

Resource Allocation in Rice Research and Variety Release Pattern of Bangladesh

Background

- Rice is the dominant dietary item and will remain staple food in Bangladesh. More than 95% of population consumes rice and it alone provides 76% of calorie and 66% of total protein requirement of daily food intake.
- About 75% of the total cropped area and over 80% of the total irrigated area is planted to rice.
- Thus, rice plays a vital role in the livelihood of the people of Bangladesh.

Specific objectives:

To provide information to national policy makers, donor agencies and decision makers of agricultural research system.

Methodology

- Both primary and secondary data were used.
- Secondary data were collected from different published (BBS) and unpublished sources (DAE).
- Data on budget allocation was collected from different concerned organizations (Such as BARC, BINA, BJRI, BARI and BSRI).

Results and discussion

Table 1: Rice area by ecosystems in Bangladesh

Items	Area
Total cultivable area (million ha)	11.27
Area under rice (million ha)	10.58
% share of each ecosystem	
Aus (Kharif 1) (rainfed)	8
Aman (Kharif-2) (rainfed)	48
Boro (Rabi) (Irrigated)	44

Table 2: Growth trend in rice area, production and yield over the years

Year	Area	Yield	Production
1972-1980	0.85	2.77	3.35
1981-1990	0.10	2.38	2.75
1991-1999	0.14	1.81	3.25
2000-2008	0.43	2.70	2.49
1972-08	0.19	2.56	2.71

Table 3: Number of rice varieties released by ecosystems in Bangladesh

Ecosystem	Area (mha)	Varieties released until 2010		No of varieties released/ mha
		No. of varieties released	% share	
Aus (Kharif-I)	1	16	28	16
Aman (Kharif-II)	5.07	27	40	5
Boro (Rabi)	4.51	24	32	5
Total	10.58	78	100	7

Table 4: Adoption of different rice varieties at the farm level by ecosystems

Name of the varieties	Rice Ecosystems		
	Aus	Aman	Boro
BR1	5.43	-	-
BR2	5.42	-	-
BR11		22	-
BR16	0.14	-	3.13
BRR1 dhan28	18	-	32
BRR1 dhan29		-	28
BRR1 dhan 41		3.10	-
BRR1 dhan 47		-	1.86
All BRR1 varieties	41	43	69
Hybrid	0.57	-	14
All MVs	65	61	98
All LVs	35	29	2

Table 5: Investment in agricultural research in Bangladesh and its share to AGDP

Year	Agriculture GDP (million US\$)	Agriculture budget as % of AGDP	Research share in agricultural budget (%)	Research budget in AGDP(%)	Share of rice res. budget to agriculture research budget (%)
2001	6128	1.78	12.94	0.23	2.45
2002	6178	1.21	16.53	0.20	1.67
2003	6554	1.59	24.26	0.38	0.78
2004	7040	1.43	13.47	0.19	1.89
2005	7543	1.38	13.79	0.19	2.00
2006	8357	1.03	23.28	0.24	1.72
2007	9418	1.56	19.30	0.30	1.41
2008	10771	1.68	19.74	0.33	1.27
2009	11899	1.58	13.30	1.05	0.40
2010	13509	1.59	16.10	0.26	1.45

Table 6: FTE resource allocation by ecosystem/ecology

Season	FTE	Percentage
Aus	6.46	16
Aman	16.29	39
Boro	16.10	39
Boro, Aus and Aman	2.50	6
Total	41.35	100

Table 6: Number of researchers involved, time allocation, and FTE by discipline

No. of scientists and FTEs.	Actual values	Percentage
FTE	48	100
No. of scientists by discipline		
Plant Breeding & Genetics	24	51
Plant Pathology	5	10
Plant Physiology	3	6
Entomology	4	8
Agronomy	4	8
Biotechnology	6	13
Others	2	4

Table 7: Adoption of rice varieties in different rice ecosystems in Bangladesh through expert panel discussion

Varieties	Gazipur	Kurigram	Satkhira	Rajshahi
	% Area	% Area	% Area	% Area
Aus				
Traditional	40	30	5	1
Modern	60	70	95	99
Aman				
Traditional	30	20	12	6
Modern	70	80	88	94
Boro				
Traditional	1	1	2	1
Modern	99	99	98	99

Conclusion

- There is substantial underinvestment in rice research of Bangladesh.
- In case of ecosystem wise allocation, it is revealed that lower amount of resources were allocated in Aus season than that of both Aman and Boro.
- Rice research program under National Agricultural Research System (NARS) embraced very limited resources and insufficient capacity to carry out research activities; and

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Implication

More investments need to be allocated to develop time demanded agricultural technologies adapted to change climate and disseminating those at the farm level.

Thank you All for
Patience h
Hearing