. Soil fertility and biodiversity in organic farming. *Science* (296): 1694–1697.
- Magkos F, Arvaniti F and Zampelas A 2003. Organic food: nutritious food or food for thought? A review of the evidence. *Int J Food Sci Nutr.* (54): 357–71.
- Sitling J, Shah V and Neog B 2008. Prospects and Challenges of Organic Farming in the Central Himalayans region: A case study from LIPH, Uttarakhand, India. 16th IFOAM Organic World Congress, Modena, Italy, June.