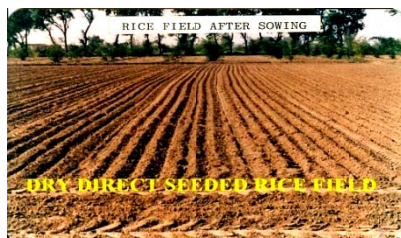


PARC INTRODUCES LOW-COST DIRECT DRY RICE CULTIVATION TECHNOLOGY IN PAKISTAN



Contributors:

Mian Abdul Majid is pioneer of direct dry seeding of rice cultivation technology in Pakistan. Mian Majid and Dr. Syed I. Ahmad developed a 3-years project and brought funding to PARC from Pakistan Council for Water Research. Dr. Abdul S. Khan, M. Ramzan, S. Hussain and Dr. A. Rehman remained associated with this activity.

Challenges:

- Rice in Pakistan is traditionally grown through manual transplanting of 30-days old rice seedlings in the puddled fields, flooded with water.
- Present traditional rice-growing system not only laborious, time consuming, costly, but also consumes 15-20% more water, which is more than 20% of the total available water resources of the country.
- Manual transplanting is done either by hired labour or on contractual basis that results in very low plant population and consequently poor rice yield in Pakistan.
- Wet land preparation “puddling” essential for paddy cultivation results in poor crop stand of the following rabi crops leading to poor yield, especially winter wheat in the rice-based cropping system.

Intervention:

- Direct dry seeding of rice does offer a suitable substitute to traditionally manual paddy-cultivation system in Pakistan.
- FMI (now ABEI) of the PARC conceived the idea of direct dry seeding of rice cultivation technology and initially developed through small-plot field experimentation at NARC in early 1980.
- FMI tested, verified and established direct dry seeding of rice technology through on-farm field trials at different research farms and farmers fields in the province of Punjab in mid 1980.
- FMI started introducing this low-cost direct seeding technology to the rice-growing farming community through field demonstration in Punjab in late 1980.
- Rice Programme of the PARC scaled up direct dry-seeding technology in the Province of Punjab and Sindh in 2009.
- Direct seeding is the most efficient method, because of lower labour requirements; saves water and fuel by eliminating puddling, transplanting, nursery raising operations, and ensures better yield of both rice and the following winter wheat crops.

Outcome:

- Presently, over 30,000 acres of rice in the province of Punjab is cultivated through direct dry seeding technology.
- Adoption of direct dry seeding of rice cultivation technology would save water 30-35%, and fuel by 30%.
- Direct dry seeding technology (DDST) improves rice yield by 20-25% and the following winter wheat by 40-45%.
- DDST ensures sustainable productivity of the rice-based cropping system in the country.

Way forward:

Rice program is working on improving the protocols and scaling up of direct dry seeding of rice cultivation technology for its sustainable adaptation by the rice growers in the country.