Transformation of Rice Farming Systems Research

Rice Farming Systems Division, BRRI

History

The Rice Farming System Division was established on 20 November 1974, after few years of BRRI establishment (01 October 1970).

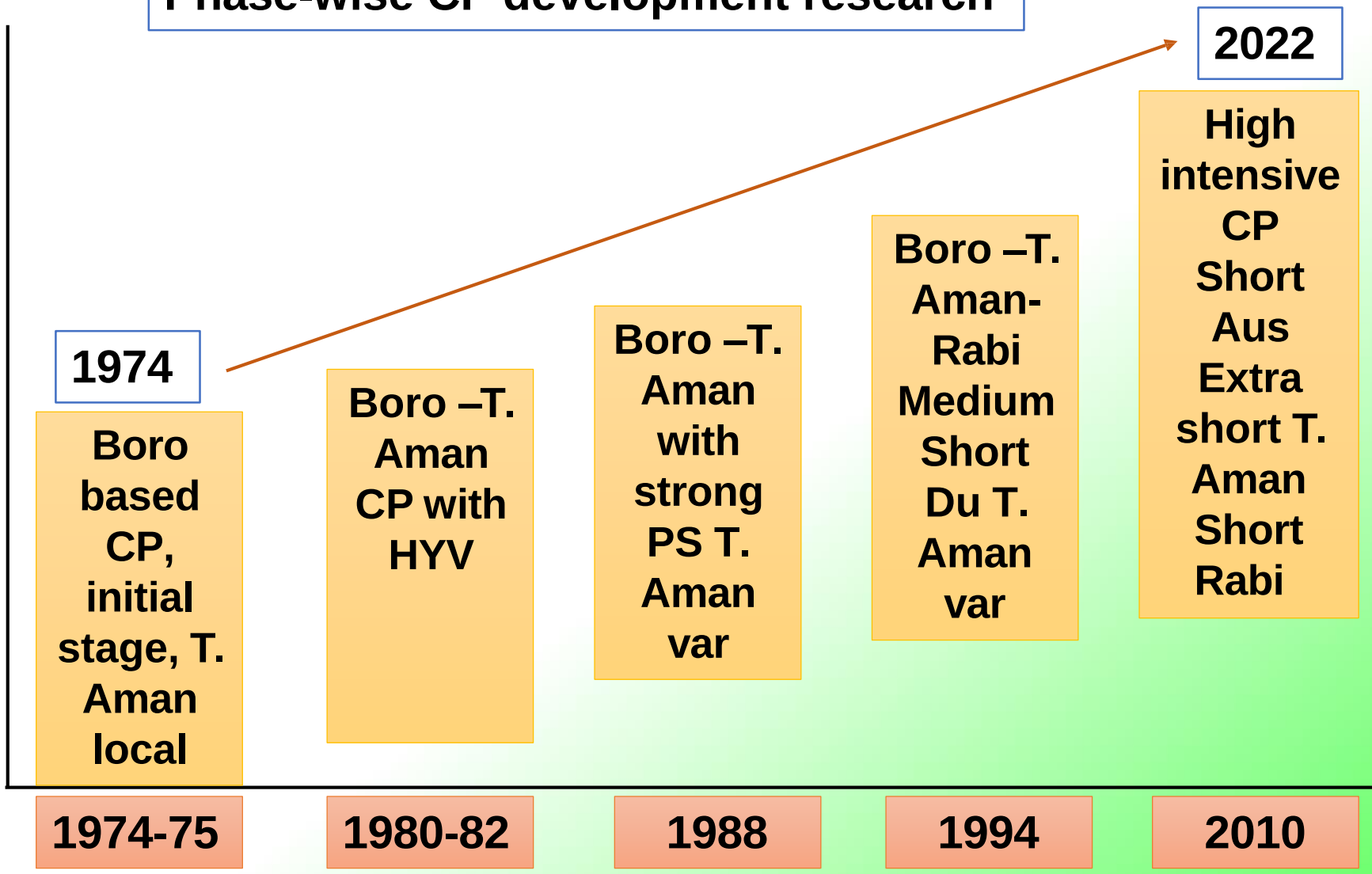
Rice Farming Systems Division, BRRI

Mandate

Conduct research and development activities on all aspects of rice-based production system by sustainable improvement of existing cropping and farming system of different agro-ecological environments for well-being of resource poor farm families

Rice Farming Systems Division, BRRI

Phase-wise CP development research



Rice Farming Systems Division, BRRI

Transformation of FRS & D activities

1974-1977

- ❑ Screening crop varieties
- ❑ Existing CP survey
- ❑ Component technology identification for improved CP development

1975-1979

- ❑ Design and testing of HYV Boro based improved CPs

1975-1979

- ❑ First yield gap experiment was conducted

Rice Farming Systems Division, BRRI

Transformation of FRS & D activities

1977 and Onward

- Site based on-farm cropping system research was initiated in different agro-ecosystems

1980 and onward

- Design and testing of HYV Boro based improved CPs with first HYV T. Aman rice variety

1982 and onward

- Multi-location test (MLT) of improved CPs

Rice Farming Systems Division, BRRI

Transformation of FRS & D activities

1988 and Onward

- Site based on-farm farming system research was initiated

1994 and onward

- Design and testing of improve CPs with medium short duration T. Aman rice variety for inclusion of rabi crops

2010 and onward

- Design and testing of improve CPs with extra short duration T. Aman rice variety for high intensity CP development

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1974-1977	Screening crop varieties of both local and exotic sources for their inclusion in improved cropping pattern development	Potential varieties of both rice and non-rice crops were identified to be used in improved CP development. Lack of appropriate HYVs during this time
1974-1977	Component technology for CPs were developed in collaboration with other research divisions	Specially suitable HYVs, field level fertilizer application, irrigation, pest management, inter cropping, relay cropping and intercultural operations techniques were identified to be disseminated in farmers' fields

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1974-1977	Survey of existing CPs throughout the country mostly by field visit	Partial information of existing CPs across the country were identified specially in major rice growing ecosystem
1975-1979	Design and testing of improved CPs	Rice based improved CPs for both irrigated and rainfed ecosystems were developed, specially, Boro-Fallow-T. Aman with HYV Boro rice like IR8, BR3 and local T. Aman varieties.

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1975-1979	Contd.	This CP brought about a major change in farmers' crop production systems and because of dissemination of this CP, Boro area started to increase and Aus ans Rabi areas continued to decrease

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1976	First yield gap experiment, in collaboration of IRRI was conducted in the farmers' fields in eight locations	Yield gap concept was developed and yield gap was estimated to be 1.57 t/ha
1979-1980	Survey on existing CPs throughout the country was done by sending structured questionnaire to the then Thana level Extension officers for CP survey	Sporadic and partial information of existing CPs across the country was identified

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1980-1982	Design and testing of improved CPs	Rice based improved CPs were developed, specially with first HYV T. Aman rice varieties. As a result, Boro-Fallow-T. Aman CP with long duration HYV Boro (eg., BR3) and T. Aman (eg., BR11, BR10) rice varieties was developed

Rice Farming Systems Division, BRRI

Transfo FSR and D activities

Time	Research work	Findings
1977 and onward	Site based and environment wise on-farm cropping system research was initiated in different agro-ecosystems. Design and testing of improved CPs were continued	Over the existing CPs, alternate CPs were tested and improved CPs were developed in different sites under different ecosystems
1982 and onward	In collaboration with DAE, the multi-location test (MLT) of improved CPs programme was initiated based on the findings of site-oriented cropping systems research. The MLT continued till to date	Disseminated the CPs technologies throughout the country. As a result, Boro rice based CPs and HYV rice based CPs were continued to be in practice

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1888-1992	Farming system research incorporating livestock, fishery, agroforestry, gender in crop based programme was initiated.	A full fledged FS research site was established at Shreepur where farmer's recourses were optimized for maximize the yields for livelihood improvement
1994 and onward	Design and testing of improved CPs with medium short duration HYV T. Aman rice varieties	Initially because of using long duration Boro and T. Aman rice varieties, Rabi crop areas decreased. With medium short duration HYV T. Aman rice varieties inclusion of Rabi crops in the existing Boro-Fallow-T. Aman CP started to became feasible and Boro-T. Aman-Rabi CP were developed.

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1989-1992	Impact study on adoption of improved CP technologies	This study was done In the two sites, Kamalganj and Sitakunda where pilot production programme of CPs were conducted
1994 and onward	Design and testing of improved CPs with medium short duration HYV T. Aman rice varieties	Initially because of using long duration Boro and T. Aman rice varieties, Rabi crop areas decreased. With medium short duration HYV T. Aman rice varieties inclusion of Rabi crops in the existing Boro-Fallow-T. Aman CP started to became feasible and Boro-T. Aman-Rabi CP were developed.

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
2008 and onward	Design and testing of improved CPs with short duration Aus var for high intensity CP development	In 2008 and in 2010 with the development of short duration Aus and verities and along with the development of T. Aman varieties high intensified CPs development research was initiated
2010 and onward	Design and testing of improved CPs with extra short duration T. Aman rice var for high intensity CP development	With the development of short duration Aus and extra short duration T. Aman rice verities and along with the development of several short duration nonrice crop varieties, high intensified CPs development research was initiated

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1998 and onward	Farming system research incorporating livestock, fishery, agroforestry, gender in crop based programme was continued	Site based FS research was conducted at Kapasia, Banoripara, Sylhet Sadar, Mujibnagar, Sreepur, Satkhira under the fund of ARMP, NATP-1 GOB, and NATP-2 aiming optimization of farmer's recourses base for maximize the yields for livelihood improvement

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1992 and onward	Improved CP technology generation, component technology generation, MLT of CP technologies in different agro ecological regions to disseminate cropping pattern, survey of existing CPs to harness its opportunity of improvement,	54 cropping pattern and 2 component technologies were developed. Improved cropping pattern technologies were disseminated in different agro ecosystems. Three hundred and sixteen existing cropping patterns were identified throughout the country and are used for harnessing their opportunity of improvement in extrapolation domain.

Rice Farming Systems Division, BRRI

Transformation and major findings of FSR and D activities

Time	Research work	Findings
1992 and onward	whole farm study to optimize farmer's resource base to maximize their profit for food, nutrition and improved livelihood security.	High intensified CPs were developed and disseminated across the country. Intervention on whole farm on different farm enterprises of farmers' mixed farming systems was done for farmers' livelihood improvement in different farming system research sites in different agroecological regions and disseminated in extrapolation domains

Rice Farming Systems Division, BRRI

Forty seven years of RFSD

The Rice Farming System Division was established on 20 November 1974, after few years of BRRI establishment (1970). At the beginning, the name of the division was Rice Cropping System (RCS). The division started with the financial support of International Development Research Centre (IDRC) and the technical support of IRRI and was the pioneer in the systems research and development in Bangladesh. The philosophy of the RCS programme was to conduct applied and fundamental research on various aspects of rice-based cropping systems and to provide rice farmers with more productive, socially acceptable, technologically feasible, and sustainable alternative rice-based cropping patterns for different agro-ecological environments. The