

## PARC Introduces Zero Tillage (ZT) Technology



Zero-till Drill in Operation



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### Contributors:

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### Challenge

- Time window between rice harvesting and wheat sowing is less than two weeks, especially in Basmati growing areas.
- Therefore, about 70% of wheat sowing in rice-wheat based cropping system gets late.
- Delayed planting of wheat in rice based farming system was resulting in 15% reduction of wheat yield.
- Challenge was to develop a technology for timely sowing of wheat, thus reducing its yield losses.

### Interventions

- In 1984, PARC imported two ZT drills, from Aitcheson - Newzealand and Nardi - Italy.
- During 1984 – 1990, PARC (FMI & Wheat Program) conducted experiments on ZT technology in rice-wheat areas of Punjab.
- On the basis of field observations, PARC designed/developed a new drill in collaboration with M/s DESCON (Pvt.) Ltd, Lahore.
- During 1991 – 1993, PARC carried out on-farm evaluation of newly developed ZT drill in rice-wheat areas.
- PARC in collaboration with M/s Green Land Engineers Daska, further refined the machine to a low cost and light weight model compatible with local tractors.
- PARC in collaboration with Halcrow Rural Management & Provincial Water Management Departments successfully demonstrated its new ZT drill model in Balochistan, Punjab, and Sindh provinces.

### Outcomes

- Fifty officials of Water Management & Extension Department were trained for demonstration of this technology.
- In Punjab & Sindh, >25 manufacturers are currently producing this drill. About 6,000 drills are being used by the farmers.
- Saving of 15 days for land preparation time has enabled timely wheat sowing, resulting in increased wheat yield.
- Also, it has saved one irrigation and 80% wheat cultivation cost.
- Estimated annual benefit is 6 billion rupees, with a cumulative total benefit of 108 billion rupees since 1995 to-date.

### Way Forward

- Up-scaling of new model of ZT drill
- Promotion of ZT drill involving provincial extension system for its increased adoption