

The best Indian farmers practise mixed farming

The most successful farmers grow less rice, have more cattle, and grow beans, yams or sorghum in summer.

Farmers in the north-eastern region of India mainly grow rice and wheat for the country's growing urban population. The introduction of artificial fertilizers, pesticides and irrigation has helped boost production over the past 50 years. But inefficient use of such inputs causes water pollution, decreasing soil fertili-

The best farmers grew crops in the summer as well

ty and falling groundwater levels. The question is: how could these farmers produce sustainably? PhD candidate Roos

de Adelhart Toorop selected the best farmers, the 'positive deviants'. To identify them, she assessed 43 farms on four aspects: profit, (low) water usage, soil quality and the nutrient value (in calories) of their produce. Six farmers stood out.

Summer

De Adelhart Toorop went on to analyse what these sustainable farmers had in common. She found that these farmers grew little rice, had many cows and buffalo, and grew crops year-round. It is this combination that was crucial. 'The cultivation of rice requires a lot of water', she explains. 'Dairy cattle provide a lot of nutrients and fertilizer with relatively little water. Most farmers grow wheat in the spring and rice in the autumn, letting their fields lie fallow in the summer. The best farmers also grew crops in the summer, such as vegetables, sorghum and yams.'

The 43 farmers in her region had between 0.3 and 2 hectares of land each. The best farmers used far fewer inputs (artificial fertilizers, pesticides and water) than the farmers who grew a lot of wheat and rice. AS