



Zero-Tillage Seminar in Pakistan: Farmer-to-Farmer Advocacy to Cut Costs and Save Water



Pakistan is working through a quiet crisis that has probably affected daily lives more than even the war on terrorism. Harvests of wheat-the country's main food crop-fell 10% in 2001 due to a prolonged drought. Rice output dropped 22%. Livestock and fruit trees were decimated. In a nation where nearly half the inhabitants are farmers and GDP growth hinges on crop performance, these figures were ruinous. Disaster was averted only through use of government grain stocks and drought relief programs. Farm output is also expected to rebound this year, but the future for farmers is highly uncertain. Projections foretell less reliable rainfall in South Asia, and studies show that aquifers in many zones are being sucked dry, among other things from excessive pumping for irrigation.

To cut the risk and cost of grain cropping and save water, for several years Punjab Province's On-farm Water Management Directorate (OFWM) has been helping thousands of farmers to test and adopt practices such as zero-tillage-whereby wheat is sown directly into unplowed fields, stubble and all, immediate following rice harvest-or growing cereals on raised soil beds. "We must learn to grow more rice and wheat with less water, less energy and less land. The simple answer is zero-tillage," says Mushtaq Ahmad Gill, leader of OFWM. "In 2000-01, more than 4,000 Punjab farmers in about 200 villages used zero-tillage for wheat on 30,000 hectares, obtaining on average 17% higher yields than peers who tilled the traditional way." Zero-tillage farmers also pocketed about US\$50 per hectare in savings on diesel, labor, and herbicides, according to OFWM extension agronomist, Hafiz Mujeeb ur Rehman. "Most significantly, they reduced plot-level water use by 30 to 50% in the first irrigation and 15 to 20% in subsequent applications-representing at least several hundred thousand liters of water saved per hectare," says ur Rehman.

To share enthusiasm and knowledge about zero-tillage more widely in Pakistan, in early 2002 Gill and ur Rehman worked with the Lahore-based Conservation Agriculture Farmers Association of Pakistan (CAFAP) to organize a traveling seminar for more than 30 progressive farmers, agronomists, agriculture experts, and agricultural machinery manufacturers from Baluchistan, Punjab, and Sindh provinces-Pakistan's bread basket.

The seminar, held 8-12 March, was a resounding success, according to Sajjad Sulaiman Malik, CAFAP Secretary General. "Participants saw zero-tillage and bed planted wheat-which saves even more water than zero-tillage-in farmers' fields around Lahore," says Malik. "We also organized a field day in Sheikhpura for local farmers to share experiences with participants, and an open discussion held at Joyanwala village was televised."

On the closing day, Khalid Maqbool, the Governor of Punjab, promised support for Sindh farmers interested in adopting zero-tillage. One such farmer, Hammad Kehar, said the seminar "...has woken us to the potential in our lands. We'll now practice and spread zero-tillage and other modern technologies." Kehar, who had used zero-tillage for the first time and says he needs to improve his management of the technique, still harvested 40% more wheat than with traditional methods and significantly reduced land preparation time and costs. For now, Sindh farmers have decided to open a CAFAP chapter in their province.

The seminar was funded through a project of the New Zealand Overseas Development Agency (NZODA) with the International Maize and Wheat Improvement Center (CIMMYT). Working through the Rice-Wheat Consortium (RWC) for the Indo-Gangetic Plains-an alliance of South Asian agricultural research systems, Future Harvest centers, and advanced research institutes that fosters sustainable productivity gains and natural resource conservation-in April 2000 CIMMYT helped organize a similar seminar for 28 rice-wheat farmers and agricultural specialists from India and Pakistan. The RWC also receives support from the Directorate General, International Cooperation, the Netherlands; the CGIAR Finance Committee; the Australian Center for International Agricultural Research; the Department for International Development, UK; the International Fund for Agricultural

Development; the United States Agency for International Development; and the Asian Development Bank.

For more information about rice-wheat cropping systems and CIMMYT's work to improve their productivity, see the following article:

Resource Conserving Technologies for Wheat in Rice-Wheat Systems

P.R. Hobbs and R. Gupta

http://www.cimmyt.org/Research/NRG/map/developing_world/res_con/res_cons.htm

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