

ANNUAL RESEARCH REVIEW WORKSHOP 2022-2023



GENETIC RESOURCES AND SEED DIVISION



BANGLADESH RICE RESEARCH INSTITUTE
GAZIPUR 1701

Contents

Sl. no.	Subject	Page
	List of Personnel	ii
	Summary	iii
Part I	USEFUL SCIENTIFIC INFORMATION	1-39
Project 01	Rice Germplasm Conservation and Management	1-15
	Expt. 1.1 Collection of traditional/exotic and wild rice varieties/germplasm	1
	Expt. 1.2 Rejuvenation and conservation of rice germplasm accessions	5
	Expt. 1.3 Viability testing, routine monitoring and periodic evaluation of stored germplasm	7
	Expt. 1.4 Morphological characterization of rice germplasm accessions	9
	Expt. 1.5 Rice germplasm supply and exchange	15
Project 02	Seed Production and Variety Maintenance	16-25
	Expt. 2.1 Maintenance of BRRI released and recommended varieties	16
	Expt. 2.2 Breeder seed production and distribution	18
	Expt. 2.3 Monitoring of breeder and foundation seed production farms	24
Project 03	Exploratory and Genetic Studies	26-40
	Expt. 3.1 Regional Yield Trial of Balam rice germplasm	26
	Expt. 3.2 Regional Yield Trial of Sada Mota rice germplasm	26
	Expt. 3.3 DNA finger printing of Binni group of germplasm	27
	Expt. 3.4 Evaluation of photosensitive rice germplasm collected from Northern districts of Bangladesh	32
	Expt. 3.5 Identification and selection of sticky rice from Jhum rice germplasm	34
	Expt. 3.6 Morphological and Molecular study of Badshabhog germplasm	36
Part II	MISCELLANEOUS ACTIVITIES	40
Annexure	Annexure tables	41-110
	Annexure 1. Client-wise distribution of Breeder seed with cash memo for Boro 2022-23 season	41
	Annexure 2. Client-wise distribution of unsold Breeder seed as free of cost for Boro 2022-23 season	62
	Annexure 3. Client-wise distribution of Breeder seed with cash memo for Aus 2022-23 season	87
	Annexure 4. Client-wise distribution of unsold Breeder seed as free of cost for for Aus 2022-23 season	89
	Annexure 5. Client-wise distribution of Breeder seed with cash memo for T. Aman 2023-24 season	90
	Annexure 6. Client-wise distribution of TLS with cash memo for T. Aman 2023-24 season	103
	Annexure 7. Client-wise distribution of unsold Breeder seed and TLS as free of cost for T. Aman 2023-24 season	106

**List of involved personnel of Genetic Resources and Seed Division
during July 2022-June 2023**

Personnel	Working man days
Scientist	
Md Alamgir Hossain, PhD, Chief Scientific Officer and former Head¹	28/12/2022*
Partha Sarathi Biswas, PhD, Chief Scientific Officer and Head¹	26/06/2023*
Mir Sharf Uddin Ahmed, PhD, Principal Scientific Officer and former Head	365
Md Adil Badshah, PhD, Principal Scientific Officer²	39
Ebna Syod Md. Harunur Rashid, PhD, Senior Scientific Officer	365
Md Abubakar Siddique, PhD, Senior Scientific Officer³	335
Armin Bhuiya, PhD, Senior Scientific Officer	365
Md. Humayun Kabir Baktiar, PhD, Scientific Officer³	365
Tonmoy Chakrabarty, MS, Scientific Officer	365
Nadia Akter, MS, Scientific Officer⁴	-
Nashirum Monir, BScAg (Hons), Scientific Officer	365
Md Ashiqur Rahman, BScAg (Hons), Scientific Officer	365
Manager/ Scientific Assistant / Staff	
Md Shafiqul Islam, Scientific Assistant	365
Md Mujibur Rahman, Scientific Assistant	365
Md Nazmul Haque, Scientific Assistant	365
Md Ashik Iqbal, Scientific Assistant⁵	09
Nasrin Sultana, Scientific Assistant	365
Asmaul Hosna, Store Officer	365
Md Sirajul Islam, UDA⁶	19
Samsun Nahar, Genebank Technician	365
Md Robiul Islam, Laboratory Attendant	365

*Joining date as Head, GRS Division

¹Deputed from Plant Breeding Division, BRRI as Head of the Division

²Transferred to other Division/R/S

³From on deputation for higher Studies

⁴Abroad for higher Studies

⁵Joined GRS Division from BRRI RS, Barishal

⁶PRL

SUMMARY

- Two collection missions were made during the reporting year and 193 rice germplasm of which three of Aus, 24 of B. Aman, 109 of T. Aman and 57 of Boro varieties were collected from different districts of Bangladesh.
- One hundred thirty-two germplasm accessions and new collections (NC) of which 26 germplasm in T. Aus 2022-23 and 50 in T. Aman 2022-23 and 56 in Boro 2022-23 were morphologically characterized using 'Rice Germplasm Descriptors and Evaluation Form' of GRSD.
- Molecular characterization of 80 Binni rice germplasm using 78 SSR markers of which three were used for evaluating aroma (RM273, RM223 and RM282) and four for evaluating amylose (RM170, RM190, RM253 and RM314) were performed for DNA Fingerprinting for protecting from biopiracy and establishment of Intellectual Property Right (IPR) related issues. The PIC values ranged from 0.09 (RM273) to 0.87 (RM252) with an average of 0.50. Primer RM252 also had the highest gene diversity value (0.88). Therefore, RM252 was the best marker for characterizing the studied 80 Binni rice germplasm.
- Rejuvenation of 2,323 accessions of which 629 in T. Aus 2022-23, 1074 in T. Aman 2022-23 and 620 in Boro 2022-23 seasons was completed during 2022-23. On the other hand, 2,379 germplasm accessions were completely processed and stored in their respective accession number in different storages of Genebank. In details, in total 3,196 entries/ samples of which 742 entries/ samples from the rejuvenated accessions of Aus 2022-23, 1,535 from T. Aman 2022-23 and 919 from Boro 2022-23 seasons were stored in different storages of Genebank. Consequently, a total of 2,379 accessions were stored in short-, 354 acc. in medium- and 463 acc. in long-term storages of Genebank during 2022-23.
- In total, 173 new germplasm were registered as new accessions (from accession number 8,696 to 8,868) in BIRRI Genebank after processing and duplicate sorting.
- In total, 2,778 samples of rice germplasm and BIRRI developed rice varieties were supplied to 48 different users in the reporting year.
- Two Genebank accessions Balam (acc. 516) and Sada Mota (acc. 7888) were evaluated in Regional yield trial (RYT) at BIRRI HQ, Gazipur and BIRRI R/S, Barishal in T. Aman 2022-23. The yield of Balam was 3138.8 g per plot equivalent to 5.23 ton/ha and that of Sada Mota was 2258.8 g per plot equivalent to 3.76 ton/ha in BIRRI HQ.
- Three accessions Rosul Bhog (Acc. 5071), Malshira (Acc. 299) and Ganjia (Acc. 287) showed better performance out of 15 evaluated under late (transplanting 15 September) condition in T Aman 2022-23 season.
- Out of 75 evaluated Binni rice, 14 were found containing very low amylose % (5.71-9.04).
- Molecular characterization of 19 Badshabhog rice germplasm along with BR5, BIRRI dhan34, BIRRI dhan90 and GI marked Bangladesh Kalijira and Dinajpur Kataribhog using 61 SSR markers were performed for DNA Fingerprinting for protecting from biopiracy and establishment of Intellectual Property Right (IPR) related issues. The PIC values ranged from 0.08 (RM125) to 0.70 (RM474) with an average of 0.42 and RM474 was found the best marker for differentiating the studied genotypes.
- One hundred nineteen BIRRI developed and recommended rice varieties were maintained through nucleus seed production. Besides, nucleus seeds of 71 varieties were produced to be used as the source of breeder seed (BS).
- In total 273.86 tons of breeder seed of which 173.28 tons of 21 Boro varieties, 32.48 tons of nine Aus varieties and 68.1 tons of 36 T. Aman varieties were produced during 2022-23. For distributing BS, khudebarta (SMS) with variety name and allotted quantity of BS were sent to 372, 34 and 211 SeedNet partners before Boro 2022-23, Aus 2022-23 and T. Aman 2022-23 seasons. Again a total of 183.572 tons of breeder seed with tags of which 107.037 tons of 21 Boro varieties, 17.227 tons of seven Aus varieties and 59.308 tons of 36 T. Aman varieties were distributed with cash memo among 691, 62 and 321 partners (GO, NGO and PS) of BIRRI 'Rice Seed Network', respectively during 2022-23. Also, a total of 85,164 kg seeds of which 62,032 kg of 18 Boro varieties, 14,191 kg of nine Aus varieties and 8,941 kg of 21 T. Aman varieties were distributed as free of cost to 868, 32 and 153 farmers and different users, respectively during 2022-23. Besides, 1,381 kg TLS of 11 T. Aman varieties were distributed with cash memo to 78 farmers and different users for T. Aman 2022-23 season.
- Breeder and foundation seed (FS) producing plots and farms were visited regularly by the GRS scientists to monitor the quality of the BS and FS, produced in different BIRRI regional stations as well as BADC and CCDB farms, respectively.

INTRODUCTION

As a part of the Varietal Development Programme (VDP), Genetic Resources and Seed Division (GRSD) worked on the following areas during 2022-23:

- Collection, conservation, purification, characterization, evaluation and management of rice genetic resources.
- Rice diversity evaluation and documentation.
- Variety maintenance and nucleus seed production, production of breeder seed, monitoring of breeder and foundation seed production farms and performing seed technological research.
- Exchange/supply of rice germplasm to national and international organizations/users.
- Supply of breeder seed to different Government, Non-Government and Private Sector seed producing organizations.
- Relevant activities of Genebank management, seed production and seed technology.

PART I: USEFUL SCIENTIFIC INFORMATION

Project 01: Rice Germplasm Conservation and Management

Project Leader: Dr. Mir Sharf Uddin Ahmed and Dr. Md Alamgir Hossain

Genetic Resources are the raw materials for crop improvement and sometimes it is called as the blood stream of breeding effort. Hence, its collection, conservation and management have immense value for future breeding initiatives.

General Objectives

1. To collect, conserve, purify, characterize, evaluate and utilize the rice germplasm.
2. To check and monitor the viability of stored germplasm in Genebank.
3. To supply and/or exchange of germplasm to different researchers/organizations at home and abroad.

Output Achieved

1. Collected germplasm conserved safely in Genebank and documented along with their characters in database.
2. Conserved germplasm with valuable traits were made available for utilization as parent material(s) for developing new variety(s)/genotype(s).

Experiment No. 1.1 Collection of traditional/exotic and wild rice varieties/germplasm

Principal Investigator (PI): Dr. Mir Sharf Uddin Ahmed and Dr. Md Alamgir Hossain

Co-Investigator (CI): Dr. Mir Sharf Uddin Ahmed, Dr. Md Adil Badshah, Dr. ESM Harunur Rashid, Dr. Armin Bhuiya, Dr. Md Humayun Kabir Baktiar, Tonmoy Chakrabarty, Nashirum Monir and Md Ashiqur Rahman

Specific objective

To collect local, cultivated and wild rice germplasm from unexplored areas of Bangladesh and to conserve the collected rice germplasm for safekeeping.

Materials and methods

Mission oriented location specific collection programs were performed for exploration of rice germplasm. For this purpose, DAE and NGO personnel were informed well ahead to assist BRRI scientists for arrangement of logistic support in field collection. Some collection programs were made directly by BRRI personnel. For this purpose, two-four members team was formed before each collection mission. During collection, passport data along with longitude and latitude were recorded. On

the other hand, the collected sample was discarded as duplicate, when had identical name/similar name and same/neighboring place of collection along with identical grain features with any of the stored accession of the BRRRI Genebank. The all newly collected germplasm were checked and compared with the ‘accession list’ and the ‘seed of catalogue box’ of the respected stored similar named varieties of BRRRI Genebank for confirming duplication.

Results and discussion

Two collection missions were made during the reporting year and 193 rice germplasm of which three of Aus, 24 of B. Aman, 109 of T. Aman and 57 of Boro varieties were collected from different districts of Bangladesh (Table 1). The duplicate germplasm (with BRRRI Genebank accessions) were discarded from the list of ‘register book of new collection’ and the remaining new germplasm will be then registered in ‘Genebank accession register book’ after drying, processing and packaging.

Table 1. List of rice germplasm collected from different districts of Bangladesh during 2022-23.

Sl. No.	C Sl. No.*	Germplasm name	Upazila/Organization	District	Season
1	780	Pajam	BRRRI	Cumilla	B. Aman
2	781	Dud Bajal	BRRRI	Cumilla	B. Aman
3	782	Mura Bajal	BRRRI	Cumilla	B. Aman
4	783	Dud balam	BRRRI	Cumilla	B. Aman
5	784	Meri	BRRRI	Cumilla	B. Aman
6	785	IR11N313	PBD, BRRRI	Gazipur	T. Aman
7	786	IR05N341	PBD, BRRRI	Gazipur	T. Aman
8	787	IR13A514	PBD, BRRRI	Gazipur	T. Aman
9	788	IR98430-B-B-B-B-11	PBD, BRRRI	Gazipur	T. Aman
10	789	IR12A136	PBD, BRRRI	Gazipur	T. Aman
11	790	IR11N202	PBD, BRRRI	Gazipur	T. Aman
12	791	IR10M210	PBD, BRRRI	Gazipur	T. Aman
13	792	IR13N152	PBD, BRRRI	Gazipur	T. Aman
14	793	IR99107-B-B-B-B-27	PBD, BRRRI	Gazipur	T. Aman
15	794	IR16A3524	PBD, BRRRI	Gazipur	T. Aman
16	795	IR110615-C1-B-B-B-1-1	PBD, BRRRI	Gazipur	T. Aman
17	796	IRRI154	PBD, BRRRI	Gazipur	T. Aman
18	797	IR107995-B-B-RGA-B-RGA-64-1	PBD, BRRRI	Gazipur	T. Aman
19	798	IR N05N237	PBD, BRRRI	Gazipur	T. Aman
20	799	PIR-25760-2071-1-4-2-1	PBD, BRRRI	Gazipur	T. Aman
21	800	IR16A2841	PBD, BRRRI	Gazipur	T. Aman
22	801	IR100097-B-B-RGA-RGA-8	PBD, BRRRI	Gazipur	T. Aman
23	802	IR100121-B-B-B-B-72	PBD, BRRRI	Gazipur	T. Aman
24	803	IR16A3082	PBD, BRRRI	Gazipur	T. Aman
25	804	IR09M120	PBD, BRRRI	Gazipur	T. Aman
26	805	IR11A282	PBD, BRRRI	Gazipur	T. Aman
27	806	IR100121-B-B-B-B-72	PBD, BRRRI	Gazipur	T. Aman
28	807	IR98380-B-B-B-B-55	PBD, BRRRI	Gazipur	T. Aman
29	808	IR12N252	PBD, BRRRI	Gazipur	T. Aman
30	809	IR100097-B-B-RGA-RGA-64	PBD, BRRRI	Gazipur	T. Aman
31	810	IR13N157	PBD, BRRRI	Gazipur	T. Aman
32	811	IR14F711	PBD, BRRRI	Gazipur	T. Aman
33	812	IR13A153	PBD, BRRRI	Gazipur	T. Aman
34	813	IR54447-3-B-10-2	PBD, BRRRI	Gazipur	T. Aman
35	814	IR13A107	PBD, BRRRI	Gazipur	T. Aman
36	815	IR107051-15-1-1	PBD, BRRRI	Gazipur	T. Aman
37	816	IR12A282	PBD, BRRRI	Gazipur	T. Aman
38	817	IR13N134	PBD, BRRRI	Gazipur	T. Aman
39	818	IR12A229	PBD, BRRRI	Gazipur	T. Aman
40	819	IR10F559	PBD, BRRRI	Gazipur	T. Aman
41	820	IR14A150	PBD, BRRRI	Gazipur	T. Aman
42	821	IR10N230	PBD, BRRRI	Gazipur	T. Aman
43	822	IR15A3855	PBD, BRRRI	Gazipur	T. Aman
44	823	IR09A130	PBD, BRRRI	Gazipur	T. Aman

Sl. No.	C Sl. No.*	Germplasm name	Upazila/Organization	District	Season
45	824	IR99982-B-B-B-B-1	PBD, BRR	Gazipur	T. Aman
46	825	IR14A216	PBD, BRR	Gazipur	T. Aman
47	826	IR08N134	PBD, BRR	Gazipur	T. Aman
48	827	IR100842-B-B-RGA-B-RGA-B	PBD, BRR	Gazipur	T. Aman
49	828	IR12A329	PBD, BRR	Gazipur	T. Aman
50	829	IR100120-B-B-B-B-11	PBD, BRR	Gazipur	T. Aman
51	830	IR100097-B-B-RGA-B-RGA-70	PBD, BRR	Gazipur	T. Aman
52	831	IR16A3095	PBD, BRR	Gazipur	T. Aman
53	832	IR10N271	PBD, BRR	Gazipur	T. Aman
54	833	IR99047-B-B-B-B-47	PBD, BRR	Gazipur	T. Aman
55	834	IR93339-29-B-7-7-B-B-B-16	PBD, BRR	Gazipur	T. Aman
56	835	IR12N231	PBD, BRR	Gazipur	T. Aman
57	836	IR11A341	PBD, BRR	Gazipur	T. Aman
58	837	IR10A107	PBD, BRR	Gazipur	T. Aman
59	838	IR16A2836	PBD, BRR	Gazipur	T. Aman
60	839	IR13N131	PBD, BRR	Gazipur	T. Aman
61	840	IR04A429	PBD, BRR	Gazipur	T. Aman
62	841	IR15M1289	PBD, BRR	Gazipur	T. Aman
63	842	IR12N249	PBD, BRR	Gazipur	T. Aman
64	843	IR99993-B-B-RGA-B-RGA-84	PBD, BRR	Gazipur	T. Aman
65	844	IR99993-B-B-RGA-B-RGA-B RGA-107	PBD, BRR	Gazipur	T. Aman
66	845	IR15A2878	PBD, BRR	Gazipur	T. Aman
67	846	IR16A3652	PBD, BRR	Gazipur	T. Aman
68	847	IR16A2844	PBD, BRR	Gazipur	T. Aman
69	848	IR108005-B-B RGA-B RGA-1	PBD, BRR	Gazipur	T. Aman
70	849	IR93346-1-B-13-7-6-1 RGA-2 RGA-1-B	PBD, BRR	Gazipur	T. Aman
71	850	IR15A3595	PBD, BRR	Gazipur	T. Aman
72	851	IR11N121	PBD, BRR	Gazipur	T. Aman
73	852	IR99054-B-B-1	PBD, BRR	Gazipur	T. Aman
74	853	IR14A185	PBD, BRR	Gazipur	T. Aman
75	854	IR122310-7-2-2	PBD, BRR	Gazipur	T. Aman
76	855	IR09N516	PBD, BRR	Gazipur	T. Aman
77	856	IR11A29	PBD, BRR	Gazipur	T. Aman
78	857	IRRI 156	PBD, BRR	Gazipur	T. Aman
79	858	IRRI 158	PBD, BRR	Gazipur	T. Aman
80	859	BR10458-20-2-3-1(RLR)-3	PBD, BRR	Gazipur	T. Aman
81	860	BR10490-1-2-3-11-3	PBD, BRR	Gazipur	T. Aman
82	861	BR10475-1-2-3-5-5	PBD, BRR	Gazipur	T. Aman
83	862	BR10482-1-2-3-1-3	PBD, BRR	Gazipur	T. Aman
84	863	BR10490-1-23-8-7(ZER)	PBD, BRR	Gazipur	T. Aman
85	864	BR10470-1-2-3-13-5	PBD, BRR	Gazipur	T. Aman
86	865	BR10471-1-2-3-15-1	PBD, BRR	Gazipur	T. Aman
87	866	BR5674-1-1-5-2-P4-HR1	PBD, BRR	Gazipur	T. Aman
88	867	Latasail	Kaira	Khuna	Aus/Boro
89	868	Madhabi	Mukttagacha	Mymensingh	T. Aman
90	869	Kalizirasharder	Kaunia	Rangpur	T. Aman
91	870	Gutiswarna	Kaunia	Rangpur	T. Aman
92	871	Swarna 5	Kaunia	Rangpur	T. Aman
93	872	Kaliziraslderder(1)	Kaunia	Rangpur	T. Aman
94	873	Kaliziraslderder(2)	Kaunia	Rangpur	T. Aman
95	874	Nepali swarna	Kaunia	Rangpur	T. Aman
96	875	Nepali swarna	Kaunia	Rangpur	T. Aman
97	876	Kalizira-3	Kaunia	Rangpur	T. Aman
98	877	Kalizira slender (bold-1)	Kaunia	Rangpur	T. Aman
99	878	Swarna	Kaunia	Rangpur	T. Aman
100	879	Pgree (medium)	Kaunia	Rangpur	T. Aman
101	880	Dudullata (small bold)	Bagharpara	Jessore	Boro
102	881	Vadai slender	Kaunia	Rangpur	T. Aman
103	882	Khatozira (Golden96)	Parbotipur	Dinajpur	Boro
104	883	Kaloporangi (Bold)	Monirampur	Jessore	T. Aman
105	884	Kazollata (slender)	Shajahapur	Bogura	Boro

Sl. No.	C Sl. No.*	Germplasm name	Upazila/Organization	District	Season
106	885	Nariya 14 (Bold)	Mohipur	Rangpur	Boro
107	886	Vadai	Kaunia	Rangpur	T. Aman
108	887	Babukatari	Kalai	Joypurhat	Boro
109	888	Kali Boro (awn)	Gabindaganj	Gaibandha	Boro
110	889	Kalojira	Uzirpur	Barisal	B. Amam
111	890	Dud mona	Uzirpur	Barisal	B. Amam
112	891	Kumragoir	Uzirpur	Barisal	B. Amam
113	892	Nona kochi	Uzirpur	Barisal	B. Amam
114	893	Sadamota	Uzirpur	Barisal	B. Amam
115	894	Holdamota	Uzirpur	Barisal	B. Amam
116	895	Sorna	Uzirpur	Barisal	B. Amam
117	896	Dud monadhan	PBD, BRR	Gazipur	Boro
118	897	Chawlamoge	PBD, BRR	Gazipur	Boro
119	898	Motadhan	PBD, BRR	Gazipur	Boro
120	899	Chinigura	PBD, BRR	Gazipur	Boro
121	900	Tashedhan	PBD, BRR	Gazipur	Boro
122	901	Shornadhan	PBD, BRR	Gazipur	Boro
123	902	Luture	PBD, BRR	Gazipur	Boro
124	903	Lombazira	PBD, BRR	Gazipur	Boro
125	904	BR10645-6-48-1-2 (POR)	PBD, BRR	Gazipur	Boro
126	905	ZiraNachal	PBD, BRR	Gazipur	Boro
127	906	Miniket, Ballobpur	PBD, BRR	Gazipur	Boro
128	907	BR10646-3-2-2-4-3	PBD, BRR	Gazipur	Boro
129	908	BR10646-3-2-2-4-4	PBD, BRR	Gazipur	Boro
130	909	BR10646-3-3-3-1-4	PBD, BRR	Gazipur	Boro
131	910	BR10646-12-1-3-4-1	PBD, BRR	Gazipur	Boro
132	911	KoudhikHili	PBD, BRR	Gazipur	Boro
133	912	BR10642-4-5-1-2-1	PBD, BRR	Gazipur	Boro
134	913	Katarishibganj	PBD, BRR	Gazipur	Boro
135	914	Shoua (CH)	PBD, BRR	Gazipur	Boro
136	915	BR9674-1-4-1-3-P1 (SYT)	PBD, BRR	Gazipur	Boro
137	916	BR9674-1-4-1-3-P2	PBD, BRR	Gazipur	Boro
138	917	BR9674-7-3-2-1-P2	PBD, BRR	Gazipur	Boro
139	918	BRR dhan29	PBD, BRR	Gazipur	Boro
140	919	BRR dhan74	PBD, BRR	Gazipur	Boro
141	920	BRR dhan84	PBD, BRR	Gazipur	Boro
142	921	Kaliati	Manpara	Bhola	Aus
143	922	Keron dill	Manpara	Bhola	Aus
144	923	Lalchikon	Manpara	Bhola	T. Aman
145	924	Kalizira	Manpara	Bhola	T. Aman
146	925	Chaplish	Manpara	Bhola	T. Aman
147	926	Pankhiraj	Charfassan	Bhola	Aus
148	927	Bajal	Charfassan	Bhola	T. Aman
149	928	Kajalshail	Charfassan	Bhola	T. Aman
150	929	Kalojira	Charfassan	Bhola	T. Aman
151	930	Sadamota	Charfassan	Bhola	T. Aman
152	931	Kalobaush	Charfassan	Bhola	T. Aman
153	932	Sadatapu	Charfassan	Bhola	T. Aman
154	933	Monohara	Charfassan	Bhola	T. Aman
155	934	IR112060-GRZE-7-63-2-96	PBD, BRR	Gazipur	Boro
156	935	BR13261-GRZE:18-1-1	PBD, BRR	Gazipur	Boro
157	936	BR13261-GRZE:57-1-1	PBD, BRR	Gazipur	Boro
158	937	BR13261-GRZE:73-1-1	PBD, BRR	Gazipur	Boro
159	938	BR13261-GRZE:87-1-1	PBD, BRR	Gazipur	Boro
160	939	BR13261-GRZE:28-1-1-3	PBD, BRR	Gazipur	Boro
161	940	BR13261-GRZE:33-1-1-3	PBD, BRR	Gazipur	Boro
162	941	BR13261-GRZE:38-1-1-3	PBD, BRR	Gazipur	Boro
163	942	BR13261-GRZE:87-1-1-3	PBD, BRR	Gazipur	Boro
164	943	IR112060-GRZE:2-7-63-2-96-B1-HR9	PBD, BRR	Gazipur	Boro
165	944	IR112060-GRZE:2-7-63-2-96-B1-HR12	PBD, BRR	Gazipur	Boro
166	945	BR13263-GRZE:24-1-1	PBD, BRR	Gazipur	Boro

Sl. No.	C Sl. No.*	Germplasm name	Upazila/Organization	District	Season
167	946	BR13263-GRZE:36-1-1	PBD, BRRRI	Gazipur	Boro
168	947	BR13263-GRZE:12-1-1-3	PBD, BRRRI	Gazipur	Boro
169	948	BR13263-GRZE:17-1-1-3	PBD, BRRRI	Gazipur	Boro
170	949	BR13263-GRZE:64-1-1-3	PBD, BRRRI	Gazipur	Boro
171	950	BR13263-GRZE:66-1-1-3	PBD, BRRRI	Gazipur	Boro
172	951	BR13263-GRZE:85-1-1-3	PBD, BRRRI	Gazipur	Boro
173	952	BR13265-GRZE:10-1-1	PBD, BRRRI	Gazipur	Boro
174	953	BR13265-GRZE:32-1-1-3	PBD, BRRRI	Gazipur	Boro
175	954	BR13265-GRZE:68-1-1-3	PBD, BRRRI	Gazipur	Boro
176	955	BR13265-GRZE:87-1-1-3	PBD, BRRRI	Gazipur	Boro
177	956	BR13265-GRZE:107-1-13	PBD, BRRRI	Gazipur	Boro
178	957	IR135161 TR-4-B-35	PBD, BRRRI	Gazipur	Boro
179	958	IR135161 TR-4-B-23	PBD, BRRRI	Gazipur	Boro
180	959	IR135161 TR-4-B-2	PBD, BRRRI	Gazipur	Boro
181	960	IR135161 TR-4-B-6	PBD, BRRRI	Gazipur	Boro
182	961	IR135161 TR-4-B-4	PBD, BRRRI	Gazipur	Boro
183	962	IR135161 TR-3-B-19	PBD, BRRRI	Gazipur	Boro
184	963	IR135160 TR-3-B-14	PBD, BRRRI	Gazipur	Boro
185	964	IR133904 TR-B-B2-B-25	PBD, BRRRI	Gazipur	Boro
186	965	IR133904 TR-B-B3-B-17	PBD, BRRRI	Gazipur	Boro
187	966	IR133904 TR-B-B3-B-28	PBD, BRRRI	Gazipur	Boro
188	967	IR133904 TR-B-B1-B-3	PBD, BRRRI	Gazipur	Boro
189	968	Khama (lal)	R/S Cumilla	Cumilla	B. Amam
190	969	Kali khaccha	R/S Cumilla	Cumilla	B. Amam
191	970	Kayra	R/S Cumilla	Cumilla	B. Amam
192	971	Parchung	R/S Cumilla	Cumilla	B. Amam
193	972	Ghighoj	R/S Cumilla	Cumilla	B. Amam

* C Sr. No.= Collection serial number of 'register book of new collection of germplasm'

Experiment No. 1.2 Rejuvenation and conservation of rice germplasm accession

Principal Investigator (PI): Tonmoy Chakrabarty (T. Aman), Dr. Md Humayun Kabir Baktiar (Boro) and Dr. Armin Bhuiya (T. Aus)

Co-Investigator (CI): Dr. Md Humayun Kabir Baktiar (T. Aman), Dr. Armin Bhuiya (Boro), Nashirum Monir (T. Aus), Md Ashiqur Rahman and Dr. Mir Sharf Uddin Ahmed

Specific objective

- i. To increase the seed in field for replacement of Genebank accession with fresh seed.
- ii. To store the rice germplasm with respective accession number in the long, medium and short-term storages of Genebank after rejuvenation and duplicate sorting.

Materials and method

A. Rejuvenation of rice germplasm accession: Rejuvenation is a continuous process for a Genebank. Usually, it is conducted when viability (<80% germination) or seed quality of an accession becomes low. For this reason, conserved rice germplasm (<80% germination) were rejuvenated by growing in the field to increase the fresh seed for again safe storage in the Genebank. The accessions possessed less than 80% germination (normally stored after 2017) were listed and used in the experiment. The experiment was carried out in systematic arrangement under transplanted conditions using single row of 5.4 m long per accession with a spacing of 20 × 20 cm between rows and plants, respectively. Fertilizers were applied @ 60:20:40 kg NPK/ha in T. Aus and T. Aman and @ 80:20:40 kg NPK/ha in Boro seasons. Proper control measures were taken for insect pests, diseases and weeds when necessary. In total 2,386 germplasm of which 629 accessions (between Acc. 0001 to 2500) in T. Aus 2022-23, 1,107 accessions (between Acc. 6001 to 8560) in T. Aman 2022-23, 650 accessions (between Acc. 6601 to 8800) in Boro 2022-23 seasons were rejuvenated during 2022-23 for getting fresh seeds. However, 629 accessions were grown in the experimental field in T. Aus 2021-22 season, but harvested in 2022-23 and were also processed during 2022-23.

Thereafter each accession was sun dried separately for 3-4 days depending on the seed moisture content. The shattering type panicles especially of *Aus* varieties were dried in plastic net bag for avoiding excessive seed losses. After drying properly (<9% seed moisture), the seed were processed, cross checked, registered (new collection) and stored in Genebank.

B. Processing and storage of rice germplasm accession: The germplasm including new collections that were grown for seed increase in T. Aus 2022-23 and current year, were processed, registered and stored in Genebank during 2022-23. The new collections with more than 80% germination were registered as accession after crosschecking with the seed and card catalogues to avoid duplication and seed mixture. At least 150 g seeds of each variety (having <9 % seed moisture content) was kept in the glass jar containing fresh silica gel in short-term storage and another at least 150 g seeds of each variety kept in aluminium foil and stored in airtight glass jar for medium and long-term storages, respectively.

C. Processing, duplicate sorting and registration of new collection: Duplicate sorting was performed in two steps. Firstly, the newly collected sample was declared duplicate and discarded, if there was identical name/ similar name and same/ neighboring place of collection along with hundred per cent identical grain features with any of the stored accession of the ‘accession list’ and any of the respective ‘sample seed’ of the ‘catalogue box’ of BIRRI Genebank. Secondly, the rest newly collected rice seed sample that had hundred per cent identical grain features along with days to maturity and other agromorphological features with any of the stored accessions described in the ‘field record book’ of BIRRI Genebank, was considered duplicate and discarded. Finally, the remaining unique distinguished rice seed samples were entered in the ‘Genebank accession register book’ by assigning an new ‘accession number’ of BIRRI Genebank for each of the collected genotype.

Results and discussion

A. Rejuvenation of rice germplasm accession: Two thousand three hundred twenty-three (2,243) germplasm were harvested and fresh and clean seeds from each germplasm were collected from the field during 2022-23. Among them, 629 accessions (between Acc. 0001 to 2500) were rejuvenated in T. Aus 2022-23 along with 1050 accessions (between Acc. 6001 to 8560) in T. Aman 2022-23 and 564 accessions (560 between Acc. 6601 to 8800 along with four between Acc. no. 4544 to 4547) in Boro 2022-23 seasons. Moreover, 24 accessions from T. Aman and 56 acc. from Boro seasons were also harvested and fresh grown rejuvenated seeds from each accession were collected from the ‘Morphological characterization of rice germplasm accessions experiment (Experiment no. 1.4)’ of GRS division in Boro 2022-23 season. Here, it needs to be mentioned that the harvested fresh rejuvenated seeds of the experiment; entitled as ‘Morphological characterization of rice germplasm accessions’ of GRS division were also processed and replaced with the old stored seeds in Genebank as per their accession number from the last two years. The respective harvested, dried, cleaned and processed seeds of each accession were treated here as the ‘rejuvenated seeds’ of that ‘respective accession’ and consequently stored in Genebank for effective use of germplasm. Therefore, in total 2,323 Genebank accessions were rejuvenated during 2022-23.

B. Processing and storage of rice germplasm accession: The germplasm were cleaned and dried with a seed moisture content of less than 9%. Then seeds of the existing accessions were stored in their respective places. In total 2,379 germplasm accessions were completely processed from which 3,196 entries/ samples were completely stored in their respective accession number in different storages of Genebank during 2022-23 for safe conservation.

In details, 3,196 entries/ samples were stored in different storages of Genebank during 2022-23. Among them, a total of 742 entries/ samples of which 629 accessions were storage in short-, 38 acc. in medium- and 49 acc. in long-term storages of Genebank from the rejuvenated germplasm of Aus 2022-23 season. Similarly, a total of 1,535 entries/ samples of which 1,100 accessions were storage in short-, 176 acc. in medium- and 259 acc. in long-term storages of Genebank from the rejuvenated germplasm of T. Aman 2022-23 season. Again, a total of 919 entries/ samples of which 624 accessions were storage in short-, 140 acc. in medium- and 155 acc. in long-term storages of Genebank from the rejuvenated germplasm of Boro 2022-23 season. Consequently, out of 3,196 entries/ samples, 2,379 were stored in short-, 354 in medium- and 463 in long-term storages of Genebank during 2022-23.

C. Duplicate sorting and registration of new collection: In total, 173 germplasm were registered in the accession book as ‘new accession’ in BIRRI Genebank (from acc. 8696 to 8868) after processing and duplicate sorting during 2022-23 (Table 2).

Table 2. List of newly registered rice germplasm during 2022-23.

Sl. no.	Acc. no.	Name	Upazila/Organization	District/ Country	Season
1	8696	Sunam katari	DG Sir, BIRRI	Gazipur	T. Aman
2	8697	Shampa katari	DG Sir, BIRRI	Gazipur	T. Aman
3	8698	Puika Aus	Sador	Gazipur	T. Aman
4	8699	DA32	BRAUS	Rajshahi	T. Aman
5	8700	Burichong closter	Sador	Cumilla	T. Aman
6	8701	Kokroning	--	--	Jhum
7	8702	Chi bi mingshe dhan	Bowangchhari	Bandarban	Jhum
8	8703	Seiong	Bowangchhari	Bandarban	Jhum
9	8704	Chaina (deshi)	Lama	Bandarban	Jhum
10	8705	Choma dhan	Sador	Bandarban	Jhum
11	8706	Kalo binni	Sador	Bandarban	Jhum
12	8707	Scuesi	Ramu	Bandarban	Jhum
13	8708	Abdul Guti(khato chikon)	Sirajganj	Rajshahi	B. Aman
14	8709	Abdul Guti(khato mota)	Sirajganj	Rajshahi	B. Aman
15	8710	Sthaniyo Atob khato mota	Joypurhat	Rajshahi	B. Aman
16	8711	Sthaniyo Atob khato Chikon	Joypurhat	Rajshahi	B. Aman
17	8712	SVIN 209 (RLR)	PBD, BIRRI	Gazipur	T. Aman
18	8713	SVIN 172 (RLR)	PBD, BIRRI	Gazipur	T. Aman
19	8714	IR 98377-B-B-B-B-24	PBD, BIRRI	Gazipur	T. Aman
20	8715	BR 9840-51-1-2-1	PBD, BIRRI	Gazipur	T. Aman
21	8716	BR 8492-9-5-3-2-HRI	PBD, BIRRI	Gazipur	T. Aman
22	8717	BR H15-24-7-B	PBD, BIRRI	Gazipur	T. Aman
23	8718	BR H14-9-13-16B	PBD, BIRRI	Gazipur	T. Aman
24	8719	BR 10538-2-1-2-3-2 (DTR)	PBD, BIRRI	Gazipur	T. Aman
25	8720	BR 10539-8-1-3-2-2 (DTR)	PBD, BIRRI	Gazipur	T. Aman
26	8721	BR10539-43-1-1-1-1(DTR)	PBD, BIRRI	Gazipur	T. Aman
27	8722	BR10540-4-1-2-4-1	PBD, BIRRI	Gazipur	T. Aman
28	8723	BR 10005-25-8-4-7-20 (ZER)	PBD, BIRRI	Gazipur	T. Aman
29	8724	BR 10022-2-8-9-5-22 (ZER)	PBD, BIRRI	Gazipur	T. Aman
30	8725	Lal Digha	-	-	Boro
31	8726	BARU	Dhubri	Shubri Assam	Boro
32	8727	Khasha sugondhi	Nobenogar	B. Barea	Boro
33	8728	Black Rice	Nobenogar	B. Barea	Boro
34	8729	Beguni dhan	Nobenogar	B. Barea	Boro
35	8730	BR 8938-19-4-3-1-1-P2-HR-3	PBD, BIRRI	Gazipur	Boro
36	8731	BR 9651-15-2-1-4	PBD, BIRRI	Gazipur	Boro
37	8732	I+R(PATH)-11	PBD, BIRRI	Gazipur	Boro
38	8733	PATH 2441	PBD, BIRRI	Gazipur	Boro
39	8734	BR10317-5R-25	PBD, BIRRI	Gazipur	Boro
40	8735	BR10318-5R-1	PBD, BIRRI	Gazipur	Boro
41	8736	BR10589-5R-39	PBD, BIRRI	Gazipur	Boro
42	8737	BR11303-5R-116	PBD, BIRRI	Gazipur	Boro
43	8738	BR11303-5R-156	PBD, BIRRI	Gazipur	Boro
44	8739	BR11303-5R-19	PBD, BIRRI	Gazipur	Boro
45	8740	BR11303-5R-291	PBD, BIRRI	Gazipur	Boro
46	8741	BR11318-5R-106	PBD, BIRRI	Gazipur	Boro
47	8742	BR11318-5R-18	PBD, BIRRI	Gazipur	Boro
48	8743	BR11330-5R-29	PBD, BIRRI	Gazipur	Boro
49	8744	BR11337-5R-2	PBD, BIRRI	Gazipur	Boro
50	8745	BR11342-5R-5	PBD, BIRRI	Gazipur	Boro
51	8746	BR11663(132A3)-6-2	PBD, BIRRI	Gazipur	Boro
52	8747	BR8899-14-4-1-2-2-1	PBD, BIRRI	Gazipur	Boro
53	8748	BR9945-5R-298	PBD, BIRRI	Gazipur	Boro
54	8749	BRC297-15-1-1-1	PBD, BIRRI	Gazipur	Boro
55	8750	BRH11-9-11-4-5B-HR3	PBD, BIRRI	Gazipur	Boro
56	8751	IR83222-F11-173	PBD, BIRRI	Gazipur	Boro
57	8752	TP21654	PBD, BIRRI	Gazipur	Boro

Sl. no.	Acc. no.	Name	Upazila/Organization	District/ Country	Season
58	8753	TP30606	PBD, BRRI	Gazipur	Boro
59	8754	BR11868-5R-59	PBD, BRRI	Gazipur	Boro
60	8755	IR126952-28-94-31-B	PBD, BRRI	Gazipur	Boro
61	8756	BR11607-4R-72	PBD, BRRI	Gazipur	Boro
62	8757	BR9942-1-2-1-1-B2	PBD, BRRI	Gazipur	Boro
63	8758	BR9943-26-2-3-6	PBD, BRRI	Gazipur	Boro
64	8759	BR8938-194-3-4-1-1-P2-HR3	PBD, BRRI	Gazipur	Boro
65	8760	BR11723-4R-172	PBD, BRRI	Gazipur	Boro
66	8761	BR8912-12-6-1-1-1-1	PBD, BRRI	Gazipur	Boro
67	8762	IR105837-B-95-2-1	PBD, BRRI	Gazipur	Boro
68	8763	IR99285-1-1-1-P2	PBD, BRRI	Gazipur	Boro
69	8764	BR8631-12-3-5-P2	PBD, BRRI	Gazipur	Boro
70	8765	BR11388-4R-17	PBD, BRRI	Gazipur	Boro
71	8766	IR107995-B-BRGA-BRGA-2-1	PBD, BRRI	Gazipur	Boro
72	8767	HHZ15-DT7-SAL4-SAL1	PBD, BRRI	Gazipur	Boro
73	8768	BINA dhan17	PBD, BRRI	Gazipur	Boro
74	8769	IR17A2244	PBD, BRRI	Gazipur	Boro
75	8770	IR64-Pi9	PBD, BRRI	Gazipur	Boro
76	8771	IR16L1172	PBD, BRRI	Gazipur	Boro
77	8772	HR(ptth)-10	PBD, BRRI	Gazipur	Boro
78	8773	BR9651-15-2-1-3	PBD, BRRI	Gazipur	Boro
79	8774	BR8899-17-1-1-1-1-1	PBD, BRRI	Gazipur	Boro
80	8775	IR96925-B-B-B-B-61	PBD, BRRI	Gazipur	Boro
81	8776	BR7812-19-1-6-1P2	PBD, BRRI	Gazipur	Boro
82	8777	TP26717	PBD, BRRI	Gazipur	Boro
83	8778	BR11000-5R-2	PBD, BRRI	Gazipur	Boro
84	8779	BR11663(132A3)-29-8	PBD, BRRI	Gazipur	Boro
85	8780	BR8909-B-12-2-CS1-4-CS2-P1-6-3	PBD, BRRI	Gazipur	Boro
86	8781	BR8909-B-12-2-CS1-4-CS2-P2-3-2	PBD, BRRI	Gazipur	Boro
87	8782	BR11000-5R-31	PBD, BRRI	Gazipur	Boro
88	8783	BR11001-5R-37	PBD, BRRI	Gazipur	Boro
89	8784	Kumal-13	PBD, BRRI	Gazipur	Boro
90	8785	Bhutan	PBD, BRRI	Gazipur	Boro
91	8786	HBj B. V1	PBD, BRRI	Gazipur	Boro
92	8787	Chakma chekon	Bandarban	Bandarban	Jhum
93	8788	NBR 9005-53-1-1	PBD, BRRI	Gazipur	Aus
94	8789	NBR 9006-40-2-3-1	PBD, BRRI	Gazipur	Aus
95	8790	BR 84-4-1-2-P2	PBD, BRRI	Gazipur	Aus
96	8791	BR 8781-16-1-3-P2	PBD, BRRI	Gazipur	Aus
97	8792	Boshakhi Aus/20	PBD, BRRI	Gazipur	Aus
98	8793	Sundori Binni	Bagaicory	Rangamati	Jhum
99	8794	Bojha Dhan	Bagaicory	Rangamati	Jhum
100	8795	Brrri Jhum Dhan Lowas	Bhanga	Faridpur	Aus
101	8796	Napali Black Rice	Napal	Napal	T. Aman
102	8797	BRRI dhan91	PBD, BRRI	Gazipur	Aman
103	8798	BRRI dhan92	PBD, BRRI	Gazipur	Boro
104	8799	BRRI dhan93	PBD, BRRI	Gazipur	T. Aman
105	8800	BRRI dhan94	PBD, BRRI	Gazipur	T. Aman
106	8801	BRRI dhan95	PBD, BRRI	Gazipur	T. Aman
107	8802	BRRI dhan96	PBD, BRRI	Gazipur	Boro
108	8803	BRRI dhan97	PBD, BRRI	Gazipur	Boro
109	8804	BRRI dhan98	PBD, BRRI	Gazipur	Aus
110	8805	BRRI dhan99	PBD, BRRI	Gazipur	Aman
111	8806	Bangabandu dhan100	PBD, BRRI	Gazipur	Boro
112	8807	Khumal-7	Napal	Napal	T. Aus
113	8808	Indonisian Black Rice	ARD, BRRI	Gazipur	T. Aman
114	8809	Philiphines Black Rice	ARD, BRRI	Gazipur	T. Aman
115	8810	Panday	PBD, BRRI	Gazipur	Aus
116	8811	76 Dican	Sadar	Faridpur	Aus
117	8812	Guri Galong	Bagaicory	Khagrachhari	Jhum
118	8813	My Wachha	Sadar	Khagrachhari	Jhum
119	8814	PY. 84	Panjab	India	Aus

Sl. no.	Acc. no.	Name	Upazila/Organization	District/ Country	Season
120	8815	Hamarong Dhan	Bagaicory	Khagrachhari	Jhum
121	8816	Ghumra (1)	Ruma	Khagrachhari	Jhum
122	8817	BR 8526-38-2-1-AR1	PBD, BRR	Gazipur	Boro
123	8818	LATA BALAM	PBD, BRR	Gazipur	Boro
124	8819	BR 8912-12-6-1-1-1-1	PBD, BRR	Gazipur	Boro
125	8820	IR 105837-8-95-2-1	PBD, BRR	Gazipur	Boro
126	8821	Ahona	Tanore	Rajshahi	T. Aman
127	8822	Sada Shaingia	Kamar	Sirajganj	T. Aman
128	8823	Kalo Shaingla	Khando	Sirajganj	T. Aman
129	8824	Laoma	Sadar	Bandarban	Jhum
130	8825	Checheo	Sadar	Bandarban	Jhum
131	8826	Kilingao	Sadar	Bandarban	Jhum
132	8827	Torgte	Thanchi	Bandarban	Jhum
133	8828	Pargao	Thanchi	Bandarban	Jhum
134	8829	Reirgao	Lama	Bandarban	Jhum
135	8830	Gouri	Lama	Bandarban	Jhum
136	8831	Morgkhoing	Sadar	Bandarban	Jhum
137	8832	Pankhiraj	Sadar	Bandarban	Jhum
138	8833	Kanihati	--	Bandarban	Aus
139	8834	Charunik	Rawangsari	Bandarban	Aus
140	8835	Binni Dhan	Ruma	Bandarban	Aus
141	8836	Chakma	Ruma	Bandarban	Aus
142	8837	Binni Dhan	Tanore	Bandarban	Aus
143	8838	Chakma	Tanore	Bandarban	Aus
144	8839	Sada Binni	Tanore	Bandarban	Aus
145	8840	Lal Binni	Lama	Bandarban	Aus
146	8841	Kalo Binni	Lama	Bandarban	Aus
147	8842	Abdullah Dhan	Dulatkhana	Bhola	Aus
148	8843	Keron Dal	Sadar	Bhola	Aus
149	8844	Matvog	Bhanga	Faridpur	B. Aman
150	8845	Kalo Digha	Boalmari	Faridpur	B. Aman
151	8846	Gut Sorna	Bhanga	Faridpur	B. Aman
152	8847	Chini Atop	Bhanga	Faridpur	B. Aman
153	8848	Chini Gora	Bhanga	Faridpur	B. Aman
154	8849	Pari Dhan	Bhanga	Faridpur	B. Aman
155	8850	Mala Boro	Bhanga	Faridpur	B. Aman
156	8851	Nadi Sail	Sadar	Faridpur	B. Aman
157	8852	Nagan Mani	Shodorpur	Faridpur	B. Aman
158	8853	Arparina	Sadar	Faridpur	B. Aman
159	8854	Aoijam IRR	Shrimongal	Moulovibajar	T. Aman
160	8855	Boro Digha	Albadanga	Faridpur	T. Aman
161	8856	Kaejur Jhupi	Khumar Khali	Kushtia	T. Aman
162	8857	Ranajet Sorna	Kamalgonj	Habiganj	T. Aman
163	8858	Mehe Biruian	Jagatpur	Habiganj	T. Aman
164	8859	Pani Biruian	Baliaghat	Habiganj	T. Aman
165	8860	Lal Biruian	Baliaghat	Cumilla	T. Aman
166	8861	Black Rice	Sadar	Cumilla	T. Aman
167	8862	Asam Black Rice	BRR	Cumilla	T. Aman
168	8863	Black Rice	BRR	Cumilla	T. Aman
169	8864	Black Rice	BRR	Cumilla	T. Aman
170	8865	Black Rice	BRR	Cumilla	T. Aman
171	8866	Andian	BRR	Cumilla	T. Aman
172	8867	Ais Sail	Jagatpur	Habiganj	T. Aman
173	8868	Beagun Bichi	Jagatpur	Habiganj	T. Aman

Experiment No. 1.3 Viability testing, periodic evaluation and routine monitoring of stored germplasm

Principal Investigator (PI): Tonmoy Chakrabarty (T. Aman), Dr. Md Humayun Kabir Baktiar (Boro) and Dr. Armin Bhuiya (T. Aus)

Co-Investigator (CI): Dr. Md Humayun Kabir Baktiar (T. Aman), Dr. Armin Bhuiya (Boro), Nashirum Monir (T. Aus), Md Ashiqur Rahman and Dr. Mir Sharf Uddin Ahmed

Specific objective

To check and monitor the germination (percentage) of the stored germplasm in the short, medium and long term storages.

Materials and methods

Seed viability was monitored by random germination testing of the stored germplasm in short-term storage and testers in the medium as well as long-term storages. One hundred and fifteen accessions in Aus, 175 acc. in T. Aman and 110 acc. in Boro seasons were checked randomly for viability (germination %) tests in short-term storage during 2022-23. The seed viability of the germplasm just before storage in the Genebank was also monitored during 2022-23. Besides, five tester varieties namely Dharial (Acc. no. 649), Hashikalmi (Acc. 3575), Purbachi (Acc. 6207), Nizersail (Acc.1229) and Patnai-23 (Acc. 52) were used as testers in the medium and long-term storages and their viability were measured on six month interval usually on October and March of each financial year to predict the viability of the germplasm in the respective storages.

However, silica gel was used to maintain the optimum moisture/ relative humidity in the stored seed container. When the color of silica gel had been changed from blue to pinkish, then the silica gel were taken out and replaced by the fresh blue silica gel. The containers used for seed storage in medium- and long-term storages are hermetically sealed.

Results and discussion

The seed viability of the stored germplasm in short-term storage of Genebank was monitored from randomly selected samples in three seasons. Table 3 shows the results of the seed viability of the stored germplasm. Most of the tested germplasm possessed more than 80% germination. The germination of the randomly selected 430 stored germplasm in short-term was carried out of which 110 were Aus, 200 were T. Aman and 120 were Boro varieties/ season. Among the 430 germplasm, 121 had viability less than 80%, 213 had between 80-90% and 96 had above 90% germination.

The germination of 335 germplasm just before storage in short-term was carried out of which 100 were Aus, 150 were T. Aman and 85 were Boro varieties/ season. Table 4 shows the results of the germination of the stored germplasm. Among them, 152 had germination between 80-90% and 125 had above 90%. The rest 58 had less than 80% germination and will be grown again in the next season for safekeeping.

Table 3. Viability (germination %) monitoring in short-term storage during 2022-23.

Variety/ season	Number of varieties with three different germination (%) categories			
	<80	80-90	91-100	Total
Aus	30	45	35	110
T. Aman	67	113	20	200
Boro	24	55	41	120
Total	121	213	96	430

Table 4. Germination percentage of the germplasm in short-term just before storage during 2022-23.

Season	Number of varieties with three different germination (%) categories			
	<80	80-90	91-100	Total
Aus	10	55	35	100
T. Aman	41	64	45	150
Boro	07	33	45	85
Total	58	152	125	335

On the other hand, the germination percentages of the five test samples/ testers in the medium-term storages were found ranging from 75% (Purbachi) to 93% (Patnai-23) in October 2022 and 76% (Purbachi) to 95% (Nizersail) in March 2023. Similarly, the germination percentages of the test samples/ testers in the long-term storages were found ranging from 80% (Purbachi) to 96% (Nizersail)

in October 2022 and 75% (Purbachi) to 95% (Dharial, Nizersail and Patnai-23) in March 2023 (Table 5 and 6). The germination percentages of the five test samples/testers indicating the probable viability condition of stored germplasm in respective storages.

Table 5. Germination percentage of 5 (five) test samples stored at different times in medium-term storage of Genebank.

Variety Name (Acc.)	Storage date(s)	Germination (%) at initial storage time	Germination (%) October 2022	Germination (%) March 2023
Dharial (Acc. 649)	12-12-05	98	90	90
Hashikalmi (Acc. 3575)	19-08-06	98	90	91
Purbachi (Acc. 6207)	24-10-11	84	75	76
Nizersail (Acc. 1229)	12-12-05	96	92	95
Patnai-23 (Acc. 52)	12-12-05	98	93	94

Table 6. Germination percentage of 5 (five) test samples stored at different times in long-term storage of Genebank.

Variety Name (Acc.)	Storage date(s)	Germination (%) at initial storage time	Germination (%) October 2022	Germination (%) March 2023
Dharial (Acc. 649)	11-03-08	97	92	95
Hashikalmi (Acc. 3575)	11-03-08	97	91	91
Purbachi (Acc. 6207)	24-10-11	84	80	75
Nizersail (Acc. 1229)	11-03-08	99	96	95
Patnai-23 (Acc. 52)	11-03-08	99	95	95

Experiment No. 1.4 Morphological characterization of rice germplasm accessions

Principal Investigator (PI): Tonmoy Chakrabarty (T. Aman), Nashirum Monir (Boro) and Dr. Armin Bhuiya (T. Aus)

Co-Investigator (CI): Dr. ESM Harunur Rashid (T. Aman), Tonmoy Chakrabarty (Boro), Dr Md Humayun Kabir Baktiar (T. Aus), Md Ashiqur Rahman and Dr. Mir Sharf Uddin Ahmed

Specific objective

To characterize and evaluate rice germplasm as per BRRRI prescribed rice descriptor for safeguarding from biopiracy.

Materials and methods

One hundred and thirty-two germplasm (accessions and new collections) of which 26 germplasm in T. Aus 2022-23 (Table 7), 50 in T. Aman 2022-23 (Table 8) and 56 in Boro 2022-23 (Table 9) seasons were morphologically characterized at BRRRI farm, Gazipur. The germplasms were characterized through 53 morpho-agronomic characters of which 20 quantitative and 33 qualitative traits by using the Rice Germplasm Descriptors and Evaluation Form (2018), GRSD, BRRRI. The experiments were conducted using a single row of 5.4 m long for each entry/ accession with a spacing of 20 × 20 cm between rows and plants, respectively. Fertilizers were applied @ 60:20:40 kg NPK/ha in T. Aus and T. Aman and @ 80:20:40 kg NPK/ha in Boro seasons. Appropriate control measures were taken for insect, pests, diseases and weeds when necessary.

Table 7. List of rice germplasm characterized in T. Aus 2022-23.

Sl. no	Status*	Name	Upazila	District	Season
01	NC(1)-608	Chewma	Rowang Sori	Bandarban	Jhum
02	NC(2)-609	Charurik	Rowang Sori	Bandarban	Jhum
03	NC(3)-610	Mangthang	Rowang Sori	Bandarban	Jhum
04	NC(4)-611	Laoma	Sadar	Bandarban	Jhum
05	NC(5)-612	Mymensingh	Sadar	Bandarban	Jhum
06	NC(6)-613	Checheo	Sadar	Bandarban	Jhum

Sl. no	Status*	Name	Upazila	District	Season
07	NC(7)-614	Kilingrao	Sadar	Bandarban	Jhum
08	NC(8)-615	Binni Dhan	Ruma	Bandarban	Jhum
09	NC(9)-616	Tongte	Thansi	Bandarban	Jhum
10	NC(10)-617	Chakma	Ruma	Bandarban	Jhum
11	NC(11)-618	Binni Dhan	Thansi	Bandarban	Jhum
12	NC(12)-619	Chakma	Thansi	Bandarban	Jhum
13	NC(13)-620	Pangao	Thansi	Bandarban	Jhum
14	NC(14)-621	Reingpuit	Lama	Bandarban	Jhum
15	NC(15)-622	Sada Binni	Lama	Bandarban	Jhum
16	NC(16)-623	Kokru	Lama	Bandarban	Jhum
17	NC(17)-624	Lal Binni	Lama	Bandarban	Jhum
18	NC(18)-625	Kala Binni	Lama	Bandarban	Jhum
19	NC(19)-626	Gouri (Rairkcha)	Lama	Bandarban	Jhum
20	NC(20)-627	Mongkhoing	Lama	Bandarban	Jhum
21	NC(05)-656	Abdulla Dhan	Dulatkhani	Bhola	Aus
22	NC(06)-657	Kali Shaitta	Lalmohon	Bhola	Aus
23	NC(13)-664	Ponkhiraj	Sadar	Bhola	Aus
24	NC-667	Kali Ita	Dulatkhani	Bhola	Aus
25	NC-668	Keron Dol	Sadar	Bhola	Aus
26	NC-237	Kanihati	Sadar	Moulovibazar	Aus

* Accession/New collection (NC)

Table 8. List of rice germplasm characterized in T. Aman 2022-23.

Sl. no	Status*	Name	Upazila/Organization	District	Season
1	NC-628	Shakkor Khana	Dumki	Patuakhali	Aman
2	NC-629	Moulata	Dumki	Patuakhali	Aman
3	NC-630	Motha Mota	Dumki	Patuakhali	Aman
4	NC-631	Chini Gura	Dumki	Patuakhali	Aman
5	NC-632	Sada Mota	Dumki	Patuakhali	Aman
6	NC-633	Dishari	Dumki	Patuakhali	Aman
7	NC-634	Lal Mota	Dumki	Patuakhali	Aman
8	NC-635	Khoiadhan	Dumki	Patuakhali	Aman
9	NC-636	Shakkor Khana (Lal)	Dumki	Patuakhali	Aman
10	NC-637	23 IRRI	Dumki	Patuakhali	Aman
11	NC-638	Lal Mota	Banaripara	Barishal	Aman
12	NC-639	Kalo Jira	Banaripara	Barishal	Aman
13	NC-640	Sada Chikan	Sadar	Barishal	Aman
14	NC-641	Dud Mona	Sadar	Barishal	Aman
15	NC-642	Nakhocimota	Sadar	Barishal	Aman
16	NC-643	Dud Kolom	Sadar	Barishal	Aman
17	NC-644	Shakkorkhara	Sadar	Barishal	Aman
18	NC-645	Chini Gura	Bakergonj	Barishal	Aman
19	NC-646	Shakkorkhara	Bakergonj	Barishal	Aman
20	NC-647	Mota Dhan	Bakergonj	Barishal	Aman
21	NC-648	Gusushimota	Sadar	Barishal	Aman
22	NC-649	Kalizira	Sadar	Barishal	Aman
23	NC-650	Chawla Magi	Sadar	Barishal	Aman
24	NC-651	Swarna Balam	Sadar	Barishal	Aman
25	NC-652	Kala Gura	Borhanuddin	Bhola	Aman
26	NC-653	Chaplaish	Borhanuddin	Bhola	Aman
27	NC-654	Eicca Gura	Daulatkhan	Bhola	Aman
28	NC-655	Hori dhan	Daulatkhan	Bhola	Aman
29	NC-658	Kalizira	Lalmohon	Bhola	Aman
30	NC-659	Kjallail	Lalmohon	Bhola	Aman
31	NC-660	Biuze	Charfashion	Bhola	Aman
32	NC-661	Hail Gnieen	Charfashion	Bhola	Aman
33	NC-663	Mota Dhan	Charfashion	Bhola	Aman
34	NC-666	Lal Chikon	Sadar	Bhola	Aman
35	NC-667	Guti Swarna dhan	Pirgonj	Thakurgaon	Aman
36	NC-668	Swarna-5 dhan	Pirgonj	Thakurgaon	Aman

Sl. no	Status*	Name	Upazila/Organization	District	Season
37	NC-785	IR11N313	PBD, BRRI	Gazipur	Aman
38	NC-786	IR05N341	PBD, BRRI	Gazipur	Aman
39	NC-787	IR13A514	PBD, BRRI	Gazipur	Aman
40	NC-788	IR98430-B-B-B-B-11	PBD, BRRI	Gazipur	Aman
41	NC-789	IR12A136	PBD, BRRI	Gazipur	Aman
42	NC-790	IR11N202	PBD, BRRI	Gazipur	Aman
43	NC-791	IR10M210	PBD, BRRI	Gazipur	Aman
44	NC-792	IR13N152	PBD, BRRI	Gazipur	Aman
45	NC-793	IR99107-B-B-B-B-27	PBD, BRRI	Gazipur	Aman
46	NC-794	IR16A3524	PBD, BRRI	Gazipur	Aman
47	NC-795	IR110615-CI-B-BRGA-BRGA-64-1	PBD, BRRI	Gazipur	Aman
48	NC-796	IRRI154	PBD, BRRI	Gazipur	Aman
49	NC-797	IR107995-B-B-RGA-BRGA-64-1	PBD, BRRI	Gazipur	Aman
50	NC-798	IRNON237	PBD, BRRI	Gazipur	Aman

*=New collection No.

Table 9. List of rice germplasm characterized in Boro 2022-23.

Sl. No.	Acc. No.	Name	Upazila	District/Country	Season
1	4373	Topa Boro	Moulvibazar Sadar	Moulvibazar	Boro
2	4374	Nimoria	Moulvibazar Sadar	Moulvibazar	Boro
3	7375	Gochisail	Moulvibazar Sadar	Moulvibazar	Boro
4	4376	Rata Boro	Moulvibazar Sadar	Moulvibazar	Boro
5	4377	Kalia Boro	Rajnagar	Moulvibazar	Boro
6	4379	Pankait	Rajnagar	Moulvibazar	Boro
7	4380	Boro Sail	Kulaura	Moulvibazar	Boro
8	4381	Gorchisail	Kulaura	Moulvibazar	Boro
9	4382	Maldai Boro	Kulaura	Moulvibazar	Boro
10	4383	Kaberi	Barlekha	Moulvibazar	Boro
11	4384	Badal Boro	Barlekha	Moulvibazar	Boro
12	4385	Baurash	Barlekha	Moulvibazar	Boro
13	4386	Gopisail	Barlekha	Moulvibazar	Boro
14	4387	Panchash Boro	Sreemangal	Moulvibazar	Boro
15	4388	Ratna Boro	Sreemangal	Moulvibazar	Boro
16	4389	Chenger Boro	Sreemangal	Moulvibazar	Boro
17	4390	Baigon Beej	Sreemangal	Moulvibazar	Boro
18	4391	Biroin Boro	Sreemangal	Moulvibazar	Boro
19	4392	Baurash	Kalomganj	Moulvibazar	Boro
20	4393	Chengash	Kalomganj	Moulvibazar	Boro
21	4394	Dumai/ Arai	Kalomganj	Moulvibazar	Boro
22	4396	Dhola Boro	Sylhet Sadar	Sylhet	Boro
23	4400	Damander Mukh	Sylhet Sadar	Sylhet	Boro
24	4401	Burma Biroin	Sylhet Sadar	Sylhet	Boro
25	4402	Chenger Muri	Sylhet Sadar	Sylhet	Boro
26	4403	Maldai	Balaganj	Sylhet	Boro
27	4404	Sada Beri	Balaganj	Sylhet	Boro
28	4405	Gopal Beri	Balaganj	Sylhet	Boro
29	4406	Pokkhi Sail	Balaganj	Sylhet	Boro
30	4511	Atshotti	Balaganj	Sylhet	Boro
31	4512	Gorchi	Jaintiapur	Sylhet	Boro
32	4513	Murali	Jaintiapur	Sylhet	Boro
33	4514	Maratona	Chhatak	Sunamganj	Boro
34	4515	Deshi Binni	Chhatak	Sunamganj	Boro
35	4516	Bachha Sail	Chhatak	Sunamganj	Boro
36	4517	Bitla	Sunamganj Sadar	Sunamganj	Boro
37	4518	Basail	Sunamganj Sadar	Sunamganj	Boro
38	4519	Begun Bitchi	Sunamganj Sadar	Sunamganj	Boro
39	4520	Biroin	Sunamganj Sadar	Sunamganj	Boro
40	4521	Jagli Boro	Sunamganj Sadar	Sunamganj	Boro
41	4523	Ayenamiah	Sunamganj Sadar	Sunamganj	Boro
42	4524	Rata	Sunamganj Sadar	Sunamganj	Boro

Sl. No.	Acc. No.	Name	Upazila	District/Country	Season
43	4525	Gochi Boro	Sunamganj Sadar	Sunamganj	Boro
44	4526	Tepi Boro	Sunamganj Sadar	Sunamganj	Boro
45	4527	Shaihimala	Gazipur Sadar	Gazipur	Boro
46	4528	Malairri	Gazipur Sadar	Gazipur	Boro
47	4530	Rangila TCPI	Baniachong	Habiganj	Boro
48	4531	Thakur Sail	Baniachong	Habiganj	Boro
49	4532	Goya Sail	Baniachong	Habiganj	Boro
50	4533	Lal Dinga	Ajmiriganj	Habiganj	Boro
51	4535	Chengri Boro	Bahubal	Habiganj	Boro
52	4537	Banshful	Bahubal	Habiganj	Boro
53	4539	Khoia Boro	Habiganj Sadar	Habiganj	Boro
54	4540	Kaliajira	Chhatak	Sunamganj	Boro
55	4542	Achhan	Tahirpur	Sunamganj	Boro
56	4543	Bheda Biroin	Derai	Sunamganj	Boro

Results and discussion

Tables 10, 11 and 12 showed the details results of characterization for eight important parameters. In T. Aus 2022-23, among the 26 germplasm accessions, one germplasm had short (<135days) and the rest 25 had medium (135-150 days) growth duration (Table 10). Eleven germplasm were found with short (<110 cm), 12 medium (110-130 cm) and three with long (>130 cm) plant height. In case of panicle length (cm), one both had short (≤ 20) and extra long (>30), 12 germplasm had medium (21-25) and 12 had long (26-30) panicles. For 1000-grain weight (TGW), two germplasm had low (16-19 g), five had medium (20-23 g), six had high (24-27 g) and 13 had very high (>27 g) grain weights. For yield, one germplasm had low (<5 g), six had medium (5-10 g) and 19 germplasm had higher (>10 g) yield per hill. The shortest growth duration (129 days) was observed in Mangthang. The shortest plant height (82.5 cm) was observed in Charurik and the longest (140.6 cm) in Mymensingh. Binni Dhan had the lowest (15.0 g) and Lal Binni had the highest (41 g) TGW. The highest yield per hill (26.53 g) was observed in Kokru.

In T. Aman 2022-23, all 50 NC germplasm were characterized. Among them, 12 had short (≤ 135 days), 35 had medium (136-142days) and three had long (≥ 149 days) growth duration (Table 11). In case of plant height (cm), 15 germplasm were found with short (≤ 93), 15 were medium (94-114) and 20 with long (≥ 135) height. For panicle length (cm), 15 germplasm had short (≤ 23), 34 had medium (24-28) and one had long (≥ 33) panicles. Similarly for TGW (g), 20 germplasm had low (≤ 23), 29 had moderate (24-32) and one with very high (≥ 41) grain weights. Twenty-four germplasm had low (≤ 13 g), 23 had medium (14-23 g) and three possessed high yields (≥ 33 g) per hill. Besides, IR10M210, IR99107-B-B-B-B-27, IR16A3524 had the longest (149 days) growth duration and IR11N202 had the lowest (128 days) growth duration. IR98430-B-B-B-B-11 was found with shortest (73.40 cm) and Chini Gura was with the highest (134.80 cm) plant height. The lowest effective tiller percent (82.50) was observed in Kjallail and the highest (98.70) in Khoiadhan. The longest panicle length (31.40 cm) was observed in Chini Gura and the shortest (19.80 cm) in Hori dhan. Shakkor Khana had the lowest (14.00 g) and Khoiadhan had the highest (40.82 g) TGW. Goti Swarna dhan had the lowest (3.15 g) and Shakkor Khana possessed the highest (32.03 g) yield per hill.

In Boro 2022-23, among the 56 germplasm accessions, 18 had medium (135-145 days) and 38 had long (>145) growth duration (Table 12). Similarly, 30 germplasm were found with short (<110 cm), 24 medium (110-130 cm) and two with long (130) plant height. In case of panicle length, 16 germplasm had short (<20 cm), 33 had medium (20-25 cm) and seven germplasm had long (26-30 cm) panicle. Again, 28 germplasm possessed intermediate (<10) and rest 28 had high (10-15) number of tillers per hill. For TGW, four had very low (<15 g), 22 had medium (15-19 g) and six had high (24-27g) grain weights. Five germplasm possessed moderate (5-10 g/hill) and 51 had higher (>10 g/hill) grain yield. The shortest growth duration (142 days) was observed in Murali (Acc. 4513) and in Bitla (Acc. 4517). The shortest plant height (67 cm) was observed in Malairri (Acc. 4528) and the longest (135 cm) in Kaliajira (Acc. 4540). Chengash (Acc. 4393) had the lowest (11.0 g) and Ayenamiah had the highest (27.0 g) TGW. The highest yield per hill was observed in Ratna Boro (Acc. 4388).

Table 10. Some important features of characterized germplasm in T. Aus 2022-23.

Growth duration (day)		Plant height (cm)		Panicle length (cm)		No. of tiller		No. of effective tiller		Grain LB ratio		TGW		Yield/hill (g)	
Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries
<135	1	<110	11	≤20	1	<10	26	<6	11	<1.1	0	≤15	0	<5	1
135-150	25	110-130	12	21-25	12	10-15	0	6-10	15	1.1-2.0	7	16-19	2	5-10	6
>150	0	>130	3	26-30	12	>15	0	>10	0	2.1-3.0	15	20-23	5	>10	19
				>30	1					>3.0	4	24-27	6		
												>27	13		
Shortest (129)	Mangthang (NC(3)-610)	Shortest (82.6)	Charurik (NC(2)-609)	Shortest (18.9)	Abdulla Dhan (NC(05)-656)	Lowest (4)	Mangthang (NC(3)-610)	Lowest (4)	Mangthang (NC(3)-610)	Lowest (1.5)	Binni Dhan (NC(11)-618)	Lowest (15)	Binni Dhan (NC(8)-615)	Lowest (4.26)	Binni Dhan (NC(8)-615)
Longest (147)	Chewma (NC(1)-608)	Longest (140.6)	Mymensingh (NC(5)-612)	Longest (32)	Mymensingh (NC(5)-612)	Highest (9)	Ponkhiraj (NC(13)-664)	Highest (9)	Ponkhiraj (NC(13)-664)	Highest (3.1)	Checheo Kali Ita	Highest (41)	Lal Binni	Highest (26.53)	Kokru
Mean	143		111.81		25.64		6		6		2.4		26.25		13.28
S. Dev.	3.79		13.68		3.10		0.97		0.93		0.5		5.48		6.40
CV	2.65		12.24		12.09		15.42		15.93		20.4		20.86		48.21
LSD	1		5		1		0		0		0.2		2		2

Table 11. Some important features of characterized germplasm in T. Aman 2022-23.

Growth duration (day)		Days to 50% flowering		Plant height (cm)		Panicle length (cm)		Effective tiller (%)		Filled grain/panicle		1000-grain weight (g)		Yield/hill (g)	
Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries
≤135	12	≤104	4	≤93	15	≤23	15	≤87	6	≤87	23	≤23	20	≤13	24
136-142	35	105-109	20	94-114	15	24-28	34	88-93	35	88-118	25	24-32	29	14-23	23
≥149	3	≥113	26	≥135	20	≥33	1	≥99	9	≥149	2	≥41	1	≥33	3
Shortest (128)	IR11N202 (NC-790)	Shortest (100)	IR11N202 (NC-790)	Shortest (73.40)	IR98430-B-B-B-11 (NC-788)	Shortest (19.80)	Hori dhan (NC-655)	Lowest (82.50)	Kjallail (NC-659)	Lowest (56.40)	Hori dhan (NC-655)	Lowest (14.00)	Shakkor Khana (NC-646)	Lowest (3.15)	Guti Swarna dhan (NC-667)
Longest (149)	IR10M210, IR99107-B-B-B-B-27, IR16A3524 (NC-791, 793, 794)	Longest (113)	Guti Swarna dhan (NC-667)	Longest (134.80)	Chini Gura (NC-631)	Longest (31.40)	Chini Gura (NC-631)	Highest (98.70)	Khoiadhan (NC-635)	Highest (147.10)	Shakkor Khana (NC-646)	Highest (32.02)	Khoia dhan (NC-635)	Highest (32.03)	Shakkor Khana (NC-644)
Mean	137.36		108.28		104.20		24.33		90.58		88.71		27.61		14.46
S. Dev.	4.08		3.25		17.97		2.05		3.61		18.78		7.39		5.95
CV	2.97		3.00		17.25		8.43		3.98		21.17		26.76		41.17
LSD	1.13		0.90		4.98		0.57		1.00		5.21		2.05		1.65
SE	0.58		0.46		2.54		0.29		0.51		2.66		1.04		0.84

Table 12. Some important features of characterized germplasm in Boro 2022-23.

Growth duration (day)		Plant height (cm)		Panicle length (cm)		No. of tiller/hill		Days to 50% flowering		Grain Length BreadthRatio		1000-grain weight (g)		Yield/hill (g)	
Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries	Range	No. of entries
<135	0	<110	30	<20	16	<10	28	<116	3	>3.0	12	<15	4	<5	0
135-145	18	110-130	24	20-25	33	10-15	28	116-120	47	2.1-3.0	44	15-19	22	5-10	5
>145	38	>130	2	26-30	7	>15	0	>120	6	1.1-2.0	0	20-23	24	>10	51
				>30	0					<1.1	0	24-27	6		
												>27	0		
Shortest (142)	Murali, Bitla (Acc. 4513, Acc. 4517)	Shortest (67)	Malairri (Acc. 4528)	Shortest (16.8)	Baurash, Thakur Sail (Acc. 4392, Acc. 4531)	Lowest (5)	Gorchi Sail (Acc.4381)	Lowest (115)	Murali, Bitla, Begun Bitchi (Acc.4513, Acc. 4517, Acc. 4519)	Lowest (2.02)	Chenger Boro (Acc.4389)	Lowest (11)	Chengash (Acc.4393)	Lowest (9.08)	Dhola Boro (Acc.4396)
Longest (152)	Chenger Muri (Acc. 4402)	Longest (135)	Kaliajira (Acc.4540)	Longest (28.8)	Baurash (Acc.4385)	Highest (11)	Maratona (Acc. 4514)	Highest (124)	Chenger Muri (Acc.4402)	Highest (4.60)	Shaihimala (Acc. 4527)	Highest (27)	Ayenamiah (Acc. 4523)	Highest (28.42)	Ratna Boro (Acc.4388)
Mean	147		105		21.65		9.00		118.48		2.85		19.61		17.12
Std. Dev.	2.08		16.43		3.01		1.41		2.02		0.50		3.40		5.22
CV	1.42		15.62		13.90		15.71		1.70		17.45		17.33		30.47
LSD	0.54		4.30		0.79		0.37		0.53		0.13		0.89		1.37

Experiment No. 1.5 Rice germplasm supply and exchange

Principal Investigator (PI): Dr. Mir Sharf Uddin Ahmed and Dr. Md Alamgir Hossain

Co-Investigator (CI): Dr. Mir Sharf Uddin Ahmed, Dr. ESM Harunur Rashid, Md. Humayun Kabir Baktiar and Dr. Armin Bhuiya

Specific objective

To supply rice germplasm to different researchers at home and abroad as per their demand and to exchange germplasm (if possible) with national/international organization(s)

Materials and method

Prescribed 'Form' of GRSD, BIRRI at BIRRI web site is needed to fill along with the required demand of different BIRRI germplasm accessions and BIRRI varieties by the individual researcher/organization for receiving seed.

Results and discussion

In total, 2,778 samples of rice germplasm as well as BIRRI developed rice varieties of Aus, Aman and Boro seasons were supplied to 48 recipients as per their demand in the reporting year (Table 13). Among them, 2,590 germplasm accessions were supplied to 35 users for research purpose from BIRRI Rice Genebank and 188 samples of BIRRI developed rice varieties were supplied to the researchers, Department of Agricultural Extension (DAE) personnel and University students for research, demonstration as well as other purposes. Here, it needs to mention that 92 germplasm were supplied to Plant Breeding Division, BIRRI for hybridization of PQR varietal development program and 6 germplasm were supplied to Biotechnology Division, BIRRI for development of long slender and aromatic rice development program.

Table 13. Supply of germplasm/samples supplied during 2022-23.

Recipient	Number of recipient	No. of varieties/samples supplied	Type
Researcher	35	2,590	Germplasm
	09	76	BIRRI variety
DAE person	01	94	BIRRI variety
Student	03	18	BIRRI variety
Total	48	2,778	

Project 02: Seed Production and Variety Maintenance

Project Leader: Dr. Mir Sharf Uddin Ahmed and Dr. Md Alamgir Hossain

General Objectives

1. To maintain the nucleus seed stock of BRRRI developed and recommended rice varieties.
2. To produce and supply of breeder seed as per national demand.

Expected Output

1. Varietal purity (both genetic and physical) would be maintained.
2. Breeder seed would be supplied to GO and Private Sector (PS) seed producing organizations.
3. Limited quantity of quality seed would be supplied to other divisions/ Regional stations of BRRRI and farmers directly or through DAE personnel for experimental/exhibition purpose.

Experiment No. 2.1 Maintenance of BRRRI released and recommended varieties

For BRRRI developed MV's, Principal Investigator: Dr. ESM Harunur Rashid (T. Aman) and Dr. Mir Sharf Uddin Ahmed (Boro)

Co Investigator: Dr. ESM Harunur Rashid, Dr. Md Humayun Kabir Baktiar, Tonmoy Chakrabarty, Nashirum Monir and Dr. Mir Sharf Uddin Ahmed

For BRRRI recommended LIV's, Principal Investigator: Tonmoy Chakrabarty (T. Aman), Dr. ESM Harunur Rashid (Boro) and Dr. Armin Bhuiya (T. Aus)

Co Investigator: Dr. Md Humayun Kabir Baktiar, Dr. ESM Harunur Rashid, Nashirum Monir, Md. Ashiqur Rahman and Dr. Mir Sharf Uddin Ahmed

Specific objective

To maintain genetic purity and homogeneity against morphological characteristics of BRRRI developed MV's (Modern Varieties) and BRRRI recommended LIV's (Locally Improved Varieties) of rice as nucleus seed for ensuring varietal purity.

Materials and methods

One hundred nineteen rice varieties of which 64 in T. Aman 2022-23 and 55 in Boro 2022-23 seasons were grown to maintain the varieties (Table 14 and Fig 1). 'Panicle to row' method was used for producing nucleus seed and maintaining variety. For this, intact single panicles were directly sown in the individual rows in the seedbed.

Before sowing, panicles were wrapped with papers and were treated with carbendazim group fungicide @ 3g/L of water/kg of seed for 12 hours. During transplanting, seedlings from a single panicle were transplanted into a single line in the main field for maintaining varieties. All the varieties were transplanted following 20 × 20 cm spacing in T. Aman and Boro seasons with single seedling per hill. The unit plot size was 5.4 × 10 rows. Fertilizers were applied @ 80:15:60 kg NPK/ha in T. Aman and @ 140:20:80 kg NPK/ha in Boro seasons. All P, K and 80 kg Gypsum per ha were applied at the time of final land preparation. All protection measures were carefully taken against diseases, insect pests infestation and weed from sowing to harvesting. Urea was applied as top dress in two-three splits usually 7-10 days after transplanting, 20-30 days after transplanting and 40-50 days after transplanting or 5-7 days before PI (Panicle initiation) depending on the crop conditions and growth duration.

In this method, roguing was done as and when necessary. All insect and disease infested plants along with the flowers and seeds of all obnoxious weeds were removed from the plot before harvest. Individual row was carefully observed throughout the growing season for varietal characteristics. If off-type plants were identified in a row then the whole row was discarded or rogued out for varietal purity at every growth stages of the crop.

At maturity, required number of healthy panicles, representing a typical variety was further selected and checked individually for panicle and grain characteristics. Finally, individual panicle from out-side from

border lines of the plot and true to type plant was harvested along with some part of its leaf sheath. Then intact panicles of all the varieties were kept separately along with proper labels for producing nucleus seed in the following year for variety maintenance.

Table 14. List of BRRI developed and recommended varieties maintained during 2022-23.

Season	Type	Number	Variety
T. Aman	MV	54	BR4, BR5, BR10, BR11, BR21, BR22, BR23, BR24, BR25, BRRI dhan27, BRRI dhan30, BRRI dhan31, BRRI dhan32, BRRI dhan33, BRRI dhan34, BRRI dhan37, BRRI dhan38, BRRI dhan39, BRRI dhan40, BRRI dhan41, BRRI dhan42, BRRI dhan43, BRRI dhan44, BRRI dhan46, BRRI dhan48, BRRI dhan49, BRRI dhan51, BRRI dhan52, BRRI dhan53, BRRI dhan54, BRRI dhan56, BRRI dhan57, BRRI dhan62, BRRI dhan66, BRRI dhan70, BRRI dhan71, BRRI dhan72, BRRI dhan73, BRRI dhan75, BRRI dhan76, BRRI dhan77, BRRI dhan78, BRRI dhan79, BRRI dhan80, BRRI dhan82, BRRI dhan83, BRRI dhan85, BRRI dhan87, BRRI dhan90, BRRI dhan91, BRRI dhan93, BRRI dhan94, BRRI dhan95, BRRI dhan98
	LIV	10	Nizersail, Latisail, Rajasail, Kalijira, Kataribhog, Basmati-D, Patnai23, Tilockkachari, DA29, DA31
Boro	MV	47	BR1, BR2, BR3, BR6, BR7, BR8, BR9, BR12, BR14, BR15, BR16, BR17, BR18, BR19, BR26, BRRI dhan28, BRRI dhan29, BRRI dhan35, BRRI dhan36, BRRI dhan45, BRRI dhan47, BRRI dhan50, BRRI dhan55, BRRI dhan58, BRRI dhan59, BRRI dhan60, BRRI dhan61, BRRI dhan63, BRRI dhan64, BRRI dhan65, BRRI dhan67, BRRI dhan68, BRRI dhan69, BRRI dhan74, BRRI dhan81, BRRI dhan84, BRRI dhan86, BRRI dhan88, BRRI dhan89, BRRI dhan92, BRRI dhan96, BRRI dhan97, BRRI dhan98, BRRI dhan99, Bangabandhu dhan100, BRRI dhan101, BRRI dhan102
	LIV	8	Hbj Boro II, Hbj Boro IV, Hbj Boro VI, Hbj Boro VIII, Purbachi, IR8, IR20, IR64
Total		119	



Fig. 1. Pictorial view of variety maintenance and nucleus seed production at West Baid, BARRI HQ in Boro 2022-23 season.

Results and discussion

At maturity, required number (at least 100 panicles) of healthy, diseases and insect infestation free, typical and true to type intact panicles from each variety were separately selected, harvested, dried, processed and stored in controlled temperature (20°C with 40% RH) as nucleus seed stock for next cycle of variety maintenance.

Experiment No. 2.2 Breeder seed production and distribution

Principal Investigator: At HQ, Dr. Md. Adil Badshah and Dr. Mir Sharf Uddin Ahmed (T. Aman) and Dr. ESM Harunur Rashid (Boro), Dr. Armin Bhuiya (for sending SMS) and At R/S, All Heads of respective R/S

Co Investigator: Dr. Mir Sharf Uddin Ahmed, Dr. Md. Adil Badshah, Dr. ESM Harunur Rashid, Dr. Md. Abubakar Siddique, Dr. Armin Bhuiya, Dr. Md Humayun Kabir Baktira, Tonmoy Chakrabarty, Nashirum Monir, Md. Ashiqur Rahman and Dr. Md Alamgir Hossain

Specific objective

- i. To produce and supply of breeder seed (BS) of BRRI developed rice varieties as per indent of GO and PS seed producing organizations/companies/entrepreneurs to fulfill the national demand.
- ii. To simplify the breeder seed delivery service by sending SMS.

Materials and methods

A total of 71 varieties of which 45 in T. Aman 2022-23 and 26 in Boro 2022-23 seasons were grown in ‘panicle to row’ method. All varieties were sown from stored nucleus seed stock as intact panicles (produced in GRSD, BRRI, Gazipur), but using ‘panicle to row method’ in GRSD, BRRI, Gazipur and using ‘broadcast method’ in Farm division, BRRI, Gazipur as well as all BRRI regional stations. Before sowing, seeds were treated with carbendazim fungicides @ 3g/L of water/kg of seed for 12 hours. Each variety was transplanted using single seedling per hill. Isolation distance was properly maintained through at least 21 days gap between the flowering times within 3 meters of two adjacent different rice varieties. Cultural practices and Fertilizers were applied as per recommendation mentioned in Fact Sheet of BRRI of that variety.

Rouging was done at different stages with proper record keeping. At seedling stage, if off-type plants *viz.* plants outside the row, plants with different height and plants with different colour and shape from varietal standard (true to the type) were identified in a row then the whole row was discarded or rogued out at GRSD, BRRI, Gazipur. At maximum tillering stage, if off-type plants *viz.* plants with different leaf colour, shape and angle, plants with different height and plants with different leaf sheath colour were identified in a row then the whole row was also discarded or rogued out. At flowering stage, if off-type plants *viz.* grain with different size, shape and colour from the standard (true to the grain type of the produced variety) were identified in a row then the whole row was also discarded or rogued out. Finally, intact panicles from out-side from border lines of the plot and from true to type standard plants of individual variety were selected and harvested along with some part of its leaf sheath for maintaining ‘nucleus seed stock’. After harvest, the intact panicles of all the varieties were processed and dried separately. Then the ‘intact panicles’ of each variety were kept separately in control temperature (20°C with 50% RH) at GRSD, BRRI, Gazipur along with proper labels as ‘nucleus seed’ for the source of breeder seed. All breeder seed of BRRI, Gazipur and as well as of all BRRI regional stations will be produced from these stored ‘nucleus seed stock’ in the following year. Then the rest of the plots were mass harvested as ‘breeder seed’ after getting ‘field certificate’ from Seed Certification Agency (SCA). After mass harvest and processing, all the produced breeder seed at all BRRI regional stations were transported to GRSD, BRRI, Gazipur. The breeder seed of all varieties were dried, cleaned separately and after processing, stored as ‘breeder seed’ in 10 and 40 kg gunny bag in the seed store with controlled temperature (20°C with 50% RH) at BRRI, Gazipur. Under this condition, the seeds remain viable till the distribution of breeder seed in the next respective season. Therefore, before the distribution of breeder seed in the next T. Aman, Boro and Aus seasons, the respective harvested seeds were offered as ‘seed lot’ for getting the ‘laboratory certificate’ along with green ‘breeder seed tag’ from SCA, if qualified for the ‘field and seed standard’ as set by the NSB (National Seed Board). However, it should be mentioned here that in the first season the breeder seeds were produced in the fields (say T. Aman 2022-23 and Boro 2022-23) and in the second season (It will be for T. Aman 2023-24 and Boro 2023-24) after getting tag from SCA, the stored seeds were distributed among the BRRI Rice Seed Network clients and the rest (if available) to others.

On the other hand, breeder seed production programmes were finalized and approved in Breeder seed Co-ordination meeting of GRSD with the presences of Honorable Director General BRRI, Director (Administration and Common Service) BRRI, Director (Research) BRRI, CASR BRRI, Head Plant Breeding, Farm Management, Farm Machinery and Post Harvest Management, Agronomy, Plant Physiology etc. divisions and all heads of BRRI R/S before T. Aman and Boro seasons. The programmes were prepared as per the variety-wise National target including BADC set by National Seed Promotion Committee (SPC) of MoA and the variety-wise demands from the applications of breeder seed Network clients.

For distributing breeder seed, all the foundation seed producing seed dealers of BRRI ‘Rice Seed Network’ were first requested to submit their application for receiving breeder seed from BRRI. After approval of the season wise list of allocated breeder seed by the BRRI Authority, allotted breeder seed to different clients of SeedNet were downloaded in BRRI Official website before each season. Then, text messages (SMS) were sent through mobile apps to each client of SeedNet before each season before each season. This message contained the information about the name of the variety(ies), allotted quantity(ies) of breeder seed and delivery date etc. as per authorization by BRRI Authority. For this, a division wise data sheet in Microsoft Office Excel according to the format of the text sending website was prepared. Text message (SMS) were sent through particular website to breeder seed client’s mobile.

Results and discussion

At maturity, required number of healthy, diseases and insect infestation free, typical and true to type intact panicles from each variety ranging from 500 to 50,000 (Table 15) from breeder seed production plots of GRSD, BRRI, Gazipur were separately selected, harvested, dried, processed and stored in controlled temperature (20°C with 40% RH) as ‘Nucleus Seed Stock’ for the next cycle of breeder seed production in BRRI, Gazipur as well as all breeder seed producing BRRI regional stations.

In total 273.86 tons of breeder seed of which 173.28 tons of 21 Boro varieties, 32.48 tons of nine Aus varieties and 68.1 tons of 36 T. Aman varieties were produced and BS tags were allotted from SCA during 2022-23 (Fig. 2 and Tables 16, 17, 19, 20, 21). Among them, 3.46 tons of breeder seed of which 2.05 tons of three T. Aman varieties and 1.41 tons of six Boro varieties were produced by Transforming Rice Breeding (TRB) projects during 2022-23 (Table 18).

For distributing breeder seed, text messages (SMS) were sent to 372, 34 and 211 partners of BRRI “Rice Seed Network” before Boro 2022-23, Aus 2022-23 and T. Aman 2023-24 seasons, respectively. In total 183.572 tons of breeder seed with tags of which 107.037 tons of 21 Boro varieties, 17.227 tons of seven Aus varieties and 59.308 tons of 36 T. Aman varieties were distributed with cash memo among 691, 62 and 321 partners (GO, NGO and PS), respectively of BRRI ‘Rice Seed Network’ (Tables 19, 20, 21 and Anexure 1, 3, 5). Again, a total of 85,164 kg seeds of which 62,032 kg of 18 Boro varieties, 14,191 kg of nine Aus varieties and 8,941 kg of 21 T. Aman varieties were distributed as free of cost to 868, 32 and 153 farmers and different users, respectively (Table 22, 23, 24 and Anexure 2, 4, 7). Besides, 1,381 kg TLS of 11 T. Aman varieties were distributed with cash memo to 78 farmers and different users for T. Aman 2022-23 season (Table 24 and Anexure 6).



Fig. 2. Pictorial view of BS production at West Baid, BRRI HQ in Boro 2022-23 season.

Table 15. List of Nucleus Seed Stock of T. Aman and Boro varieties maintained during 2022-23.

Sl no	During T. Aman 2022-23			During Boro 2022-23		
	Variety	Mass N/S (kg)	Panicle (Number)	Variety	Mass N/S (kg)	Panicle (Number)
1	BR10	20	2000	BR16		2500
2	BR11	30	4000	BR26	10	5000
3	BR22	30	1000	BRR1 dhan28	140	50000
4	BR23	30	1000	BRR1 dhan29	80	36000
5	BRR1 dhan30	10	1000	BRR1 dhan36	-	2000
6	BRR1 dhan32	10	1000	BRR1 dhan47	-	3000
7	BRR1 dhan33	10	1000	BRR1 dhan50	-	9000
8	BRR1 dhan34	50	2000	BRR1 dhan58	-	9000
9	BRR1 dhan39	10	1000	BRR1 dhan63	-	9000
10	BRR1 dhan41	10	500	BRR1 dhan65	-	1000
11	BRR1 dhan42	-	500	BRR1 dhan67	-	9000
12	BRR1 dhan43	-	500	BRR1 dhan74	-	23000
13	BRR1 dhan44	-	500	BRR1 dhan81	-	23000
14	BRR1 dhan46	-	1000	BRR1 dhan84	-	3000
15	BRR1 dhan48	50	2000	BRR1 dhan86	-	2000
16	BRR1 dhan49	100	6000	BRR1 dhan88	-	10000
17	BRR1 dhan51	20	3000	BRR1 dhan89	-	50000
18	BRR1 dhan52	40	3000	BRR1 dhan92	-	35000
19	BRR1 dhan56	10	1000	BRR1 dhan96	-	8000
20	BRR1 dhan57	-	1000	BRR1 dhan97	-	8000
21	BRR1 dhan62	10	2000	BRR1 dhan98	-	2000
22	BRR1 dhan66	-	1000	BRR1 dhan99	-	3000
23	BRR1 dhan70	10	1000	Bangabandhu dhan100	-	22000
24	BRR1 dhan71	20	2000	BRR1 dhan101	-	7000
25	BRR1 dhan72	30	5000	BRR1 dhan102	-	7000
26	BRR1 dhan73	-	2000	BRR1 dhan104	-	5000
27	BRR1 dhan75	40	2000			3,43,500
28	BRR1 dhan76	10	1000			
29	BRR1 dhan77	10	1000			
30	BRR1 dhan78	-	1000			
31	BRR1 dhan79	-	1000			
32	BRR1 dhan80	10	2000			
33	BRR1 dhan82	10	2000			
34	BRR1 dhan83	10	1500			
35	BRR1 dhan85	10	1000			
36	BRR1 dhan87	100	6000			
37	BRR1 dhan90	10	1000			
38	BRR1 dhan91	-	1000			
39	BRR1 dhan93	20	1000			
40	BRR1 dhan94	10	1000			
41	BRR1 dhan95	10	1000			
42	BRR1 dhan98	40	2000			
43	BRR1 dhan101	10	4000			
44	BRR1 dhan102	10	4000			
45	Nizersail	-	800			
			80,300			

Table 16. Station-wise production (in kg) of breeder seed (with tag) of Boro varieties in 2022-23.

Production of breeder seed (with tag) for Boro 2022-23 (grown in Boro 2021-22)													
Variety	GRS Division	Farm Division	BRR1 RS Rangpur	BRR1 RS Rajshahi	BRR1 RS Sirajganj	BRR1 RS Satkhira	BRR1 RS Gopalganj	BRR1 RS Barishal	BRR1 RS Comilla	BRR1 RS Sonagazi	BRR1 RS Habiganj	BRR1 RS Bhanga	Total
BR16	480												480
BR26	300							1760					2060
BRR1 dhan28	60					8300		7000	2720	1620	8280		27980
BRR1 dhan29	480							4660	1710	4160	3120	4920	19050
BRR1 dhan36	60												60
BRR1 dhan47	150							840					990

Production of breeder seed (with tag) for Boro 2022-23 (grown in Boro 2021-22)													
Variety	GRS Division	Farm Division	BRRRI RS Rangpur	BRRRI RS Rajshahi	BRRRI RS Sirajganj	BRRRI RS Satkhira	BRRRI RS Gopalganj	BRRRI RS Barishal	BRRRI RS Comilla	BRRRI RS Sonagazi	BRRRI RS Habiganj	BRRRI RS Bhanga	Total
BRRRI dhan50	450					3600							4050
BRRRI dhan58	320								2720				3040
BRRRI dhan63	320												320
BRRRI dhan67	350					4320	1220	4730					10620
BRRRI dhan74	50		2040				1030	9830	4320				17270
BRRRI dhan81	1160			4250		2300							7710
BRRRI dhan84	2820			1460									4280
BRRRI dhan86	140												140
BRRRI dhan88	1120								4000				5120
BRRRI dhan89	1900		2460	4640	2320			3200	3680		6680	4530	29410
BRRRI dhan92	1400	2100						2340	4920	4360	3120	2460	20700
BRRRI dhan96	190								3400				3590
BRRRI dhan97	400									3000			3400
BRRRI dhan98	250	3480		1160				1350		7520			13760
BRRRI dhan99	210												210
Bangabandhu dhan100	2550	2020			1420				3000	1350	2600		12940
Total	15,160	7,600	4,500	11,510	3,740	18,520	2,250	35,710	30,470	22,010	23,800	11,910	187,180

Table 17. Station-wise production (in kg) of breeder seed (with tag) of T. Aman varieties in 2022-23.

Production of breeder seed (with tag) for T. Aman 2023-24 (grown in T. Aman 2022-23)													
Variety	GRS Division	Farm Division	BRRRI RS Rangpur	BRRRI RS Rajshahi	BRRRI RS Sirajganj	BRRRI RS Kushtia	BRRRI RS Satkhira	BRRRI RS Gopalganj	BRRRI RS Barishal	BRRRI RS Comilla	BRRRI RS Sonagazi	Total	
BR10	430							1840				2270	
BR11	340			4500								4840	
BR22	190									3530		3720	
BR23	170								3680			3850	
BRRRI dhan30	210	260										470	
BRRRI dhan32	200											200	
BRRRI dhan33	490											490	
BRRRI dhan34	250								2100		1700	4050	
BRRRI dhan39	350											350	
BRRRI dhan41	170											170	
BRRRI dhan42	60											60	
BRRRI dhan43	50											50	
BRRRI dhan44	40											40	
BRRRI dhan46	280											280	
BRRRI dhan48	250								8110		6430	14790	
BRRRI dhan49	800									3300	4520	8620	
BRRRI dhan51	640				2150						1600	4390	
BRRRI dhan52	250								3800			4050	
BRRRI dhan56	120											120	
BRRRI dhan57	80											80	
BRRRI dhan62	120											120	
BRRRI dhan65	140											140	
BRRRI dhan66	70											70	
BRRRI dhan70	50											50	
BRRRI dhan71	320											320	
BRRRI dhan72	2120											2120	
BRRRI dhan73	120											120	
BRRRI dhan75	140						4160					4300	
BRRRI dhan76	140								1160			1300	
BRRRI dhan77	10											10	
BRRRI dhan78	60											60	
BRRRI dhan79	30											30	
BRRRI dhan80	150											150	
BRRRI dhan82	100										1350	1450	
BRRRI dhan83	100					470						570	
BRRRI dhan85	20								1500			1520	
BRRRI dhan87	240			7040		1300		1840	1800			12220	

Production of breeder seed (with tag) for T. Aman 2023-24 (grown in T. Aman 2022-23)

Variety	GRS Division	Farm Division	BRRIS Rangpur	BRRIS Rajshahi	BRRIS Sirajganj	BRRIS Kushia	BRRIS Satkhira	BRRIS Gopalganj	BRRIS Barishal	BRRIS Comilla	BRRIS Sonagazi	Total
BRRIS dhan90	140				750							890
BRRIS dhan91	50											50
BRRIS dhan93	120		1810									1930
BRRIS dhan94	60									1720		1780
BRRIS dhan95	140		1840							2560		4540
Nizersail	50											50
Total	9,860	260	3,650	11,540	2,900	1,770	6,000	1,840	22,150	11,110	15,600	86,680

Table 18. Production of breeder seed under TRB projects of GRS Division during 2022-23.

Grown season	Production (with tag) season	Variety	Production (kg)	Status
Boro 21-22	Boro 22-23	BRRIS dhan89	1200	Distributed for Boro 2022-23
		BRRIS dhan92	650	
		BRRIS dhan97	200	
		Sub Total		2,050
T Aman 22-23	T Aman 22-23	BRRIS dhan33	250	Distributed for T Aman 2023-24
		BRRIS dhan49	200	
		BRRIS dhan51	500	
		BRRIS dhan52	100	
		BRRIS dhan71	180	
		BRRIS dhan87	180	
Sub Total		1,410	Grand total=3,460	

Table 19. Production and distribution of breeder seed of Boro varieties in 2022-23.

Variety	Production (with tag) (kg) of Boro 2021-22		Distribution (kg) for Boro 2022-23	
	Favourable variety	Stress tolerant variety	Favourable variety	Stress tolerant variety
BR16	480		510	
BR26	1920		1900	
BRRIS dhan28	27980		22882	
BRRIS dhan29	19050		19119	
BRRIS dhan36		60		50
BRRIS dhan47		990		80
BRRIS dhan50	4050		3854	
BRRIS dhan58	3040		3126	
BRRIS dhan63	320		330	
BRRIS dhan67		10620		2797
BRRIS dhan74	17270		11011	
BRRIS dhan81	7710		3470	
BRRIS dhan84	4280		980	
BRRIS dhan86	140		140	
BRRIS dhan88	5120		5013	
BRRIS dhan89	29410		16309	
BRRIS dhan92	20700		8667	
BRRIS dhan96	3590		700	
BRRIS dhan97		3400		360
BRRIS dhan99		210		210
Bangabandhu dhan100	12940		5529	
Total	158,000	15,280	103,540	3,497
Grand total	173,280		107,037	

Table 20. Production and distribution of breeder seed of Aus varieties in 2022-23.

Variety	Production (with tag) (kg) of Aus 2021-22		Distribution (kg) for Aus 2022-23	
	Favourable variety	Stress tolerant variety	Favourable variety	Stress tolerant variety
BR26	140		80	
BRRIS dhan42		60		
BRRIS dhan43		50		
BRRIS dhan48	14790		6928	
BRRIS dhan65	140		130	
BRRIS dhan82	1450		1400	
BRRIS dhan83		570		230
BRRIS dhan85		1520		163
BRRIS dhan98	13760		8296	
Total	30,280	2,200	16834	393
Grand total	32,480		17,227	

Table 21. Production and distribution of breeder seed of T. Aman varieties in 2022-23.

Variety	Production (with tag) (kg) of T. Aman 2022-23		Distribution (kg) for T. Aman 2023-24	
	Favourable variety	Stress tolerant variety	Favourable variety	Stress tolerant variety
BR10	2270		2200	
BR11	4840		4840	
BR22	3720		3480	
BR23	3850		3610	
BRRi dhan30	470		500	
BRRi dhan32	200		200	
BRRi dhan33	490		480	
BRRi dhan34	4050		4090	
BRRi dhan39	350		350	
BRRi dhan41		170		170
BRRi dhan44	40		40	
BRRi dhan46	280		280	
BRRi dhan49	8620		8720	
BRRi dhan51		4390		4510
BRRi dhan52		4050		4050
BRRi dhan56		120		110
BRRi dhan57		80		80
BRRi dhan62	120		70	
BRRi dhan66		70		40
BRRi dhan70	50		45	
BRRi dhan71		320		320
BRRi dhan72	2120		220	
BRRi dhan73		120		80
BRRi dhan75	4300		4330	
BRRi dhan76	1300		390	
BRRi dhan77	10		10	
BRRi dhan78		60		60
BRRi dhan79	30		30	
BRRi dhan80	150		100	
BRRi dhan87	12220		9173	
BRRi dhan90	890		900	
BRRi dhan91		50		50
BRRi dhan93	1930		1880	
BRRi dhan94	1780		1480	
BRRi dhan95	4540		2370	
Nizersail	50		50	
Total	58,670	9,430	49,838	9,470
Grand total		68,100		59,308

Table 22. Distribution of unsold breeder seed (in kg) as free of cost for Boro 2022-23 season.

Variety	Distribution for Boro 2022-23	
	Favourable variety	Stress tolerant variety
BR26	45	
BRRi dhan28	4,429	
BRRi dhan29	125	
BRRi dhan47	50	
BRRi dhan50	190	
BRRi dhan58	34	
BRRi dhan67		5,060
BRRi dhan74	6,545	
BRRi dhan81	2,856	
BRRi dhan84	2,525	
BRRi dhan86	50	
BRRi dhan88	377.5	
BRRi dhan89	13,928	
BRRi dhan92	13,448	
BRRi dhan96	3,113	
BRRi dhan97		2,100
BRRi dhan99		30.5
Bangabandhu dhan100	7,128	
Total	55,385.8	71,90.5
Grand total		62,032

Table 23. Distribution of unsold breeder seed (in kg) as free of cost for Aus 2022-23.

Variety	Distribution (kg) for Aus 2022-23	
	Favourable variety	Stress tolerant variety
BR26	03	
BRRi dhan42		03
BRRi dhan 43		03
BRRi dhan 48	7862	
BRRi dhan 65	03	
BRRi dhan 82	10	
BRRi dhan 83		340
BRRi dhan85		393
BRRi dhan98	5574	
Total	13452	739
Grand total	14,191	

Table 24. Collection of TLS (from BRRi regional stations) and distribution of TLS with cash memo and unsold seed (BS and TLS) as free of cost for T. Aman 2023-24.

Variety	Collection of TLS (kg) (from BRRi RS)	Distribution of TLS with cash (kg) (from collected TLS/ unsold BS)	Distribution of unsold seed as free of cost (kg) (from unsold BS/TLS)
BR10			101
BR23	1000		50
BRRi dhan34	3702	387	400
BRRi dhan49	300	66	193
BRRi dhan51	680	275	438
BRRi dhan56			16
BRRi dhan57			11
BRRi dhan70			16
BRRi dhan71			10
BRRi dhan72	20	20	1743
BRRi dhan73			10
BRRi dhan75			25
BRRi dhan79			03
BRRi dhan80	10	10	02
BRRi dhan87	155	155	2834
BRRi dhan90	550	120	408
BRRi dhan91			17
BRRi dhan93	300	01	197
BRRi dhan94	300	36	246
BRRi dhan95	116	116	2041
BRRi dhan103	425	195	180
Total	7,558	1,381	8,941

Experiment No. 2.3. Monitoring of breeder and foundation seed production farms**Principal Investigator:** Dr. Mir Sharf Uddin Ahmed, Md Adil Badshah and Dr. Md Alamgir Hossain**Co Investigator:** Dr. Mir Sharf Uddin Ahmed, Dr. Md. Adil Badshah, Dr. ESM Harunur Rashid, Dr. Armin Bhuiyan, Dr. Md Humayun Kabir Baktira, Tonmoy Chakrabarty, Nashirum Monir and Md. Ashiqur Rahman**Specific objectives**

To visit breeder seed (BS) and foundation seed (FS) production plots at flowering and maturity stages of seed producing stations and agencies to ensure the quality of the produced seed and to provide advises to the seed producing stations and agencies for improving the quality of the seed.

Materials and method

GO and private sector seed producing farms those who were BRRi SeedNet partners and received breeder seed from BRRi, supplied relevant information on foundation seed production (e.g. D/S, D/T, locations, variety etc.) in well ahead. Then the scientists of GRS Division made tour program(s) in appropriate time to observe the performances of breeder and foundation seed production.

Results and discussion

Breeder seed production plots of BRRI regional stations (RSs) at Rangpur, Rajshahi, Cumilla, Barishal, Sonagazi and Habiganj were visited to observe the varietal purity and performances of breeder seed (Fig. 3). no major insect-pest damage, varietal impurity (<1%) and no obnoxious weeds were observed. Isolation distances (ID) and crop conditions were satisfactory. Overall crop conditions and management were satisfactory. However, BRRI regional stations were advised to discard three meters borderlines from both the varieties, where 3-meters ID was not maintained. The seed producers were advised for thorough roguing by themselves for one more time before harvesting.



Fig. 3. BS plots of BRRI regional stations at Rangpur, Barishal and Sonagazi during T Aman 2022-23.

Again, FS production farms of Bangladesh Agricultural Development Corporation (BADC) at Bangladesh Agricultural University (BAU), Mymensingh and Christian Commission for Development in Bangladesh (CCDB) at Shivalay, Manikganj were visited to observe the varietal purity and performances of FS (Fig. 4). During the visit, no major insect-pest damage, varietal impurity (<1%) and no obnoxious weeds were observed. Overall crop conditions and management were satisfactory. Isolation distances and crop conditions were satisfactory. However, FS producers were advised to discard three meters borderlines from both the varieties, where not maintained. The seed producers were also advised for thorough roguing by themselves for one more time before harvesting.



Fig. 4. FS plot of BADC at BAU, Mymensingh and Christian Commission for Development in Bangladesh (CCDB) at Shivalay, Manikganj during 2022-23.

Project 03: Exploratory and Genetic Studies

Program Leader: Dr. ESM Harunur Rashid

General Objectives

To conduct genetic studies of rice germplasm

Expected Output

The genetic parameters/genetic studies of respective year would be helpful for varietal development and other plant breeding related issues.

Experiment no. 3.1 Regional Yield Trial (RYT) of Balam rice germplasm

Principal Investigator (PI): Dr. Mir Sharf Uddin Ahmed

Co-Investigator (CI): Dr. ESM Harunur Rashid and Dr. Mohammad Khalequzzaman

Specific objectives

To confirm the yield potentiality of the popular rice germplasm of southern region (Balam, acc. 516) of Bangladesh by comparing with standard check variety.

Materials and methods

Balam (acc. 516) along with BRRI dhan80 as standard check variety were evaluated as Regional Yield Trial (RYT) at BRRI HQ, Gazipur and BRRI regional station, Barishal during T. Aman 2022-23. The unit plot size was 5.4 m x 12 rows. Head to row method was used for sowing and transplanting of seedlings. Thirty-day-old single seedlings having spacing of 20 × 20 cm between rows and plants, respectively, were transplanted in RCB design with three replications. The seedlings from an intact single panicle were transplanted into a single row. Fertilizers were applied @ 60:20:40:12 kg NPKS/ha. Appropriate control measures were taken for insect pests, diseases and weeds when necessary. Data on panicle length (cm), plant height (cm), days to flowering and maturity, 1000-grain weight (g), yield per hill (g) and yield per plot (g) were recorded.

Results and discussion

The plant height of Balam rice germplasm (acc. 516) was 133.20 cm and days to flowering was 84 days due to late transplanting. The 1000-grain weight of Balam rice germplasm was 14.77 g. The yield of Balam rice germplasm (Fig. 5) was 3138.8 g per plot in BRRI HQ, which was equivalent to 5.23 ton/ha. Finally, Balam, acc. 516 will be more purified at BRRI HQ, Gazipur in T. Aman 2023-24 season before conducting any advance yield trials.



Fig. 5. Pictorial views of brown rice and dehusked grains of Balam (Acc. no. 516) germplasm.

Experiment no. 3.2 Regional Yield Trial (SYT) of Sada Mota rice germplasm of southern region.

Principal Investigator (PI): Dr. Mir Sharf Uddin Ahmed

Co-Investigator (CI): Dr. ESM Harunur Rashid and Dr. Mohammad Khalequzzaman

Specific objectives

To confirm the yield potentiality of the popular rice germplasm of southern region (Sada Mota) of Bangladesh by comparing with standard check variety.

Materials and methods

Sada Mota (acc. 7888) along with BRRI dhan77 as standard check variety were evaluated as Regional Yield Trial (RYT) at BRRI HQ, Gazipur and BRRI regional station, Barishal during T. Aman 2022-23. The unit plot size was 5.4 m x 12 rows. Head to row method was used for sowing and transplanting of seedlings. Thirty-day-old single seedlings having spacing of 20 × 20 cm between rows and plants, respectively, were transplanted in RCB design with three replications. The seedlings from an intact single panicle were transplanted into a single row. Fertilizers were applied @ 60:20:40:12 kg NPKS/ha. Appropriate control measures were taken for insect pests, diseases and weeds when necessary. Data on panicle length (cm), plant height (cm), days to flowering and maturity, 1000-grain weight (g), yield per hill (g) and yield per plot (g) were recorded.

Results and discussion

The plant height of Sada Mota rice germplasm (acc. 7888) was 126.2 cm and days to flowering was 84 days due to late transplanting. The 1000-grain weight of Sada Mota rice germplasm was 32.66 g. The yield of Sada Mota rice germplasm (Fig. 6) was 2258.8 g per plot in BRRI HQ, which was equivalent to 3.76 ton/ha. Finally, Sada Mota, acc. 7888 will be more purified at BRRI HQ, Gazipur in T. Aman 2023-24 before conducting any advance yield trials.

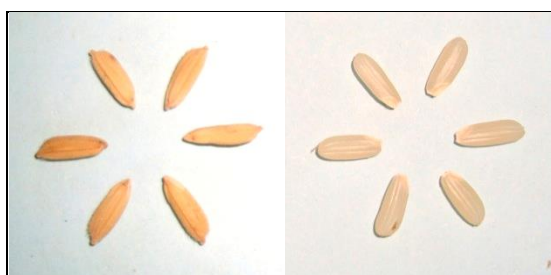


Fig. 6. Pictorial views of brown rice and dehusked grains of Sada Mota (Acc. no. 7888).

Experiment no. 3.3 DNA finger printing of Binni rice germplasm

Principal Investigator (PI): Dr. Armin Bhuiya

Co-Investigator (CI): Dr. Mir Sharf Uddin Ahmed and Dr. Mohammad Khalequzzaman

Specific objectives

To characterize the rice germplasm through molecular tools (DNA Fingerprinting).

Materials and methods

Plant materials

Eighty Binni rice germplasm (Table 25) were studied using 78 SSR markers from all 12 chromosomes. Among the 78 primers, three primers (RM273, RM223 and RM282) were used for evaluating aroma and four primers (RM170, RM190, RM253 and RM314) were used for evaluating amylose. Five grams germinated seeds from each of the entry were sown in the earthen pots.

Table 25. List of 80 Binni rice germplasm characterized using 78 SSR markers.

Sl. No.	Acc. No.	Name	Upazila	District	Season
1	204	Kaisha Binni	Fulbasia	Mymensingh	T. Aman
2	205	Kaisha Binni	Trashal	Mymensingh	T. Aman
3	206	Kaisha Binni	Kotwali	Mymensingh	T. Aman
4	207	Kaisha Binni	Fulbasia	Mymensingh	T. Aman
5	208	Koha Binni	Trashal	Mymensingh	T. Aman
6	209	Lal Binni	Muktagacha	Mymensingh	T. Aman

Sl. No.	Acc. No.	Name	Upazila	District	Season
7	210	Lal Binni	Kotwali	Mymensingh	T. Aman
8	236	Kala Binni	Muktagacha	Mymensingh	T. Aman
9	1874	Kaika Binni	Kishorgonj	Kishorganj	T. Aman
10	1974	Sail Binni	Tamalpur	Mymansingh	T. Aman
11	1987	Netha Binni	Sribordi	Mymansingh	T. Aman
12	4473	Aguinya Binni	Haluaghat	Mymensingh	T. Aman
13	4474	Kuichcha Binni	Haluaghat	Mymensingh	T. Aman
14	4475	Pura Binni	Haluaghat	Mymensingh	T. Aman
15	4476	Garo Binni	Jhenaigati	Sherpur	T. Aman
16	4477	Binni	Jhenaigati	Sherpur	T. Aman
17	4478	Leda Binni	Jhenaigati	Sherpur	T. Aman
18	4479	Binni	Burgapur	Netrokona	T. Aman
19	4480	Kakoiya Binni	Burgapur	Netrokona	T. Aman
20	4481	Chandan Binni	Burgapur	Netrokona	T. Aman
21	4482	Dudhmethi	Burgapur	Netrokona	T. Aman
22	4483	Atha Binni	Madhupur	Tangail	T. Aman
23	4484	Atha Binni	Jhenaigati	Sherpur	T. Aman
24	4485	Gouhati Binni	Nalitabari	Sherpur	T. Aman
25	4486	Nedra Binni	Nalitabari	Sherpur	T. Aman
26	4487	Ranga Binni	Jhenaigati	Sherpur	T. Aman
27	4700	Sona Binni	Sunamganjsadar	Sunamgonj	B. Aman
28	4701	Kaisa Binni	Purbadhola	Netrokona	T. Aman
29	4705	Nethabinni	Nalitabari	Sherpur	T. Aman
30	4707	Binni	Durgapur	Netrokona	T. Aman
31	4720	Kaisa Binni	Modhupur	Tangail	T. Aman
32	4726	Sada Binni	Nalitabari	Sherpur	T. Aman
33	4727	Lata Binni	Nalitabari	Sherpur	T. Aman
34	5032	Panga Binni	Natia Bari	Sherpur	T. Aman
35	5954	Chysa Binni	Kapasias	Gazipur	T. Aman
36	7074	Chidira Binni	Dursore	Khagrachori	T. Aman
37	7253	Binnidhan/ Chingnu	Sadar	Bandarban	Jhum
38	7258	Kala Binni	Sadar	Bandarban	Jhum
39	7261	Kutkutta Binni	Durcuri	Khagrachhari	Jhum
40	7268	Horin Binni	Sadar	Khagrachhari	Jhum
41	7276	Ranga Binni	Durcuri Sadar	Khagrachhari	B. Aman
42	7487	Binni (Red)	Sadar	Bandarban	Jhum
43	7488	Binni	Sadar	Bandarban	Jhum
44	7489	Binni (Black)	Sadar	Bandarban	Jhum
45	7493	Horina Binni	Sadar	Bandarban	Jhum
46	7666	Ayla Binni	Sadar	Habigonj	Boro
47	7691	Lal Binni	Baghaichhari	Rangamati	Jhum
48	7693	Ranga Binni	Baghaichhari	Rangamati	Jhum
49	7730	Binni Sada	Ramgarh	Khagrachhari	Jhum/Aus
50	7738	Kangiri Binni Dhan	Matiranga	Khagrachhari	Jhum
51	7746	Sada Binni	Panchhari	Khagrachhari	Jhum
52	7747	Patri Dhan	Panchhari	Khagrachhari	Jhum
53	7767	Binni Langmeno	Rowangchhari	Bandarban	Jhum/Aus
54	7768	Bak Binni	Rowangchhari	Bandarban	Jhum/Aus
55	7781	Laxmi Binni	Sadar	Bandarban	Jhum
56	7784	Khoiya Binni	Sadar	Bandarban	Jhum
57	7796	Jhum Binni	Rajasthali	Rangamati	Jhum
58	7804	Uscha Binni	Baghaichhari	Rangamati	Jhum
59	7819	Lal Binni	-	Bandarban	Jhum

Sl. No.	Acc. No.	Name	Upazila	District	Season
60	7832	Binni Dhan (Redesh)	Thanchi	Bandarban	Jhum
61	7834	Binni (Red)	Sadar	Bandarban	Jhum
62	7981	Binni Dhan (Sadamota)	Thanchi	Bandarban	Jhum
63	8166	Banor Bini Dhan	Sadar	Khagrachari	Jhum
64	8170	Longapura Binni(Golden)	Mohalchari	Khagrachari	Jhum
65	8176	Cholokka Binni	Sadar	Khagrachari	Jhum
66	8181	Nola Binni Dhan	4.No Ramgar	Khagrachari	Jhum
67	8188	Lokkhi Binni Dhan	Sadar	Rangamati	Jhum
68	8581	Lonka Pora Binni	Dighinala	Khagrachhari	Jhum
69	8582	Meme Black Binni	Roangchhari	Bandarban	Jhum
70	8583	Lamnu Binni Dhan	Roangchhari	Bandarban	Jhum
71	8584	Binni Long Mona	Roangchhari	Bandarban	Jhum
72	8793	Sundori Binni	Bagaicory	Rangamati	Jhum
73	736	Laksmi Bini	Rauganil	Chittagong H.T.	Jhum
74	2091	Aus Gara Binni	Jamalpur	Jamalpur	Aus
75	NC*	Lal Binni	Lama	Bandarban	Jhum
76	NC	Binni Dhan	Ruma	Bandarban	Jhum
77	NC	Kalo Binni	Lama	Bandarban	Jhum
78	NC	Sada Binni	Lama	Bandarban	Jhum
79	NC	Binni Dhan	Thanchi	Bandarban	Jhum
80	7426	Morta Dhan (Binni)	Ramgarh	Khagachhari	Aus

*NC=New Collection

SSR Markers

Fifty-eight SSRs (simple sequence repeats) that well distributed among the 12 chromosomes were used for molecular characterization. Among the primers, three primers (RM273, RM223 and RM282) were used for evaluating aroma and four primers (RM170, RM190, RM253 and RM314) were used for evaluating amylose. The position (cM), repeat motifs and chromosomal positions for these markers are available in the rice genome database (<http://www.gramene.org>).

Genomic DNA isolation and PCR amplification

DNA was extracted from three weeks old leaves following the quick DNA extraction protocol of Ferdouset *al.* (2012). PCR analysis was performed in 10 µl reaction sample containing 3 µl of DNA template, 4.5 µl of Master Mix (Promega), 1.5 µl of Nuclease-Free Water, 0.5µl each of 10 µM forward and reverse primers using a GeneAtlas G (Astec, Japan) 96-well thermal cycler. The mixture was overlaid with 10 µl of mineral oil to prevent evaporation. After initial denaturation for five minutes at 94°C, each cycle comprised 30 sec denaturation at 95°C, 30 sec annealing at 55°C, and 25 sec extension with a final extension for 5 min at 72°C at the end of 32 cycles.

Electrophoresis and visualization of amplified products

The PCR products were mixed with bromophenol blue gel loading dye and were analyzed by electrophoresis on 8% polyacrylamide gel using mini vertical polyacrylamide gels for high throughput manual genotyping (CBS Scientific Co. Inc., CA, USA). Total 2.5 µl of amplification products were resolved by running gel in 0.5X TBE buffer for 1.5-2.5 hrs depending upon the allele size at around 100 voltages and 500 mA current. The gels were stained in 5 µl SYBR Safe DNA gel stain (10,000X concentration in DMSO, USA) with 200 ml 0.5X TBE buffer for 15 min and exposed to UV light using a molecular imager gel documentation unit (XR System, Uvitec Cambridge, France) for visualization.

Allele scoring and diversity data analysis

The size of the band for each marker was measured by Alpha Ease FC 4.0 software. The summary statistics of the marker data viz average number of alleles per locus, major allele frequency, gene diversity and polymorphism information content (PIC) were done by using Power Marker V3.25 (Liu and Muse 2005). Genetic distance based unrooted neighbor-joining tree was constructed using MEGA 5.1 software (Tamura *et al.*, 2011).

Results and discussion

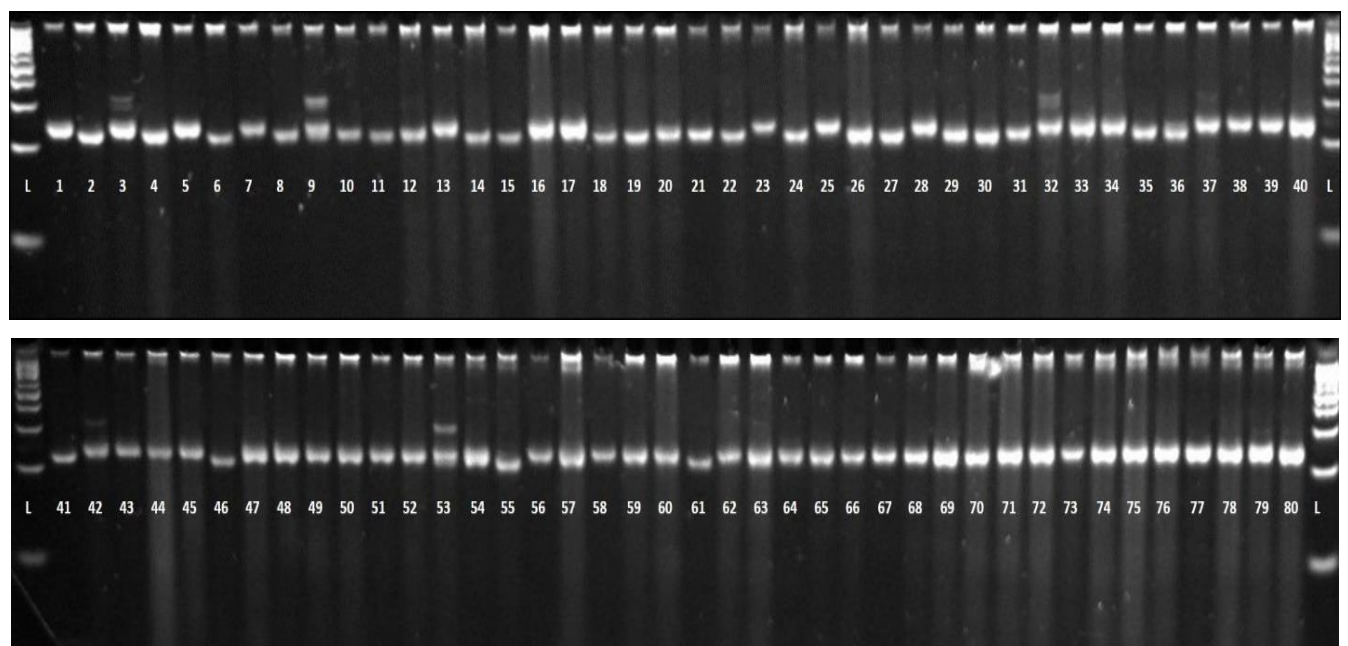
SSR Diversity

In total 344 alleles were detected at 78 SSR (Simple Sequence Repeats) markers across 80 Binni rice germplasm (Table 26). The number of alleles per locus ranged from 2 to 12 alleles, with an average of 4 alleles across the 78 loci. The highest amplicon size was produced by RM410 & RM107 (287 bp) and the lowest by OSR13 (50 bp). The PIC values ranged from 0.09 (RM273) to 0.87 (RM252) with an average of 0.50. Lower PIC value indicates that the genotypes under study are closely related, while the higher value of PIC indicates higher diversity of materials, which is better for development of new superior varieties. Primer RM252 had the highest gene diversity value (0.88) as well as PIC value (0.87) and detected the highest level of polymorphism. Therefore, it is confirmed that RM252 was the best marker for characterizing the studied 80 Binni rice germplasm. The frequency of the most common allele at each locus ranged from 0.18% to 95%. On average, 60% of the 80 Binni rice germplasm shared a common major allele at any given locus. The DNA profile of 80 Binni rice germplasm with SSR marker RM314 is shown in Figure. Figure 7 presents the DNA profiles of 80 Binni rice germplasm with SSR marker RM314.

Table 26. Number of alleles, allele size range, frequency, gene diversity and polymorphism information content (PIC) among 80 Binni rice germplasm against 78 SSR markers.

SL. No.	Marker	Chr. No.	Position (cM)	Motif	Allele No.	Unique allele	Size range (bp)	Max	Major. Allele Frquency %	Gene Diversity	PIC
1	RM495	1	2.8	(CTG)7	3	-	92- 104	104	0.7125	0.4334	0.3733
2	RM283	1	31.4	(GA)18	4	-	143- 163	151	0.5875	0.5884	0.5405
3	RM312	1	71.6	(ATTT)4(GT)9	3	-	97- 110	104	0.8750	0.2263	0.2138
4	RM5	1	94.9	GA)14	3	-	103- 127	113	0.6875	0.4691	0.4132
5	RM237	1	115.2	(CT)18	4	-	115- 134	127	0.6500	0.5266	0.4822
6	RM246	1	115.2	(CT)20	4	-	91- 100	100	0.5125	0.6034	0.5303
7	RM431	1	178.3	(AG)16	3	-	242- 257	251	0.6750	0.4913	0.4415
8	RM165	1	197.8	(CT)13	3	1	180- 191	152	0.9500	0.0959	0.0931
9	RM154	2	4.8	(GA)21	4	-	168- 189	176	0.4625	0.6628	0.6048
10	RM145	2	49.8	-	4	-	169- 203	186	0.7125	0.4597	0.4260
11	RM452	2	58.4	(GTC)9	3	-	190- 209	201	0.7000	0.4538	0.3981
12	RM262	2	103.3	(CT)16	4	-	140- 163	140	0.6375	0.5228	0.4642
13	RM263	2	127.5	(CT)34	4	1	180- 199	192	0.8125	0.3231	0.3009
14	RM425	2	166-170.1	(CGG)9	2	-	118- 126	118	0.7750	0.3488	0.2879
15	RM213	2	186.4	(CT)17	4	-	132- 152	139	0.5000	0.6566	0.6050
16	RM208	2	191.2	(CT)25	5	-	102- 121	114	0.7000	0.4747	0.4396
17	RM489	3	29.2	(ATA)8	4	-	240- 334	74	0.4625	0.6459	0.5815
18	OSR13	3	53.1	(GA)n	5	-	44-67	50	0.4250	0.6938	0.6425
19	RM282	3	100.6	(GA)15	3	-	126- 143	136	0.6500	0.4784	0.3945
20	RM411	3	127.9	(GTT)7	3	-	104- 115	104	0.4625	0.6378	0.5645
21	RM55	3	168.2	(GA)17	4	-	212- 235	226	0.5250	0.6197	0.5570
22	RM520	3	191.6	(AG)10	3	-	183- 205	205	0.5125	0.6091	0.5357
23	RM307	4	0	(AT)14(GT)21	4	-	122- 174	122	0.4500	0.6766	0.6208
24	RM551	4	8.5-21.5	(AG)18	5	-	192- 233	192	0.5000	0.6834	0.6471
25	RM518	4	25.5	(TC)15	5	-	159- 190	171	0.6000	0.5953	0.5619
26	RM273	4	94.4	(GA)11	2	-	200- 207	200	0.9500	0.0950	0.0905
27	RM303	4	116.9	[AC(AT)210]9(GT)7(ATGT)6]	12	2	73- 187	172	0.4500	0.7572	0.7396
28	RM252	4	124.6	(CTT)8	9	-	125- 210	187	0.1750	0.8803	0.8684
29	RM124	4	150.1	(TC)10	2	-	271- 277	271	0.9375	0.1172	0.1103
30	RM413	5	26.7	(AG)11	5	-	68- 106	81	0.6750	0.5084	0.4751
31	RM289	5	56.7	G11(GA)16	5	-	90- 144	108	0.6500	0.5209	0.4725
32	RM178	5	118.8	(GA)5(AG)8	2	-	111- 117	111	0.7125	0.4097	0.3258
33	RM334	5	141.8	(CTT)48	9	2	148- 208	181	0.3250	0.7953	0.7674
34	RM133	6	0	(CT)8	3	-	217- 230	224	0.9125	0.1628	0.1553
35	RM170	6	2.2-7.4	(CCT)7	3	-	103- 121	115	0.8000	0.3288	0.2887
36	RM190	6	7.4	(CT)11	3	-	106- 124	78	0.4875	0.6178	0.5421
37	RM510	6	20.8	(GA)15	3	-	110- 122	116	0.7250	0.4288	0.3803
38	RM204	6	25.1	(CT)44	7	-	100- 164	110	0.3500	0.7575	0.7201
39	RM314	6	33.6	(GT)8(CG)3(GT)5	2	-	110- 118	118	0.7125	0.4097	0.3258
40	RM253	6	37	(GA)25	6	-	117- 147	141	0.3250	0.7697	0.7345
41	RM3	6	74.3-75.5	(GA)2GG(GA)25	8	2	110- 162	121	0.5000	0.6725	0.6317
42	RM162	6	108.3	(AC)20	4	-	213- 240	213	0.8125	0.3222	0.2988
43	RM3509	6	124.4	(CT)26	4	-	130- 149	136	0.6500	0.5303	0.4893
44	RM412	6	142.4	(GA)22	2	-	164- 170	164	0.7887	0.3333	0.2777
45	RM125	7	24.8	(GCT)8	5	-	112- 146	120	0.6625	0.5197	0.4826
46	RM542	7	34.7	(CT)22	5	1	85- 129	85	0.6875	0.4944	0.4626

SL. No.	Marker	Chr. No.	Position (cM)	Motif	Allele No.	Unique allele	Size range (bp)	Max	Major. Allele Frquency %	Gene Diversity	PIC
47	RM214	7	34.7	(CT)14	6	1	112- 147	126	0.5125	0.6766	0.6421
48	RM111	7	47	(GA)17	5	-	124- 151	142	0.4250	0.7359	0.7006
49	RM455	7	65.7	(TTCT)5	2	-	124- 131	124	0.8625	0.2372	0.2091
50	RM234	7	88.2	(CT)25	5	-	77- 109	100	0.5625	0.6066	0.5549
51	RM118	7	96.9	(GA)8	3	-	150- 163	156	0.8250	0.2963	0.2647
52	RM134	7	99.6	(CCA)7	2	-	84- 93	93	0.7125	0.4097	0.3258
53	RM408	8	0-1.1	(CT)13	3	-	114-128	121	0.5625	0.5878	0.5226
54	RM152	8	9.4	(GGC)10	5	-	128- 152	143	0.5875	0.5869	0.5386
55	RM25	8	52.2	(GA)18	5	-	70- 97	90	0.4125	0.7181	0.6732
56	RM342	8	78.4	(CAT)12	6	1	121- 161	150	0.4125	0.7238	0.6812
57	RM223	8	80.5	(CT)25	4	-	151- 170	157	0.6923	0.4770	0.4341
58	RM515	8	80.5	(GA)11	7	1	211- 256	218	0.3875	0.7631	0.7317
59	RM284	8	83.7	(GA)8	2	-	146- 155	146	0.8250	0.2888	0.2471
60	RM433	8	116	(AG)13	3	-	218- 234	224	0.6500	0.5009	0.4352
61	RM447	8	124.6	(CTT)8	4	-	106- 135	106	0.64	0.52	0.47
62	RM5647	8	-	(AAG)16	7	-	96- 153	131	0.23	0.81	0.79
63	RM105	9	32.1	(CCT)6	3	-	123- 134	128	0.66	0.49	0.43
64	RM410	9	64.4	(TA)13	7	-	183- 287	287	0.31	0.79	0.75
65	RM107	9	82.4	(GA)7	4	-	268- 295	287	0.71	0.46	0.43
66	RM474	10	0	(AT)13	6	-	193-252	204	0.36	0.78	0.75
67	RM222	10	11.3	(CT)18	3	-	201- 213	207	0.49	0.62	0.54
68	RM271	10	59.4	(GA)15	5	-	91- 101	101	0.58	0.61	0.57
69	RM20	11	0	(ATT)14	3	-	202- 226	213	0.44	0.60	0.52
70	RM286	11	0	(GA)16	6	-	102- 135	102	0.45	0.69	0.65
71	RM536	11	55.1	(CT)16	2	-	233- 243	243	0.76	0.36	0.30
72	RM21	11	85.7	(GA)18	8	-	74- 119	80	0.43	0.75	0.73
73	RM206	11	102.9	(CT)21	6	-	137- 190	137	0.39	0.75	0.71
74	RM144	11	123.2	(ATT)11	9	1	232- 297	257	0.21	0.85	0.83
75	RM5364	12	-	(TC)13	6	1	118- 146	130	0.48	0.70	0.66
76	RM247	12	32.3	(CT)16	6	1	131- 186	142	0.51	0.67	0.63
77	RM277	12	57.2	(GA)11	3	1	114- 124	124	0.91	0.16	0.15
78	RM19	12	20.9	(ATC)10	4	1	215- 240	226	0.64	0.51	0.45
	Max.				12			287	0.95	0.88	0.87
	Min.				2			50	0.175	0.095	0.0905
	Total				344			11795	46	42	39
	Mean				4			151.22	0.60	0.54	0.50



Legends:L=Ladder, 1=Kaisha Binni (Acc.204), 2=Kaisha Binni (Acc.205), 3=Kaisha Binni (Acc.206), 4=Kaisha Binni (Acc.207), 5=Koha Binni (Acc.208), 6=Lal Binni (Acc. 209), 7=Lal Binni (Acc. 210), 8=Kala Binni (Acc.236), 9=Kaika Binni (Acc.1874), 10=Sail Binni (Acc. 1974), 11=Netha Binni (Acc. 1987), 12=Aguinya Binni (Acc. 4473), 13=Kuichcha Binni (Acc. 4474), 14=Pura Binni (Acc. 4475), 15=Garo Binni (Acc. 4476), 16=Binni (Acc. 4477), 17, 26=Ranga Binni (Acc.4487), 27=Sona Binni (Acc.4700), 28=Kaisa Binni (Acc.4701), 29=Netha Binni (Acc.4705), 30=Leda Binni (Acc.4478), 18=Binni (Acc. 4479), 19=Kakoiya Binni (Acc.4480), 20=Chandan Binni (Acc.4481), 21=Dudhmethi (Acc.4482), 22=Atha Binni (Acc.4483), 23=Atha Binni (Acc.4484), 24=Gouhati Binni (Acc.4485), 25=Nedra Binni (Acc.4486=Binni (Acc.4707), 31=Kaisa Binni (Acc.4720), 32=Sada Binni (Acc.4726), 33=Lata Binni (Acc.4727), 34=Panga Binni (Acc.5032), 35=Chysa Binni (Acc.5954), 36=Chidira Binni (Acc.7074), 37=Binni Dhan (Acc.7253), 38=Kala Binni (Acc.7258), 39=Kutkutta Binni (Acc.7261), 40=Horin Binni (Acc.7268), 41=Ranga Binni (Acc.7276), 42=Binni (Red) (Acc. 7487),

43=Binni (Acc.7488), 44=Binni (Black) (Acc.7489), 45=Horina Binni (Acc. 7493), 46=Ayla Binni (Acc. 7666), 47=Lal Binni (Acc. 7691), 48=Ranga Binni (Acc. 7693), 49=Binnisada (Acc. 7730), 50=Kangiri Binni Dhan (Acc. 7738), 51=Sada Binni (Acc. 7746), 52=Patri Binni (Acc.7747), 53=Binnilangmeno (Acc.7767), 54=Bak Binni (Acc.7768), 55=Laxmi Binni (Acc.7781), 56=Khoiya Binni (Acc. 7784), 57=Jhum Binni (Acc. 7796), 58=Uscha Binni (Acc. 7804), 59=Lal Binni (Acc. 7819), 60=Binnidhan (Redesh) (Acc.7832), 61=Binni (Red) (Acc. 7834), 62=Binnidhan (Sadamota) (Acc. 7981), 63=Banor Bini Dhan (Acc. 8166), 64=Longapura Binni (Golden) (Acc.8170), 65=Cholokka Binni (Acc. 8176), 66=Nola Binnidhan (Acc. 8181), 67=Lokkhi Binni (Acc. 8188), 68=Lonka Pora Binni (Acc. 8581), 69=Meme Black Binni (Acc. 8582), 70=Lamnu Binni (Acc.8583), 71=Long Mona Binni (Acc.8584), 72=Sundori Binni (Acc. 8793), 73=Laxmi Binni (Acc.736), 74=Aus Gara Binni (Acc. 2091), 75=Lal Binni (New Collection, NC), 76=Binni Dhan (NC), 77=Kalo Binni (NC), 78=Sada Binni (NC), 79=Binni Dhan (NC), 80=Morta Dhan (Binni) (Acc. 7426).

Fig. 7. DNA profile of 80 Binni rice germplasm with SSR marker RM314.

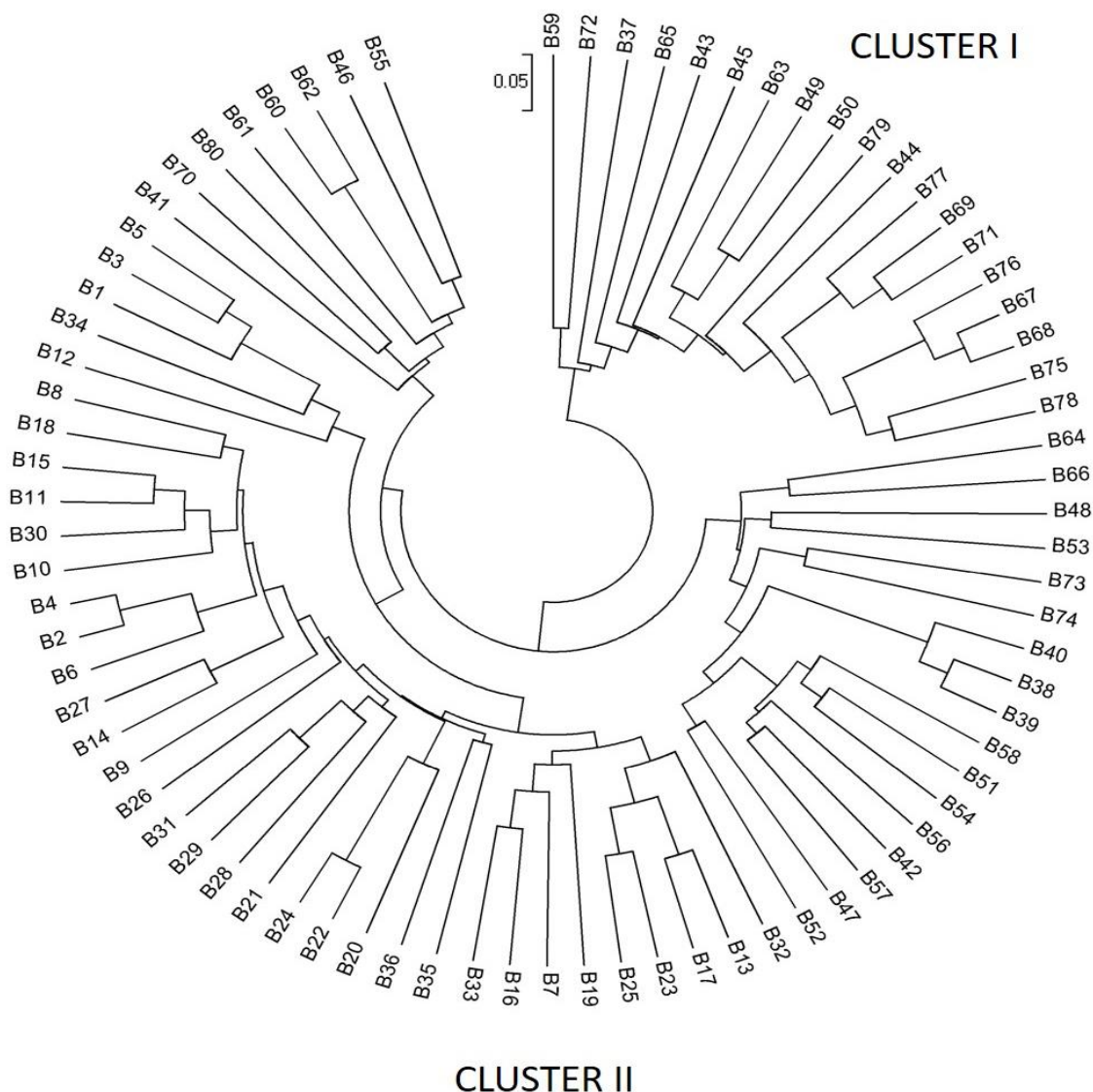


Fig. 8. An unrooted neighbour-joining tree showing the genetic relationships among 80 Binni rice germplasm by using 78 SSR markers

Experiment no. 3.4 Evaluation of photosensitive rice germplasm collected from Northern districts of Bangladesh

Principal Investigator (PI): Dr. ESM Harunur Rashid

Co-Investigator (CI): Tonmoy Chakrabarty and Dr. Mohammad Khalequzzaman

Specific objectives

To identify rice germplasm suitable for late transplanting after flood in northern region of Bangladesh (Bogura, Kurigram, Lalmonirhat, Gaibandha, Rangpur and Jamalpur).

Materials and methods

In total, 12 photosensitive germplasm along with three checks were grown late (transplanting 15 September) in T. Aman 2022-23 season to identify germplasm suitable for late transplanting after flood in northern region of Bangladesh. These varieties have been growing in Bogura, Kurigram, Lalmonirhat, Gaibandha, Rangpur and Jamalpur districts of Bangladesh because of generating acceptable grain yield even after very late transplanting after flood water recession. All of the accessions were taken from the BRRI Genebank. BR22, BR23 and Nizersail were used as standard and local checks.

Phenotypic characterization was done on the basis of seedling vigor, number of effective tiller, flag leaf angle and orientation, growth duration, Culm length, Culm diameter and strength, panicle type (compactness of the panicle), spikelet sterility, length breadth ratio, leaf senescence (stay green trait), biomass and yield. Characterization of rice germplasm accessions were completed with a total of 53 morpho-agronomic traits (both quantitative and qualitative characters) at GRSD, BRRI, Gazipur using the Rice Germplasm Descriptors and Evaluation Form (2018) and UPOV convention. The experiment was laid out using a quadruple row of 5.4 m long for each entry/accession, single seedling per hill with a spacing of 20 × 20 cm² between rows and plants, respectively. Fertilizers were applied @ 60:20:40 kg NPK/ha. Appropriate intercultural operations and pest control measures were taken for insect pests, diseases and weeds as and when necessary. Data collection were completed for both qualitative and quantitative characters. Data were analyzed using R package. Finally, the superior germplasm against the grain yield and other traits would be identified and the evaluation will be repeated in Rangpur region for further progress.

Results and discussion

One Rosul Bhog (Acc. 5071), one Malshira (Acc. 299) and, one Ganjia (Acc. 287) accession showed better performance on the basis of their morpho-agronomic traits among the tested entries during T. Aman 2022-23 (Table 27). Grain weights per hill of Rosul Bhog (Acc. 5071), Malshira (Acc. 299) and Ganjia (Acc. 287) germplasm were 30.8 g, 30.0 g and 25.0 g, respectively. L/B ratio of Rosul Bhog was very high (4.62). Longer panicle length (24 to 26 cm), higher number of filled grain per panicle (117 to 173) and medium growth duration (116 to 124 days) were observed in selected three local germplasm and will be tested further in Rangpur region in the next T. Aman 2023-24 season.

Table 27. Performance of twelve photosensitive T. Aman rice germplasm from BRRI Genebank.

Acc. No.	Name	Effect Tiller per Hill	Culm Length (cm)	PL (cm)	DTM	TGW (g)	FG/ panicle	UFG/ panicle	Grain Weight per Hill (g)	DGL (mm)	DGW (mm)	L/B ratio
285	BindiPakri	10.8	93.0	24.73	117	17	148.8	20.6	27.6	6.46	2.18	2.96
287	Ganjia	11.2	96.1	26.13	124	19	117.8	18.53	25.0	5.61	2.21	2.54
299	Malshira	10.9	87.8	24.66	117	23	122.4	37.53	30.0	5.64	2.34	2.41
360	Malshira	10.9	84.6	25.33	116	21	106.0	11.93	25.0	5.42	2.38	2.28
520	Ganjia	10.2	88.1	26.2	123	20	79.2	12.2	16.0	5.74	1.91	3.01
531	Ganjia	11.0	98.6	26.2	120	18	98.7	11.73	19.8	5.32	2.10	2.53
545	Malshira	10.4	95.9	27.46	119	21	100.8	18.6	24.0	6.1	2.37	2.57
3661	Indur Sail	10.9	93.9	25.2	115	25	87.7	12.6	24.0	6.68	2.44	2.74
4810	BindiPakri	10.2	92.4	27.46	120	22	82.5	12.13	19.7	5.58	2.16	2.58
5969	Joy Sail	11.4	89.5	26.46	120	24	85.8	12.6	23.0	6.64	2.38	2.79
338	RosulBhog	11.0	93.8	27.6	115	20	114.2	13.46	26.0	6.18	2.08	2.97
5071	RosulBhog	11.2	100.0	25.6	116	16	173.6	18.53	30.8	5.5	1.19	4.62
-	BR22 (ck)	9.6	81.2	25.13	122	22	118.9	20.93	26.0	5.69	2.41	2.36
-	BR23 (ck)	11.1	91.7	25.33	120	17	121.6	26.73	20.4	5.66	2.36	2.40
-	Nizersail (ck)	10.9	87.9	26.53	122	19	115.4	16.4	26.0	5.61	2.11	2.66
	CV	3.91	4.64	3.11	2.01	10.98	15.58	36.96	13.50	6.78	6.32	8.60
	LSD (5%)	0.26	2.67	0.50	1.49	1.39	10.91	4.09	2.05	0.24	0.08	0.12

Experiment no. 3.5 Identification and selection of sticky rice from Jhum rice germplasm

Principal Investigator (PI): Dr. Armin Bhuiya

Co-Investigator (CI): Tonmoy Chakrabarty, Dr. ESM Harunur Rashid, Dr. Habibul Bari Shajib and Dr. Mohammad Khalequzzaman

Specific Objectives

To identify and to study the selection criteria for developing sticky rice varieties from Jhum rice germplasm

Materials and Method

Seventy-five Binni rice germplasm (Table 28) as *Jhum* rice were characterized to study the selection criteria during Aus 2022-23. The rice germplasm were transplanted using single seedling per hill with a spacing of 20 × 20 cm² between rows and plants, respectively in three replication. Fertilizers were applied @ 30:20:40 kg NPK/ha. Appropriate intercultural operations and pest control measures were taken for insect pests, diseases and weeds as and when necessary.

The seeds of the best performing Binni rice germplasm during Aus 2021-22 were dehusked manually with a dehusker and sent to GQN division for evaluation of amylose content and then the germplasms with low amylose content can be used as breeding materials for sticky rice development program.

Table 28. List of 75 Binni rice germplasm accession evaluated for amylose content.

Sl. No.	Accession No.	Name	Upazila	District/ Country	Season
1	204	Kaisha Binni	Fulbasia	Mymensingh	T. Aman
2	205	Kaisha Binni	Trashal	Mymensingh	T. Aman
3	206	Kaisha Binni	Kotwali	Mymensingh	T. Aman
4	207	Kaisha Binni	Fulbasia	Mymensingh	T. Aman
5	208	Koha Binni	Trashal	Mymensingh	T. Aman
6	209	Lal Binni	Muktagacha	Mymensingh	T. Aman
7	210	Lal Binni	Kotwali	Mymensingh	T. Aman
8	236	Kala Binni	Muktagacha	Mymensingh	T. Aman
9	1874	Kaika Binni	Kishorgonj	Kishorganj	T. Aman
10	1974	Sail Binni	Tamalpur	Mymensingh	T. Aman
11	1987	Netha Binni	Sribordi	Mymensingh	T. Aman
12	4473	Aguinya Binni	Haluaghat	Mymensingh	T. Aman
13	4474	Kuichecha Binni	Haluaghat	Mymensingh	T. Aman
14	4475	Pura Binni	Haluaghat	Mymensingh	T. Aman
15	4476	Garo Binni	Jhenaigati	Sherpur	T. Aman
16	4477	Binni	Jhenaigati	Sherpur	T. Aman
17	4478	Leda Binni	Jhenaigati	Sherpur	T. Aman
18	4479	Binni	Burgapur	Netrokona	T. Aman
19	4480	Kakoiya Binni	Burgapur	Netrokona	T. Aman
20	4481	Chandan Binni	Burgapur	Netrokona	T. Aman
21	4482	Dudhmethi	Burgapur	Netrokona	T. Aman
22	4483	Atha Binni	Madhupur	Tangail	T. Aman
23	4484	Atha Binni	Jhenaigati	Sherpur	T. Aman
24	4485	Gouhati Binni	Nalitabari	Sherpur	T. Aman
25	4486	Nedra Binni	Nalitabari	Sherpur	T. Aman
26	4487	Ranga Binni	Jhenaigati	Sherpur	T. Aman
27	4700	Sona Binni	Sunamganjsadar	Sunamgonj	B. Aman
28	4701	Kaisa Binni	Purbadhola	Netrokona	T. Aman
29	4705	Nethabinni	Nalitabari	Sherpur	T. Aman
30	4707	Binni	Durgapur	Netrokona	T. Aman
31	4720	Kaisa Binni	Modhupur	Tangail	T. Aman
32	4726	Sada Binni	Nalitabari	Sherpur	T. Aman
33	4727	Lata Binni	Nalitabari	Sherpur	T. Aman
34	5032	Panga Binni	Natia Bari	Sherpur	T. Aman
35	5954	Chysa Binni	Kapasias	Gazipur	T. Aman
36	7074	Chidira Binni	Dursore	Khagrachori	T. Aman
37	7253	Binnidhan/ Chingnu	Sadar	Bandarban	Jhum
38	7258	Kala Binni	Sadar	Bandarban	Jhum
39	7261	Kutkutta Binni	Durcuri	Khagrachhari	Jhum
40	7268	Horin Binni	Sadar	Khagrachhari	Jhum
41	7276	Ranga Binni	Durcuri Sadar	Khagrachhari	B. Aman

Sl. No.	Accession No.	Name	Upazila	District/ Country	Season
42	7487	Binni (Red)	Sadar	Bandarban	Jhum
43	7488	Binni	Sadar	Bandarban	Jhum
44	7666	Ayla Binni	Sadar	Habigonj	Boro
45	7693	Ranga Binni	Baghaichhari	Rangamati	Jhum
46	7730	Binni Sada	Ramgarh	Khagrachhari	Jhum/Aus
47	7746	Sada Binni	Panchhari	Khagrachhari	Jhum
48	7747	Patri Dhan	Panchhari	Khagrachhari	Jhum
49	7767	Binni Langmeno	Rowangchhari	Bandarban	Jhum/Aus
50	7768	Bak Binni	Rowangchhari	Bandarban	Jhum/Aus
51	7781	Lakmi Binni	Sadar	Bandarban	Jhum
52	7784	Khoiya Binni	Sadar	Bandarban	Jhum
53	7796	Jhum Binni	Rajasthali	Rangamati	Jhum
54	7804	Uscha Binni	Baghaichhari	Rangamati	Jhum
55	7832	Binni Dhan (Redesh)	Thanchi	Bandarban	Jhum
56	7834	Binni (Red)	Sadar	Bandarban	Jhum
57	7981	Binni Dhan (Sadamota)	Thanchi	Bandarban	Jhum
58	8166	Banor Bini Dhan	Sadar	Khagrachhari	Jhum
59	8170	Longapura Binni (Golden)	Mohalchhari	Khagrachhari	Jhum
60	8176	Cholokka Binni	Sadar	Khagrachhari	Jhum
61	8181	Nola Binni Dhan	4.No Ramgar	Khagrachhari	Jhum
62	8188	Lokkhi Binni Dhan	Sadar	Rangamati	Jhum
63	8581	Lonka Pora Binni	Dighinala	Khagrachhari	Jhum
64	8582	Meme Black Binni	Roangchhari	Bandarban	Jhum
65	8583	Lamnu Binni Dhan	Roangchhari	Bandarban	Jhum
66	8584	Binni Long Mona	Roangchhari	Bandarban	Jhum
67	8793	Sundori Binni	Bagaicory	Rangamati	Jhum
68	736	Laksmi Bini	Rauganil	Chittagong H.T.	Jhum
69	2091	Aus Gara Binni	Jamalpur	Jamalpur	Aus
70	NC1	Lal Binni	Lama	Bandarban	Jhum
71	NC2	Binni Dhan	Ruma	Bandarban	Jhum
72	NC3	Kalo Binni	Lama	Bandarban	Jhum
73	NC4	Sada Binni	Lama	Bandarban	Jhum
74	NC5	Binni Dhan	Thanchi	Bandarban	Jhum
75	7426	Morta Dhan (Binni)	Ramgarh	Khagachhari	Aus

Results and discussion

Seventy-five Binni rice germplasm were grown in the field at BRRI HQ and after harvest the seed were sent to GQN (Grain Quality and Nutrition) division for measuring Amylose content. A total of 14 Binni rice germplasm viz. Binni, Atha Binni, Nedra Binni, Ranga Binni, Panga Binni, Patri Dhan, Banor Bini Dhan, Lonka Pora Binni, Meme Black Binni, Binni Long Mon, Sundori Binni, Kalo Binni, Sada Binni and Binni Dhan were found containing very low amylose % (5.71-9.04) (Table 29).

Table 29. Apparent Amylose Content (AAC) % of 75 Binni rice during 2022-23.

Sl. no.	Name	AAC%	Sl. no.	Name	AAC%
1	Kaisha Binni	21.79	39	Kutkutta Binni	21.64
2	Kaisha Binni	20.79	40	Horin Binni	23.45
3	Kaisha Binni	21.58	41	Ranga Binni	22.87
4	Kaisha Binni	21.74	42	Binni (Red)	23.97
5	Koha Binni	21.63	43	Binni	17.64
6	Lal Binni	21.63	44	Ayla Binni	23.51
7	Lal Binni	20.53	45	Ranga Binni	18.60
8	Kala Binni	10.95	46	Binni Sada	23.39
9	Kaika Binni	20.63	47	Sada Binni	23.19
10	Sail Binni	21.26	48	Patri Dhan	9.04
11	Netha Binni	20.74	49	Binni Langmeno	25.13
12	Aguinya Binni	18.11	50	Bak Binni	23.71
13	Kuichcha Binni	9.68	51	Lakmi Binni	24.35
14	Pura Binni	19.95	52	Khoiya Binni	24.03
15	Garo Binni	20.68	53	Jhum Binni	24.61
16	Binni	7.68	54	Uscha Binni	24.42

Sl. no.	Name	AAC%	Sl. no.	Name	AAC%
17	Leda Binni	12.21	55	Binni Dhan (Redesh)	24.68
18	Binni	20.89	56	Binni (Red)	23.64
19	Kakoiya Binni	18.53	57	Binni Dhan (Sadamota)	24.87
20	Chandan Binni	14.54	58	Banor Bini Dhan	8.59
21	Dudhmethi	21.37	59	Longapura Binni(Golden)	11.50
22	Atha Binni	12.58	60	Cholokka Binni	14.41
23	Atha Binni	7.53	61	Nola Binni Dhan	25.00
24	Gouhati Binni	13.89	62	Lokkhi Binni Dhan	12.09
25	Nedra Binni	7.21	63	Lonka Pora Binni	6.54
26	Ranga Binni	8.89	64	Meme Black Binni	8.30
27	Sona Binni	20.89	65	Lamnu Binni Dhan	9.18
28	Kaisa Binni	21.63	66	Binni Long Mona	5.88
29	Nethabinni	21.89	67	Sundori Binni	5.71
30	Binni	19.79	68	Laksmi Bini	15.28
31	Kaisa Binni	25.00	69	Aus Gara Binni	22.58
32	Sada Binni	25.05	70	Lal Binni	22.14
33	Lata Binni	21.83	71	Binni Dhan	10.17
34	Panga Binni	7.75	72	Kalo Binni	7.64
35	Chysa Binni	11.69	73	Sada Binni	8.19
36	Chidira Binni	22.48	74	Binni Dhan	7.97
37	Binnidhan/ Chingnu	23.13	75	Morta Dhan (Binni)	19.34
38	Kala Binni	22.35			

Experiment no. 3.6 Morphological and Molecular study of Badshabhog germplasm

Principal Investigator (PI): Tonmoy Chakrabarty

Co-Investigator (CI): Dr. Armin Bhuiya, Nashirum Monir and Mir Sharf Uddin Ahmed

Specific Objectives

To characterize the selected rice germplasm through morphological traits and provide a unique DNA profile using SSR markers for protecting from biopiracy and establishment of IPR (Intellectual Property Right) related issues of rice germplasm.

Materials and Method

Plant Materials and Experimental site

The experiments were carried out in T. Aman 2020 season. A total of 24 rice germplasm (Table 30) were collected from the BRRRI genebank where 19 Badshabhog germplasm and five (5) checks *viz.* BR5, BRRRI dhan34, BRRRI dhan90 and GI marked Bangladesh Kalijira (acc. 247) and Dinajpur Kataribhog (acc. 4791) were used. The germplasm were sown in the seedbed on 7th July 2022 and raised 25 days of seedlings in the Genetic Resources and Seed Division farm of BRRRI. The soil was silt clay, slightly acidic (pH 6.5) and very low in organic matter (0.86%). The seedlings were transplanted in the experiment field with one seedling per hill on 1st August 2022. On the other hand, the entioned 24 rice germplasm were also characterized in the Molecular Laboratory of GRSD of BRRRI to fulfil the objectives. Three weeks old leaves were used for DNA extraction in the experiment.

Table 30. List of Badshabhog germplasm collected from BRRRI Genebank, Gazipur

SL. no.	Accession No.	Germplasm name	Upazila	District	Season
1.	003	Badsha Bhog -DA.27	--	Dhaka	T. Aman
2.	1110	Badsha Bhog	Bagarpara	Jessore	T. Aman
3.	2481	Badsha Bhog TAPL -52	PB Div., BRRRI	Gazipur	T. Aman
4.	2482	Badsha Bhog TAPL -53	PB Div., BRRRI	Gazipur	T. Aman
5.	2483	Badsha Bhog TAPL -54	PB Div., BRRRI	Gazipur	T. Aman
6.	2484	Badsha Bhog TAPL -55	PB Div., BRRRI	Gazipur	T. Aman
7.	2485	Badsha Bhog TAPL -56	PB Div., BRRRI	Gazipur	T. Aman
8.	2486	Badsha Bhog TAPL -58	PB Div., BRRRI	Gazipur	T. Aman
9.	2487	Badsha Bhog TAPL -59	PB Div., BRRRI	Gazipur	T. Aman
10.	2488	Badsha Bhog TAPL -60	PB Div., BRRRI	Gazipur	T. Aman

SL. no.	Accession No.	Germplasm name	Upazila	District	Season
11.	2489	Badsha Bhog TAPL -61	PB Div., BRRI	Gazipur	T. Aman
12.	2490	Badsha Bhog TAPL -62	PB Div., BRRI	Gazipur	T. Aman
13.	2491	Badsha Bhog TAPL -63	PB Div., BRRI	Gazipur	T. Aman
14.	4355	Badshabhog (Colored)	--	Khulna	T. Aman
15.	4364	Badshabhog (Jirabhog)	Chirirbansar	Dinajpur	T. Aman
16.	4827	Badsha Bhog	Chirirbansar	Dinajpur	T. Aman
17.	5349	Badshabhog	Fakhirhat	Bagerhat	T. Aman
18.	7554	Badsha Bhog	Chunatughat	Hobigonj	T. Aman
19.	7870	Badsa Bogh	Daccop	Khulna	T. Aman
20.	4343	BR5	GRS Div., BRRI	Gazipur	T. Aman
21.	7093	BRRI dhan34	GRS Div., BRRI	Gazipur	T. Aman
22.	8682	BRRI dhan90	GRS Div., BRRI	Gazipur	T. Aman
23.	247	Kalojira	--	Mymensingh	T. Aman
24.	4791	Kataribhog	--	Dinajpur	T. Aman

Experimental design

The experiment was enacted with Randomized Complete Block Design (RCBD). The row-to-row and plant-to-plant distance was 20 × 20 cm with 60 m² plot size. There were 30 hills for each germplasm in each replication. Entries were repeated three times. Fertilizer doses were 60:20:40 kg NPK per hectore. The recommended agronomic practices were maintained throughout the growing period.

SSR Markers

Microsatellite or Simple Sequence Repeat (SSR) markers were used for molecular analysis (Temnykhet *et al.*, 2001; McCouch *et al.*, 2002). In T. Aman 2022, 61 SSR markerwell distributed within 12 chromosomes were used and all markers were identified as polymorphic for afterward analysis. Sequences of the markers were found from a panel of standard SSR markers proposed by CGIAR for rice diversity analysis (Roy *et al.*, 2016; Islam *et al.*, 2018). The position (cM), repeat motifs, forward (5'–3') and reverse (5'–3') primer sequences and chromosomal positions for these markers are available in the rice genome database (<http://www.gramene.org>).

DNA extraction, PCR amplification, Electrophoresis, Gel documentation and Data analysis

DNA extraction, PCR amplification, electrophoresis and gel documentation were performed as same as described earlier in experiment 3.4 entitled as DNA finger printing of Binni rice germplasm accessions under Exploratory and Genetic Studies project.

Results and discussion

Morphological performance detection

In the table of genetic parameter analysis (Table 31), high differences in genotypic and phenotypic variances were present for all the studied traits except for ligule length, flag leaf width, panicle length, flowering duration, growth duration, thousand grain weight, grain length, grain width, dehulled rice length, dehulled rice width, dehulled rice length breadth ratio. It depicts that these traits are less influenced by environment. The highest genotypic and phenotypic coefficient of variation was found for ligule length, flag leaf width and yield. High heritability was observed for all traits except for flag leaf length, flag leaf width, culm diameter, effective tiller. High heritability along with genetic advance (GA) and genetic advance in percent of mean (GAM) was observed for plant height, ligule length, culm length, panicle length, thousand grain weight, dehulled rice length breadth ratio and yield. It means that these traits are controlled by multiple genes with high additive gene action.

Table 31. Genetic parameters of 18 quantitative traits among 24 rice genotypes.

Trait	Mean	MSg	MSe	GV	EV	PV	GCV	ECV	PCV	h ² _b	GA	GAM (%)
PH	110.38	675.69	9.04	222.21	9.04	231.26	13.51	2.72	13.78	0.96	30.10	27.27
LL	2.04	0.79	0.02	0.26	0.02	0.28	24.91	6.30	25.70	0.94	1.02	49.76
FLL	45.17	94.35	10.80	27.85	10.80	38.65	11.68	7.28	13.77	0.72	9.23	20.43
FLW	0.74	0.05	0.01	0.02	0.01	0.02	16.30	11.74	20.07	0.66	0.20	27.26
CD	4.08	0.53	0.04	0.16	0.04	0.20	9.83	5.07	11.06	0.79	0.73	17.99
CL	85.86	523.48	8.68	171.60	8.68	180.28	15.26	3.43	15.64	0.95	26.33	30.66
PL	24.52	38.36	0.66	12.57	0.66	13.23	14.46	3.30	14.83	0.95	7.12	29.04

Trait	Mean	MSg	MSe	GV	EV	PV	GCV	ECV	PCV	h ² _b	GA	GAM (%)
ET	90.82	36.36	3.09	11.09	3.03	14.18	3.67	1.94	4.15	0.78	6.07	6.68
SF	87.40	159.89	3.80	52.03	3.80	55.83	8.25	2.23	8.55	0.93	14.34	16.41
FD	94.69	15.99	0.28	5.24	0.28	5.52	2.42	0.56	2.48	0.95	4.59	4.85
GD	120.72	110.54	0.22	36.77	0.22	36.99	5.02	0.39	5.04	0.99	12.45	10.32
TGW	11.52	9.81	0.01	3.27	0.01	3.27	15.70	0.65	15.71	0.99	3.72	32.31
GL	6.48	1.17	7.50e ⁻⁴	0.39	7.00e ⁻⁴	0.39	9.65	0.42	9.65	0.99	1.29	19.86
GW	2.37	0.11	9.70e ⁻⁵	0.04	1.00e ⁻⁴	0.04	7.92	0.42	7.93	0.99	0.39	16.29
DRL	4.54	0.70	1.82e ⁻⁴	0.23	2.00e ⁻⁴	0.23	10.60	0.30	10.60	0.99	0.99	21.82
DRW	1.98	0.06	1.26e ⁻⁴	0.02	1.00e ⁻⁴	0.02	7.25	0.57	7.27	0.99	0.29	14.91
DRLB Ratio	2.30	0.31	1.92e ⁻⁴	0.10	2.00e ⁻⁴	0.10	13.91	0.60	13.93	0.99	0.66	28.63
Yield	18.84	43.38	2.03	13.78	2.02	15.81	19.71	7.55	21.10	0.87	7.14	37.90

Legend: PH= Plant Height (cm), LL= Ligule Length (mm), FLL= Flag Leaf Length (cm), FLW= Flag Leaf Width (cm), CD= Culm Diameter (cm), CL= Culm Length (cm), PL= Panicle Length (cm), ET= Effective Tiller (%), SF= Spikelet Fertility (%), FD= 50% Flowering Duration (days), GD= Growth Duration (days); TGW= Thousand Grain Weight (g), GL= Grain Length (mm), GW= Grain Width (mm), DRL= Dehulled Rice Length (mm); DRW= Dehulled Rice Width (mm); DRLB Ratio= Dehulled Rice Length Breadth Ratio, Yield=Grain Harvested @14% (g/hill), MSg= Mean Square Genotype, MSe= Mean Square Error, GV= Genotypic variance, EV= Environmental Variance, PV= Phenotypic variance, GCV= Genotypic coefficient of variation, ECV= Environmental Coefficient of Variation, PCV= Phenotypic Coefficient of Variation, h²_b= Broad sense heritability, GA= Genetic Advance, GAM= Genetic Advance in percent of Mean (%).

SSR Diversity

A total of 182 alleles were detected at 61 SSR (Simple Sequence Repeats) markers across 24 rice germplasm (Table 32). The highest amplicon size was produced by RM144 (263 bp) and the lowest by RM413 (70 bp). The number of alleles per locus ranged from 2 to 9 alleles, with an average of 3 alleles across the 61 loci. The PIC values ranged from 0.08 (RM125) to 0.70 (RM474) with an average of 0.42. Lower PIC value indicates that the genotypes under study are closely related, while the higher value of PIC indicates higher diversity of materials which is better for development of new superior varieties. Primer RM474 had the highest PIC value (0.70) and this primer is detected as the highest level of polymorphism. Therefore, it is confirmed that RM474 was the best marker for characterizing the studied 24 rice germplasm. The frequency of the most common allele at each locus ranged from 29.17% to 95.83%. On average, 69.59% of the 24-rice germplasm shared a common major allele at any given locus. The DNA profile of 24 ricegermplasm with SSR marker RM474 is shown in Fig. 9.

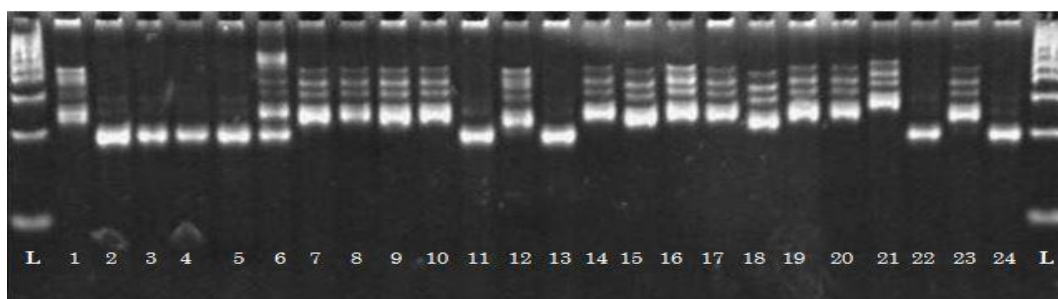
Table 32. Number of alleles, allele size range, frequency, gene diversity and polymorphism information content (PIC) among 19Badshabhog germplasm and 5 checks against 61 SSR markers.

SL. no.	Marker	Chro. no.	Position (cM)	Motif*	Allele no.	Unique allele	Size range (bp)	Size (bp)	Freq (%)	Gene diversity	PIC
1	OSR13	3	53.1	(GA)n	6	1	125-179	125	62.5	0.57	0.54
2	RM3	6	123.6-	(GA)2GG(GA)25	3	1	122-136	122	87.5	0.23	0.21
3	RM5	3	131.5	(GA)14	3	-	60-98	98	75.0	0.40	0.36
4	RM11	7	47	(GA)17	3	1	133-154	133	62.5	0.50	0.41
5	RM19	12	20.9	(ATC)10	5	2	221-259	221	66.7	0.52	0.48
6	RM20	12	3.2	(ATT)14	5	2	102-137	102	30.4	0.72	0.66
7	RM21	11	70.9	(GA)18	3	-	153-188	153	65.2	0.51	0.45
8	RM25	8	52.2	(GA)18	2	-	136-152	136	79.2	0.33	0.28
9	RM55	3	168.2	(GA)17	3	-	162-179	179	83.3	0.29	0.27
10	RM105	9	32.1	(CCT)6	2	-	78-86	86	75.0	0.38	0.30
11	RM107	9	82.4	(GA)7	3	-	230-256	256	50.0	0.61	0.54
12	RM124	4	150.1	(TC)10	4	-	196-223	223	41.7	0.70	0.65
13	RM125	7	24.8	(GCT)8	2	1	133-154	133	95.8	0.08	0.08
14	RM133	6	0	(CT)8	2	-	215-224	215	66.7	0.44	0.35
15	RM144	11	123.2	(ATT)11	3	-	235-263	263	54.2	0.56	0.47
16	RM145	2	49.8	-	3	1	96-145	96	62.5	0.50	0.41
17	RM162	6	108.3	(AC)20	2	-	199-216	199	75.0	0.38	0.30
18	RM165	1	197.8	(CT)13	2	-	143-152	152	54.2	0.50	0.37
19	RM170	6	2.2-7.4	(CCT)7	3	-	79-95	79	50.0	0.62	0.55
20	RM178	5	118.8	(GA)5(AG)8	2	-	117-125	117	87.5	0.22	0.19

SL. no.	Marker	Chro. no.	Position (cM)	Motif*	Allele no.	Unique allele	Size range (bp)	Size (bp)	Freq (%)	Gene diversity	PIC
21	RM190	6	7.4	(CT)11	3	1	92-117	117	66.7	0.47	0.39
22	RM206	11	102.9	(CT)21	2	-	134-156	134	79.2	0.33	0.28
23	RM208	2	186.4	(CT)17	3	1	164-184	164	66.7	0.47	0.39
24	RM213	2	186.4	(CT)17	3	-	121-139	121	66.7	0.49	0.42
25	RM214	7	34.7	(CT)14	4	1	112-138	112	45.8	0.65	0.58
26	RM215	9	99.4	(CT)16	3	-	143-161	143	83.3	0.29	0.26
27	RM223	8	80.5	(CT)25	3	-	148-163	163	50.0	0.57	0.48
28	RM234	7	88.2	(CT)25	3	-	95-107	95	70.8	0.45	0.41
29	RM237	1	115.2	(CT)18	2	-	119-127	119	58.3	0.49	0.37
30	RM247	12	32.3	(CT)16	4	-	140-183	183	50.0	0.67	0.62
31	RM252	4	99	(CT)19	4	-	208-237	208	45.8	0.68	0.62
32	RM253	6	37	(GA)25	5	1	138-172	172	54.2	0.64	0.60
33	RM262	2	103.3	(CT)16	3	-	146-161	146	54.2	0.56	0.47
34	RM263	2	127.5	(CT)34	3	-	178-195	195	58.3	0.54	0.46
35	RM271	10	59.4	(GA)15	2	-	97-105	97	70.8	0.41	0.33
36	RM273	4	94.4	(GA)11	3	-	141-161	141	50.0	0.61	0.54
37	RM277	12	57.2	(GA)11	2	-	108-116	108	62.5	0.47	0.36
38	RM282	3	100.6	(GA)15	2	-	116-125	125	75.0	0.38	0.30
39	RM283	1	31.4	(GA)18	2	-	151-158	151	87.5	0.22	0.19
40	RM286	11	0	(GA)16	4	1	102-140	140	50.0	0.62	0.55
41	RM289	5	56.7	G11(GA)16	2	-	88-107	88	66.7	0.44	0.35
42	RM303	4	116.9	[AC(AT)2-10]9(GT)7(ATGT)6	3	-	201-228	201	45.8	0.64	0.57
43	RM314	6	33.6	(GT)8(CG)3(GT)5	4	1	108-130	108	79.2	0.36	0.34
44	RM342	8	78.4	(CAT)12	4	-	125-144	144	62.5	0.56	0.52
45	RM408	8	0-1.1	(CT)13	3	-	118-129	118	58.3	0.57	0.50
46	RM410	9	64.4	(TA)13	2	-	140-148	148	58.8	0.48	0.37
47	RM411	3	127.9	(GTT)7	2	-	109-117	117	91.7	0.15	0.14
48	RM413	5	26.7	(AG)11	3	-	70-88	70	70.8	0.45	0.40
49	RM431	1	178.3	(AG)16	3	-	234-261	234	58.3	0.54	0.46
50	RM447	8	124.6	(CTT)8	2	-	84-100	100	66.7	0.44	0.35
51	RM452	2	58.4	(GTC)9	2	-	210-220	210	91.7	0.15	0.14
52	RM474	10	0	(AT)13	4	-	194-236	236	29.2	0.74	0.70
53	RM484	10	97.3	(AT)9	2	-	257-270	257	66.7	0.44	0.35
54	RM489	3	29.2	(ATA)8	3	1	196-281	196	58.3	0.52	0.42
55	RM510	6	20.8	(GA)15	2	-	114-121	114	54.2	0.50	0.37
56	RM515	8	80.5	(GA)11	3	-	156-183	183	58.3	0.57	0.50
57	RM520	3	191.6	(AG)10	2	-	204-216	204	75.0	0.38	0.30
58	RM536	11	55.1	(CT)16	4	1	170-199	199	66.7	0.50	0.46
59	RM542	7	34.7	(CT)22	3	1	95-128	128	62.5	0.50	0.41
60	RM552	11	40.6	(TAT)13	4	-	119-185	119	45.8	0.64	0.57
61	RM5647	8	2.89	(AAG)16	4	-	103-133	133	41.7	0.68	0.63
Max.					9	2		263	95.8	0.74	0.70
Min.					2	1		70	29.2	0.08	0.08
Total					182	18				29.29	25.3
Mean					3			151.2	63.59	0.48	0.42

Genetic distance-based analysis

The genetic distance-based results seen in the unrooted neighbor-joining tree revealed that the 24-rice germplasm were grouped into three major clusters (Fig. 10). The highest number of germplasm (10) was found in cluster II followed by clusters I (8) and the lowest in cluster III (6). Badsha Bhog TAPL-53 and Badsha Bhog TAPL-54 is very much close and almost no genetic distance.



Legend: L= Ladder 50 bp., 1. Badsha Bhog-DA27 (Acc. 3), 2. Badsha Bhog (Acc. 1110), 3. Badsha BhogTAPL-52 (Acc. 2481), 4. Badsha Bhog TAPL-53 (Acc. 2482), 5. Badsha Bhog TAPL-54 (Acc. 2483), 6. Badsha Bhog TAPL-55 (Acc. 2484), 7. Badsha Bhog TAPL-56 (Acc. 2485), 8. Badsha Bhog TAPL-58 (Acc. 2486), 9. Badsha Bhog TAPL-59 (Acc. 2487), 10. Badsha Bhog TAPL-60 (Acc. 2488), 11. Badsha Bhog TAPL-61 (Acc. 2489), 12. Badsha Bhog TAPL-62 (Acc. 2490), 13. Badsha Bhog TAPL-63 (Acc. 2491), 14. Badshabhog (Colored) (Acc. 4355), 15. Badshabhog (Jirabhog) (Acc. 4364), 16. Badsha Bhog (Acc. 4827), 17. Badshabhog (Acc. 5349), 18. Badsha Bhog (Acc. 7554), 19. Badsa Bogh (Acc. 7870), 20. BR5, 21. BRRI dhan34 22. BRRI dhan90, 23. Bangladesh Kalijira (Acc. 247) and 24. Dinajpur Kataribhog (Acc. 4791).

Fig. 9. DNA finger print of 19 Badshabhog rice germplasm and five check varieties with SSR marker RM474.

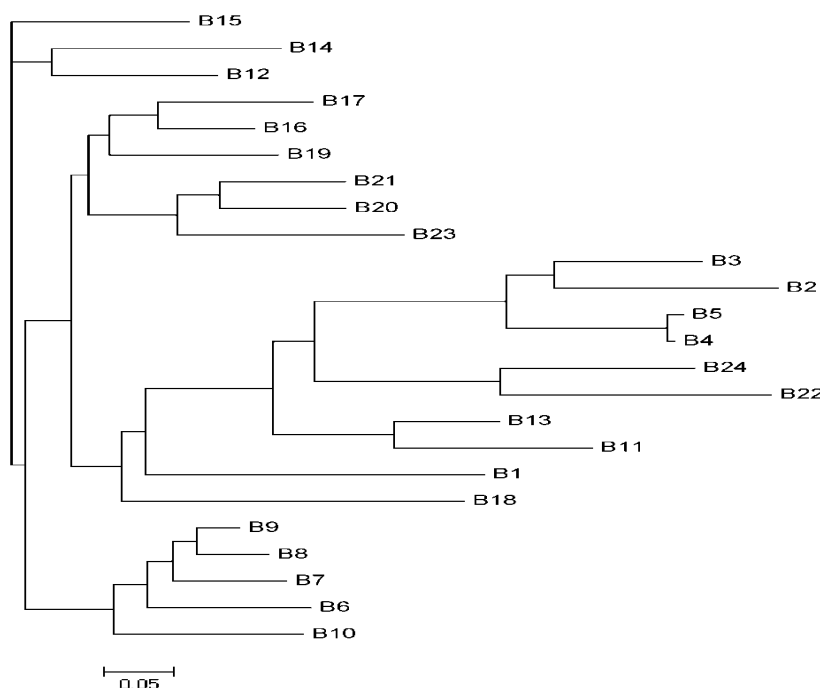


Fig. 10. A dendrogram showing the genetic relationships among 24 rice germplasm by using 61 SSR markers

PART II. MISCELLANEOUS ACTIVITIES

List of miscellaneous activities completed by the scientific personnel of Genetic Resources and Seed Division during July 2022 to June 2023 is given below:

Miscellaneous activities	Total no.
Publication in journal	03
Technical papers and reports	40
Visitors attended in Genebank	95
Meetings attended	100
Participation in training (In country/Foreign)	24
Monitoring and other tours	45
Lectures in training classes	50
Preparation of occasional reports	35

Annexure 1. Client-wise distribution of breeder seed (in kg) with cash memo for Boro 2022-23 season.

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
1	3S Agro Services Limited, Banani, Dhaka	6887	1711535391		20	50	20				20			100	30			50	200	100				100	690
2	A D Super Crop Care, Satkhira.	46424	1818326194			10						10						10							30
3	A H Trading, Bogura.	34304				20	10																		30
4	A K Traders, Pabna.	34009													10			10	20	20					60
5	Abani Seeds, Alamdanga, Chuadanga. M/S	8008	1715856055		10	20				20	10			30				10	20	20					140
6	Abdul Baki, LGED, Gazipur						05																		05
7	Abdul Jabbar Beej Vander, Natore.	38361	1724082839				10																		10
8	Abdur Rahaman Traders, Dinajpur.					30	10													50					90
9	Abir Seed House, Modhupur, Tangail. M\S	24253	1726901771			20	10												10	10				10	60
10	Abul Basar Sheikh, Dhaka.									10															10
11	Abul Kalam, Gazipur.									05					20										25
12	ACI Limited, 245 Tejgaon, Dhaka-1208.	371			420	2001	501			251	21			601	500	300		301	501	501				320	6218
13	Adarsho Chashi Ghar, Shilokupa, Jhenidah.	2301	1719267675							20				20	10			20							70
14	Addin Krishi Vander, Goalando, RajBari.	26109	1721632773				10																		10
15	Advanced Multi Farm Limited, Dhaka.	3353	1731674787		50	50	10				20			30					10	20					190
16	Afrin Seeds Company, Natore.	31678				20	10											10	10	20				20	90
17	Afsana Seeds, Tangail.	40789	1304375936				30												10						40
18	Afsin Traders, Dinajpur.	45761				30	10				10								30						80
19	Aftab Bohumukhi Farm Ltd, Banani, Dhaka.	34				100	20							20	20			30	30	30					250
20	Agri Business Corporation, Dhaka.					50	20				10				20			20	20	10					150
21	Agri Business Education, Rangpur																		10					10	20
22	Agri King Seeds, Khulna					20	20				10	10		20					20						100
23	Agri Technology, Dhaka.														05	10									15
24	Agricultural Crop Seed, Sererpur. M\S	30906			10	20	10							10					10	10				10	80
25	Agro Business Center, Cumilla.	16760	1873610970			30	10											10							50
26	Agro Care Co., Burichang, Cumilla	13680	1740847656			50	20				10				10			30			10			10	140
27	Agro Fruits and vegetables, Dhaka					40	20			20	10							40	50	30					210
28	Agro Seeds Company, Sirajgonj.	48342				10	40												10	10					70
29	Agro Techno Develop, Sirajganj					50	10																		60
30	Ahad Agro Farm, Natore.	35326	1713698709			20	10				10														40
31	Ahad Beej Vander, Shatkhira.	7582				30				20					10			20	10					20	110
32	Ahasan Trading, Bogura.	13547	1713717990			20	10																		30
33	Aiysha Seeds, Natore.	41254	1725995604				10																		10

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
34	Ajij Seed Company, Tangail.	13305	1732305308			20	10												10							40
35	Ajjul Haque, Dhaka.																		04							04
36	Ajoy Beej Vander, Dhaka Road, Magura. M/S	7293				10	10			10					10				10					20	70	
37	Akando Beej Vander, Sirajgonj.	32382					10																			10
38	Akter Beej Vander, Joypurhat.	28811				40	10							10												60
39	Al Amin Seed, Sirajganj.					10	10											10	60	10						100
40	Al Amin Traders, Jashore.	24408	1923071436			10				50			10											10	80	
41	Alam Enterprice Borechung Bazar, Cumilla. M/S	23560				20	10								10			10	20	10						80
42	Alam Seed Company, Cumilla.	23907				10					10			10					30	10						70
43	Alamgoir Traders, Lokkipur.	26763												30						10				20	60	
44	Al-Amin Beej Vander, Birumpur, Dinajpur,	4047	1788953597	10		10	30				10							40	10	10				10	130	
45	Al-Amin Seeds, Kalibari Bazar, Thakurgaon. M/S	2965				30	10				10															50
46	Al-Faruge Seed Store, Tangail.	28601	1721724700			10	10												10	10				10	50	
47	Allahr Dan Beej Vander, Kalaroa, Shatkhira.	12284	1734514374			20																		10	30	
48	Allahr Dan Krishi Vander, Kalaroa, Shatkhira.	23017	1818326194			20																		10	30	
49	Almas, BRR1, Gazipur.						10																			10
50	Anamika Seeds, Birampur, Dinajpur.	8582	1719717329				10													10						20
51	Anamul Agro Enterprrie, B Baria.	15227	1775625262			20	10											10								40
52	Anas Seed, Loknathpur, Darshona, Damurhuda, Chuadanga.	16054	1911643030			10				10																20
53	Anas Seed, Rajbari.					20	10							10		10			10	10				10	80	
54	Aniat Traders, Dinajpur.					30	10				10								20							70
55	Anik Beej Vander, Nagoan.	17007	1718406645			30	10								20				20					20	100	
56	Anika Enterprise, Pakulla, Tangail. M/S	15097	1718794043				20												20							40
57	Anika Seed Company, Natore.	9823	1713735825			20	10																			30
58	Ankon Seeds, Chuadanga.					20				10																30
59	Ankur Agro Science, Nitpur, Naogaon. M/S	21356	1947325657				10												10							20
60	Ankur Beej Ghor, Kishorgonj.						10											60	60	60				40	230	
61	Ankur Seed Farm, Jashore.	936	1711117869			30																				30
62	Anowar Beej Vander, Manikganj.	36154	1726228051				10												10							20
63	Anower Kabir, Mymensingh.																	10								10
64	Apon Seed Store, Kaligonj, Jhenaidah.	10444	1728953311							30		10			10											50
65	Arafat Agro Farm, Natore.	33790	1785724999			10	20												10	10				10	60	

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
66	Arif Traders, Dinajpur.	15871	18130337363				20																		20
67	Ariyan Enterprise, Dhaka.	44756				10	40											10	20	10				10	100
68	Arman Agro, Cumilla.						10																		10
69	Arman Seeds Company, Meherpur.	35942	1728447779								10			10						10				10	40
70	Asha Seed, Dinajpur.	36512				10	10			20	10									10				10	70
71	Asha Seed, Lalmonirhat.					20								20				10	10					10	70
72	Ashik Enterprise, Jamalpur.					10	20							10						10					50
73	Ashikur Rahaman, Norshindi.																							20	20
74	Astha Seed Company, Sadar, Rangpur.	10681	1714862821				20							20											40
75	Atik Seed Company, Modhupur, Tangail. M\S	721			30	130	80			10	10			20		20		80	30	20				20	450
76	Atqiya Agro Seed, Chuaganga.	27126				10													10	10					30
77	Auto Crop Care Ltd. B 52, Kamal Atarurk-Banani, Dhaka.	3237	1988866882			200	50			50	20				100				70						490
78	Ayub, Gazipur.															10									10
79	B D Seed, Thakurgoan.						10												40	10					60
80	Babu Enterprise, Shajanpur, Bogura. M\S	13217	1716057207			30	10							20				10							70
81	Babylon Agro and Dairy Ltd. Dhaka	30382			50	80	20			20	20		50	60	50			100	60	50					560
82	BADC, Dhaka			150	310	6830	9480		60	1000	760	140	2300	3680	650	140	140	1130	6000	3300	290	360	200	1100	38020
83	Badex seed Company, Poncogor.	15622	1710515393				10												10						20
84	Badhon Agro Farm, Sonatola, Bogura.	16990	1761516985			50	10							20				10	10	10					110
85	Badon Seeds, Chuadanga.					10	10			10															30
86	Bagura Seed, Pabna.						10												10	10					30
87	Baisha Dhan Gom PatBeej, Jashore.	39908				10																		10	20
88	Bakul Seed Store, Rajshahi.	12002	1719252978			10																		10	20
89	Bami Center, GNM Road, Kamalpur, Kushtia.	13782	1712032664			40				50	10				10										110
90	Bangal Seeds Service, Sirajgonj.	3361			30	20	10				10							20	20	10				10	130
91	Bangladesh Beej Vander, Tangail.	10778	1718229796				20																		20
92	Bangladesh Seed Company, Naogaon	27047	1724939858				10				10													20	40
93	Bangul Seed, Jamalpur.				40						10		10												60
94	Bari Nagar Agro Seed farm, Jashore. M\S	29363	1712640387			10				20								20						10	60
95	Bari Seed Farm, Jashore.	1050	1713919430			10																			10
96	Bayer Crop, Dhaka.																		20						20
97	Beej Mela, Kathaltola, Chandini Bazar, Bogura.	3696				30	10																	10	50
98	Beej Ussob Kathaltola, Bogura.	10541	1712743821			30	10				10														50

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
99	Bengal Seeds Farms Ltd. Purabari Bazar, Ipsa, Gazipur.		1958423060		30	30	10								10				50	10				20	160
100	Bhumika Beej, Dinajpur.	35960	1720337363				20																		20
101	Bikash Enterprise, Gaibandha.	26992				30	10								10				10					10	70
102	Bikash Seed Company, Gaibandha.	12925				30	10							20	10			10	10	10				10	110
103	Bikrampur Beej Vander, Dinajpur	3434		10	10	30	30				10			10	10			10	10						130
104	Bismillah Seed, Rangpur.	29741												10					10						20
105	Bismillaha Beej Vander, Santaher, Bogura.	18689	1734378623			30	10				10			10	10				10					20	100
106	Biswas Seeds, Chuadanga.	4904				10				10	10				10									10	50
107	Biswash & Brother,Pabna.	25079	1977738031				10																		10
108	Biswash Beej Vander, Chuadanga.M\S	5056				20				10	10														40
109	Biswash Seed Farm, Jhenaidha.	43110	1716084877							10					10			10							30
110	Bithi Seed Store, Modhupur, Tangail. M\S	2634	1711578279		10	30	10				10				20			10	20	20				10	140
111	Bithi Seed, Bogura.	33777					10												10	10				10	40
112	BMDA, Rajshahi.														30			30			10				70
113	Boby Seed Company, Sharsha, Jashore. M/S	12252	1916821160							10															10
114	Boishakhi Seed, Cumilla.	34181	1673997635			40	30								30			30	30	30	10				200
115	Bokhtier & Brother Enterprise, Joypurhat.	3249	1716161394	10		30	10				10			20					50						130
116	Bokul Agri Business , Sirajgonj	30006					10											10	10						30
117	Bondhon Genetics Ltd, Nilphamari.	30365	1722359465			30	10				10			70					60						180
118	Bondhon Seeds Company, Panchagar.	15997	1737367877			60	10							60					80						210
119	Borno Aronno Traders, Netrokona.	37275	1712563348				10											10	30	10					60
120	Bouljan Seed, Tangail.						10																		10
121	Bowali Agro, Cumilla.	36480				10	10																		20
122	Bowaljan Beej Vander, Tangail.	42799	1739390356				10																		10
123	BRAC, Mohakhali, Dhaka.	930			50	500	350				20			200				50	90	10				20	1290
124	Brishti Enterprise, Dhaka.	38948	17401592500			20				20				10	10			10	10						80
125	Brishti Enterprise, Dinajpur.	46615				30	10			20	10			20	20			20							130
126	Brothers Seed, Chuadanga.					10				10															20
127	Bushra Agro, Dinajpur.	16072		10		40	10			20	10			10	20			10	50		50			70	300
128	Bushra Seeds, Dinajpur.	34230	1723399381			20	10											10	20						60
129	CCDB, Dhaka					10	20																		30
130	Central Agro Vision Company, Cumilla.	15154																	10	10					20
131	Century Agro Limited, Dhaka.	12785				150	70			20	20	10			20			20	70						380
132	Chamok Seed, Dinajpur.	45350	1731659184			20	10			10															40

Sl No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
133	Champion Seed, Sherpur. M/S	12847			10	40	10				10			10				10	10					10	110
134	Champion Seeds Company, Monda, Naogaon	27806	1710139481			20	10				0														30
135	Chashi Bitan, Akhaura, B, Baria	5366	1727622310			30	10				10				20			10	20	10					110
136	Chemist Agrobiotech Ltd, Dhaka.	12661				30	10			20				100	20	30		10	30					30	280
137	Chitra Seeds, Narail.	6649				20	10			10				10	10			10	20	10	10			10	120
138	Chowdhuri Seeds, Nilphamari.	8134	1713713416			30	10							10											50
139	Chowdhury Seeds, Jashore.					30																			30
140	Chuadanga Agro Seed Farm,Sadar, Jashore.	33494	1816530751							50	20	10						30							110
141	Clean Seeds, Joypurhat																	30	30					70	130
142	Corbel International Limited, Dhaka.	756	1755514912			150	70			40	30					20			30						340
143	Crowan Trading International, Dinajpur.	33776				20	10																		30
144	Cumilla Seed Farm, Amodabad, B-Baria. M/S	24385	1713610970			40	10				10				20			30	30	20	10			10	180
145	Daloyar Seed Store, Dinajpur.	35961	1710535396			30	10							10					30					10	90
146	Dawagiri Beej, Bogura.													10							10			10	40
147	Desh Bondhu Seed, Lalmonirhat.	35639				10	10							70										10	100
148	Dewan Nurr Siddique, Gazipur									03															03
149	Dhanshiri Seeds, Sirajgonj.	37757					10																	10	20
150	Dinajpur Beej Vander, Station Road, Dinajpur.	519	1712943504	10		50	50				20				10			10	10						160
151	Dinajpur Seed Store, Dinajpur.	18435	1714941817	10		50	50				20				10			10	20						170
152	Doel Traders, Bogura.	596	1717851266		30	80					20	20		10	10			30	10						210
153	Dorsona Seeds Company, Chuadanga.	21314				10				10															20
154	Dr. Umme Kulsum, HRD, BRR1, Gazipur														10										10
155	Dui Vai Beej Vander, Sadar, Tangail	27746	1761767611				10																		10
156	Dui Vai Store, Tangail Sadar, Tangail	39022	1749669092				10																		10
157	Dynamic Agro Science, Chandni Bazar, Bogura.	3695				10	10				10							10	20	20					80
158	Dynamic Seed And Sedling, Bogura.	33775				30	10											10	20					10	80
159	Eimon Traders, Tangail.	8808	1719805490				20																		20
160	Ejab Agro Limited,Dhaka.	33543					10								20										30
161	Eon Agro Industries Limited, Gazipur.		1713164035			30	10				10			20	20				20	20	10				140
162	Fahim Seed Company, Goyahata, Thakurgoan.	28216				10	10							10					10						40
163	Faloboti Seed Co. Ltd. Dumuria, Khulna.	7139				20							10												30
164	Farm & Farmer, Dhaka.	23638																	10	20					30
165	Farmars Development Foundation, Dinajpur.	43116				30	10																		40
166	Faruk Hossain, Gazipur.																	05	02						07

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
167	Faruk Traders, Kishoregonj.						10												20							30
168	Farzana, Gazipur.														04											04
169	Fazlu Beej Vander, Natore.	4820	1718690057				10												10							20
170	Five Star Seed Company, Gaibandha.	23237				30	10								10				10							60
171	Flying Seed, Jhenidha.	10882	1712821362			30	10																			40
172	Folon Traders, Kalihati, Tangail. M/S	21298	1712597787				20																			20
173	Friends Seeds Company, Mahespur, Jhenaidah.	6996	1724906646							30	10							10								50
174	Fuad Traders, Dinajpur.			10		20	20			10				10	10				20					20		120
175	G S Agro, Dhaka.					100	20											60								180
176	Gachihata Aquaculture Farms Ltd, Kishoregonj.		1711533857			10	20											10		500						540
177	Gazipur M R T Seed, Mymensingh.	37269				30	10						50		20				50					20		180
178	Gazipur Seed Limited, Shinger Bazar, Natore,	3768				20	10								10			10	10	20				10		90
179	Gazipur Seed, Pabna.						10													10						20
180	Gazipur Seeds, Natore	23501	1718407125				10												10							20
181	Gazipur Standard Seed, Jamalpur.	15505	1719644643		50	30	10				10				10				200	10				10		330
182	Gazipur Super Seed, Jamalpur.	27500	1712842545			30	20				10								20	10				10		100
183	Gazpur Krishi Seed, Jamalpur				10	10	10				10								10	10						60
184	Giant Agro Processing Limited, Dhaka.	5666			100	300	30				10			300	20	50			100	50				50		1010
185	Giant Agro, Mymensingh.																	20			10			20		50
186	Global Agro Farming, Gareyahat, Kaharol, Dinajpur.	3635		10		60	70				20			20				60	100	20				20		380
187	Golden Agro Seed, Joypurhat.	7818	1962119793			30	20				0				20				50	50				50		220
188	Golden Seed Company, Kushtia.	33487				10	20			10	10								10	10						70
189	Golden Seed, Barishal.						20				20			30					40							110
190	Golden Valley Agro Source Ltd. Mirbag, Dhaka.	3952			20	60	30				10			50	20			40	50	30				30		340
191	Grameen Seeds, Birampur, Dinajpur.	7380	1740817942			40	10																			50
192	Great Harvest Crop Care, Dhaka.	48255	1712876814				10												10							20
193	Green Global Seeds, Saidpur, Nilphamari,	12948	1717444866	20		10	20				20			20					20	10				10		130
194	Green Life Seed, Bogura.	33691				30	10				10								30							80
195	Growtech Agro, Dhaka	24104	1926990484			100	20			20	10				20			50	50					20		290
196	H R Agro Limited. Panchogor.	17045			10	10	10							30												60
197	H R Traders, Dinajpur.	3603	1748991225			10	10											20	10					10		60
198	H Rahaman Agro Farm, Dinajpur.	4852	1774948850	10		20	50				10							60	10							160
199	Habib Seeds, Dinajpur.	19496				20	10			10									20							60

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
200	Habibur Rahaman, Gazipur.																		10						10
201	Hafiz Seed Treders, Sirajgonj.	46341	1747059710			20												30	20						70
202	Haji Beej Vander, Moradnagar, Tangail.	17163	1726541662			70												20							90
203	Haji Eyaqub & Sonce, Tangail.	46967	1716696442			20																			20
204	Haji Jakir Khan, Gazipur.																	02	02						04
205	Haji Traders, Gaibandha.			10		20	10																		40
206	Hanif Agro Traders Jamalpur.												10					10						10	30
207	Hanif Seed Enterprise, Rangpur.	16821	1701932717			10	10						10				10		10					10	60
208	Haque Agri Business, Debigonj, Panchogor	5592	1729158794			30	10			10			80					50							180
209	Harun Enterprise, Dinajpur.	15849				20	30											10	10						70
210	Harun Or-Rashid, Jamalpur.																40	50							90
211	Hasan Enterprise, Jamalpur.	2078					10										10	10							30
212	Hasan Seed Traders, Jashore.	7924				20			20				10	10			10							10	80
213	Hasan Seed, Sirajganj.					10	10							10			10	10	10					10	70
214	Hasanuzzaman Traders, Barinagar, Jashore. M/S	5103	1711277775			20	10		10				20	30			40	10	10					50	200
215	Haychem (Bangladesh) Ltd. Gulshan-2, Dhaka-1212.	5908				450	200		130	40					70		100	300	400						1690
216	Heed Seed, Jhenidha.	38880				10			20															40	70
217	Helal Trading, Serajgonj. M/S	28858	1713723371			30	20											10	10					20	90
218	Hena Traders, Dinajpur.	45757				30	10											30							70
219	Hi Tech Seed, Tangail.					10							10				10	10							40
220	Himadri Limited, Bogura.	3240				30	10							20				30							90
221	Himalay Seeds & Agro Ltd, Dhaka.	47950				30	10						10					50	20						120
222	Himaloy Agro Farm, Thakurgaon.	12166	1842030007				10						10					10							30
223	Himaloy Seed Company, Raypur, Meherpur.	28884	1749120636										30					20						10	60
224	Hira Enterprise, Tangail.	33658	1957932225				10																		10
225	Hira Seed Company, Gazipur, Dhaka.			20	30	10				10				10				90	10					20	200
226	Hi-Tech Agro Products Ltd, RajShahi.	1125	1911753415			50	20			10															80
227	Hossain Seeds, Satkhira	45879		10	10							10												10	40
228	Icon Seed Company, Tangail	36003				10	10												40					20	80
229	Imam Krishi Traders, Pabna.	2397	1704625789				10											20						10	40
230	Imran Beej Mela, Bogura.	10243	1723251967			20	10			10								20							60
231	Insaf Seed, Faridpur	31637	1724089500	50	30	10			10								10	10	20					50	190
232	Intayda Enterprise, Sirajgonj.	16016	1761879742				20																		20

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
233	International Agri-tack Bangladesh, Gibandha.									10										20					30
234	Iqbal Store, Chittagong	30150				10	10				10				10			10	10	10	20			40	130
235	IRRI Bangladesh, Dhaka															50		40	40	40	40		10	90	310
236	Isamoti Agro Seed Farm, Jashore	24407	1759194203			20				20															40
237	Islami Seed Company, Bakshigonj, Jamalpur.	17640	1728011781		50	30	10							10					140	10				10	260
238	Ispahani Agro Limited, Dhaka.		1713479191	10	100	500	100	10		100	30		100	300	100	50		100	200	200				200	2100
239	J R Agro, Rangpur.	23229			10	60	150			20	80	30	20	10	40			40	80	40	30			40	650
240	Jadu Beez, Panchagarh	34871				30	10				10														50
241	Jafor Beej Vander, Kaliganj, Jhenaidah.	291	1715082930							20	10				10				10						50
242	Jagorani Chakra Foundation, Mujib Sarak, Jashore.	5471				40							20												60
243	Jahanara Traders, Birol, Dinajpur.	5519				30	10																		40
244	Jajira Agro Seeds, Chuadanga.	48210					20			20															40
245	Jakia Enterprise, Pabna.	1474	1718969355				10												40					10	60
246	Jamal Hossain, Gazipur.					05																			05
247	Jamuna Agro Care, Sirajganj.	36670				10													10	10				10	40
248	Jamuna Agro Seeds, Jamalpur.	20984	1716759303		20	20	30							10	10			20	10					10	130
249	Jamuna Seed, Naogaon.	23969				20	10																		30
250	Jamuna Seed, Sirajgonj	32182					10								10				10						30
251	Janani Seeds Company, Chuadanga.	13180	1999558055		10	20				20				20	20				20	10				10	130
252	Janani Seeds Company, Singra, Natore.	31630				20	10												20	20				20	90
253	Janata Seed Traders, Rupdia Bazar, Jashore.	20801	1914839802			20				10														10	40
254	Janata Seed, Gaibandha.																		40	20					60
255	Jannat Beej Vander, Tangail	45018	1794027917				10																		10
256	Jannat Seeds, Tangail.	46400	1725862955				30																		30
257	Jemi Coporation, Gaibandha	12299				30	10							10					10	10					70
258	JF Agro Private Ltd, Savar, Dhaka	21114	1968773368	0		30	10			10				50											100
259	Jisan & Brother Beej Vander, Pabna.	33359	1711200880				10			10									60						80
260	Jom Jom Agro Care, Ponchogar.	46316					10							10					10	10				10	50
261	Jotin Traders, Tangail	30078	1740647941				10												40						50
262	Joy Agro, Lokkipur.	47024												10										10	20
263	Joya Seed Ltd. Rajshahi.					50	10				10							20	30					40	160
264	Joynal Traders, Tangail. M/S	177	1730850160				70				10								10						90
265	Joypur Beej Mela, Joypurhat.	6667	1718281069	10		20	10				10			10	10				10						80
266	Juthi Seed Company, Tangail.	28066	1711578279		10	30	10				10				10			10	20	20				10	130

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
267	K K M, Dinajpur.					10	10												20						40
268	K Y Seed, Dhaka.	40791				10													60						70
269	Kamriul Traders, Dinajpur.	26661																	30						30
270	Karim Beej, Chattogram.					50					10														60
271	Keya Enterprise, Dinajpur.	8235	1712930671	10		30	20				10			40	30			20	40	20					220
272	Keya Enterprise, Tangail.	46398	1758822795				10																		10
273	Khamar Bari, Gazipur.																							20	20
274	Khan Agricultural Products Ltd. Dhanmondi, Dhaka-1205	17096	1872655970			80	70				20			20					20						210
275	Khan Beej Vander, Jhenidha.	28939	1712994723							10														10	20
276	Khandakar Beej Vander, Tarash, Sirajgonj. M/S	26081	1716643308			30	30				10								20	20				20	130
277	Khandkar Agro Ltd. Golapbag, Gobindhagonj, Gaibandha.	3798				30	10				10				10				10						70
278	Khandkar Krishi Ghar, Gaibandha.	19544	1716872079			20	10																		30
279	Kobir Seed, Kustia.						10												10						20
280	Kolim Uddin, Jhenaidha.																							3	3
281	Kolmilota Pani Babostapona Somoybai, Narail.	21032				20	10		10	10	10			20	10			10	20	10	10			10	150
282	Kolpona Traders, Sirajgonj.	16460				10	10								10				10	10					50
283	Komriand Agro. Cox's Bazar.													30						10				10	50
284	Konika Seed Company (PVT) Ltd, Chhuadanga.	3523	1972371662			20				30	10														60
285	Kopotakho Enterprise, Tala, Shatkhira. M/S					20				10			10											10	50
286	Kowshik Agro, Dinajpur.																		20	20					40
287	Krishan Agro Service, Mymenshingh.	6546	1713960874		10	10	10												10	10			10		60
288	Krishan Quality Agro Ltd, Mymenshingh.	22897	1713960874			10	10												20	20			10		70
289	Krishan Seed, Mymenshingh.	44769	1620637372			10	10																10		30
290	Krishi Beed Upakaran Nursery, Dhaka.	3706					10												20	10					40
291	Krishi Beej Vander, Dinajpur.	3433				10	10			10															30
292	Krishi Biplob Seeds Company, Thakurgaon.	5357	1797624320			10	10				10			10		10			10						60
293	Krishi Bapon Kandro, Dinajpur.	5205	1772147620			10	10											10	10						40
294	Krishi Biponi, Botiaghata, Khulna. M/S	989				30							20											20	70
295	Krishi Progoti, Sirajganj					10	10												10						30
296	Krishi Sebyan Seed Store, Bogura.	37743				30	10							20				10							70
297	Krishi Seed farm, Jashore					20								20											40

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
298	Krishi Sheba Seed Company, Ghatail, Tangail			10		10	20								10											50
299	Krishi Unnayon Seed Company, Meherpur.	34763	1714208137			10								40												50
300	Krishi Unnayon Seed, Sirajgonj.	16313	1730193933				10																			10
301	Krishi Uprokoron, Jamalpur.				10	10	10												10							40
302	Krishi Vander, Dinajpur.	10637					20												20							40
303	Krishibid Seed Ltd, Dhaka.	23722	1700729232			350	100			50	20			800					60	60				50		1490
304	Krishok Bondhu Beej Vander, Noldanga, Natore.	609	1716525408			30	20	10			10								20	20						110
305	Krishok Vai Beejagar, Noldanga, Natore.	3596	1734340620			20	10	10												10				10		60
306	Krishoker Hashi Seed, Pabna.	32360				10	10												10							30
307	Lab Bangla Agro Care, Pabna.																		15	15	10					40
308	Labib Enterprise, Shahajadpur, Sirajgonj.	3412					10							10		10			20	20				10		80
309	Labiba Agro Seed, Mymensingh.	33515				30	10												50	50						140
310	Lablu Beej Vander, Manikganj.	36168									10															10
311	Leyon Traders, Dinajpur.	19599				10	10											20		10						50
312	Loknath Traders, Rangpur.	32514					20							10				20	20	10				10		90
313	Lord International Seed, Natore.	3722	1728031565			10	20				10							10								50
314	Lucky Seed, Dinajpur					60	20																			80
315	M D Seeds, Natore.	14126	1716891745				20				10															30
316	M K Seed Farm, Barinagar, Jashore.	832	1712680175	10		20				40	10	10	10		10			10								120
317	M R Seed, Jhenaidha.	46648	1719456813							10								10								20
318	M R Seeds Company, Meherpur.	16290												30										10		40
319	Ma Beej Vander, Rajbari.	2665					20									10			10							40
320	Ma Moni Beej Vander, Gopalganj.	2721	1713515471				20													10						30
321	Maa Enterprise, Tangail	29113	1727350005				30												10							40
322	Maa Mati Krishok Seed, Mymensingh.	27628			10	10	10								10			10	10	10						70
323	Maa Moni Seed, Bogura																	10	10					10		30
324	Ma-Babar Dowa Enterprise, Netrokona.	22126	1711514348			10	10																			20
325	Madina Agro, Gubandha.	27506			10	20	10							10					10					10		70
326	Madina Beej Vander, Dabpotti, Naogaon.	3257				10													10					10		30
327	Mahabub Enterprise, Rangpur.	38410												10					10							20
328	Mahabub Seed Farm Sodor, Jashore. M\S	1128	1712592173			40				10					20											70
329	Mahabub Seed Store, Natore.	40461	1716489986																					10		10
330	Mahadi Seed, Modhupur, Tangail	33107	1712883757			30	20							10				20						20		100
331	Mahafujur Rahaman, Norshindi.										03							02								05

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
332	Mahi Seed, Gazipur.																							10	10
333	Mahib Enterprice, Jamalpur.	45944	1728877583				20							10						10					40
334	Mahim Seed Company, Bogura.	1120	1716335458			100	200				60							20	50						430
335	Makki Seed, Jashore.					10	10			20					10									10	60
336	Mama Vagne Beej Vander, Baganchara Bazar, Sharsha, Jashore, M/S	1079	1711131269			20				10															30
337	Mamun Seed Company, Dinajpur.	6036				20	10						10					10	20						70
338	Mamun Seed, Mymensingh.					10								10				10	10						40
339	Manikganj Agro Seed, Manikganj.	36149					20				20								20					20	80
340	MAP Agro Industries Ltd. Uttara, Dhaka.	869			30	230	110			70	30			50	50			80	60	50				10	770
341	Maria Seed, Sirajgonj.	30379	1721339026			10	20				10								10	10					60
342	Marium Beej Vander, Sadar, Netrakona.	31880		10		20	20				20		10		10			10	20	10				10	140
343	Mark Birojit Baroi, Kashimpur, Gazipur.									02															02
344	Master Agro Seed Farm, Barinagar, Jashore.	18571	1712640387			20				50	20		30	50				50						20	240
345	Master Beej Bhandar, Pabna.	40452					10												50	20					80
346	Master Seed Company Ltd. Chandpur Bazar, Naldanga, Natore.	20566	1718069278			10	10				10							10		10				20	70
347	Master Seed Company, Bogura.	7067	1819660179			50	20			10	20	10				10		10	10	10				20	170
348	Master Seed, Pabna					10									10			10	10	10					50
349	Master Seed, Tangail	35150	1712464888		10	20	10								10			10	10	10	10			10	100
350	Master Seed, Tangail.						10																		10
351	Masud Seed Co, Golabari, Madhupur, Tangail. M/S	12660	1912750430			30	10								10				20	20				10	100
352	Mazuder Traders. Jashore					10								20											30
353	McDonald Seeds Limited, Dhaka.	145				100	20				20			50	20				50	50					310
354	Md, Parvez., Patuakhali																			10	10				20
355	Md. Abu Sufiyan, Gazipur.									10															10
356	Md. Anwar Hossain, Dhirasrom, Gazipur.		1711489497																					10	10
357	Md. Mazharul Islam, Narsingdi.																							10	10
358	Md. Mofajjal Hossain																			20					20
359	Md. Monzurul, Dhaka Bank, Konabari, Gazipur									10															10
360	Md. Rafiqul Islam, SA, BARI, Gazipur.																			05					05
361	Md. Rafiqul Islam.												05							05					10
362	Md. Saidur Rahaman, Kishorgonj.					10																			10

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
363	Md. Shah Alam, BRRI, Gazipur.																							03	03
364	Md. Sharif Hossain, Dormitory, BRRI HQ					20																			20
365	Meghna Seed Company, Meherpur.	19120	1716351485			10								10										10	30
366	Mehedi Traders, Joypurhat.	23642	172314549			30	10												20						60
367	Metal Seed Ltd, Gulshan-2, Dhaka.		1777786296			120	70		20	20									60	90				30	410
368	Mia Traders, Tangail.	39014				10	10												10	10					40
369	Miarul Beej Vander, Mehearpur.												20							10					30
370	Milon Beej Vander, Kalegonj, Jhenaidaha.	9027	1828156091						20																20
371	Mim Jim Enterprise, Sirajganj.	29372	1713713921			10	30			10									20	10					80
372	Mir Traders, B-Baria.	38217				30	40											20	100						190
373	Mira Traders, Chuadanga	6480			10				10					10											30
374	Mirdha Beej Vander, Natore.	35963				10	10											10	30	20				10	90
375	Miron Seed Co. Laufula, Madhupur, Tangail. M/S	13302	1739396935		10	50	50							10				40	50	20				20	250
376	Mithu Fakir, Natore	13039	1713632860			20	10			10															40
377	Miya Store, Jashore.	20658	1717085635			20								10				10							40
378	Mizan Seed Company, Mymensingh.	34781			10									10				10	10					10	50
379	Mizan Seed Company, Tangail	33017	1712425010			50	10						10	10	10			20	30	10				10	160
380	Mobassir Traders, Thakurgaon.	19586					10							10					20	10					50
381	Modern Seed, Thakurgaon.								30																30
382	Modern Seed Company, Mymensingh.	43135					10											10	20	20				10	70
383	Modern Seeds Agro, Chuadanga.	4027				30			30	10	10		20	10											110
384	Modhupur Beej Vander, Tangail.						20											10	10						40
385	Modina Beej Vander, Gaibandha	1395			10	20	10						10	10				10	10					10	90
386	Mofajjal Hossain, Rajshahi.																	20	5						25
387	Mohammad Beej Vander, Natore.	2380	1734486088				10												10					10	30
388	Mohim Seed farm, Mymensingh.	10782	1987358628			20	10							10						10				20	70
389	Mohona Seed Company, Dinajpur.	28404			10	30	10			10			20					10	20	20				20	150
390	Molla Seed Traders, Churagaca Road, Jashore. M/S	728	1716781112			10			20		10			10				10	10	20				10	100
391	Molla Traders, Madaripur.	33091	1710141098											10				10	10						30
392	Molla Traders, Natore.	1432	1716872858				10												10						20
393	Momata Seed Parivate Ltd, Dhaka.	43331	1711021441			30	10																		40
394	Momataz Agro Seed Farm, Mymensingh.	43257																	10	10					20
395	Momota Agro Seed, Kishorganj.	15773	1740576020			30	10																		40

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
396	Momota Seed Company, Rangpur.	38952				30				10				30		20			20	20				30	160
397	Momota Seeds, Lalmonirhat.					20	10							200				10	10					20	270
398	Mondol & Brothers, Pabna.	28460	1743526161				10																		10
399	Mondol Traders, Shirajgonj.	16552				10	10																		20
400	Monika Seed Ltd. Sirajganj	16003	1714676453			10	30				20								10	10					80
401	Mother Seeds & Agro, Amdah, Meherpur.	13836	1913886371			20								100		10			10						140
402	Mou Seed Company, Gaibanda.	766				30	10												10	10				10	70
403	Mou Seed Farm, Dinajpur.	44561	1722862944	10			10											10							30
404	Mowsomi Beej Vander, Thakurgaon.	129				10	40				10			20	10			10	10						110
405	Mujibur SME Beej Vander, Jashore																							20	20
406	Mukta Beej Utpadhon Farm, Mymensingh.	2999	1952246846		10	20	10						10					10	20						80
407	Mukta Beej Vander, Ullahpara, Shirajganj	5295				10	10												10						30
408	Mukta Beez, Coxsbazar					80					10		20	30						10					150
409	Muktijudda Agro Seed Company, Jamalpur.	18907	1736765143		10	10	10							10					10					10	60
410	Multi Trade International, Dinajpur	5675				10	10											10	20	10					60
411	N C C Seed, Sadar, B-Baria.	23740				20	10				10							10	20	10	10				90
412	Nahida Akter, Kaliganj, Gazipur					02	03																		05
413	Najir Beej Vander Jamalgonj, Joypurhat.	3902	1712269989			30	10			10				10	10			10	10					10	100
414	National Agricare Import, Dhaka.	21895				150	70			50	40			300					120						730
415	National Seed, Sirajgonj.	30521					10												10						20
416	National Seeds Company, Gibanda.	38668	1751649419			20	10												10		10			20	70
417	Navid Seed Company, Sadar, Mymensingh.	16155	1727973870		10	10													10						30
418	Nayim Beej Vander, Natore.	22925					10												10					10	30
419	Nazmul Seeds, Miarhat, Mithapukur, Rangpur.	7810	1724052552								10			10				10	10					10	50
420	Nazriul Traders, Soriotpur.	25429					10							10											20
421	New Chuadanga Seed, Jashore.	37314	1769931142			10				20								20						10	60
422	New Four Brothers Enterprice, Nagarpur, Tangail. M\S	34581	1740854151				10												20						30
423	New Green Seeds, Vangura, Pabna.	32021			10	30	40			20			20	30	10			10	50	30				10	260
424	New Molla Traders, Jashore.	48157	1646634343							40					10				10					10	70
425	New Mollika Seed Limited, Serajgonj. M\S	28784	1711286608			10	20												10						40
426	New Padma Seed Farm, Mulgram Bazar, Keshobpur, Jashore.	21500	1718767218															10							10
427	New Popular Narsari, Dinajpur.	458	1740651325	10			50				20														80
428	New Super Seed, Barishal.													50											50

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
429	New Vai Vai Traders, Netrokona.	31070				10	10											10	10						40
430	Neyaz Traders, Dinajpur.						10			10					10			10							40
431	Nilsagor Seeds & Tissue Culture Ltd, Banani, Dhaka.	23257	1313357374			60	30			10				40					50	50					240
432	Nobanna Seeds Comapany, Thakurgaon.	13148	1751212719				20												10	10					40
433	Nobo Digonto Agro Source, Rangpur.	38464				20	10				10			30	20				10	10					110
434	North Bangal Agro, Dinajpur.	2359					20											10							30
435	Northern Agriculture, Thakurgaon.	6588				30	10							50	20				20						130
436	Northern Agro Seeds Plus, Vangura, Matharbaria, Pabna.	16388	1712192368				10																		10
437	Northern Limited Bangladesh, Pabna.	1760	1716237141			50	70			10	20				10			10	40	20				10	240
438	Noyan Seed Friends, Shatkhira.					10												10							20
439	Noyian Seed Company, Tangail.	35357	1732931304			10	10																		20
440	Nurajjaman, Gazipur.																			10				03	13
441	Nuri Beej Vander, Chapai Nawabganj	32871				10													10						20
442	Nurr Beej Vander, Pabna.	5495	1729608316			10	50				10								10						80
443	OFRD, BARI, Gazipur																							05	05
444	Oliur Fahman, Gopalganj												10												10
445	Omar Molla Beej Vander, Sirajgonj.	20124				30	10							20	10				30						100
446	One Agro Science, Panchbibi, Joypurhat.	3454	1721209381	10		30	10				10				20				20						100
447	Orbit Agro, Dhaka.	24211	1984963032			20	20			10	10			20	10	10		30	20	20	10			10	190
448	Orpa Seed, Jashore.					20				10					10										40
449	Osman Goni, Naraingonj.														05										05
450	Padma Agri Care, Chuadanga.					10																			10
451	Padma Seed Farm, Jashore.	2940	1712102000			30				20				10				10							70
452	Padma Seed Farm, Sirajgonj.	12735			20	30	10												10						70
453	Padma Seeds, Pabna.	3370	1316266999			10	30												10						50
454	Parfect Seeds House, Chuadanga.	16322				10				10					10										30
455	Pata Agro, Thakurgaon.	34306				10	20				10			30					50						120
456	Perfect Agro, Rangpur.	23029	1717956900				20							50				10							80
457	Petro Bumika, Dinajpur.					30	10			10	10			10				10	30					10	120
458	Petrochem (Bangladesh) Limited, Uttara, Dhaka.					250	100				30								50	50					480
459	Pinki Redwan Agro Farm, Kishorgonj. M/S	14131	1718353114			40	10				10				10	10		20	30	30				20	180
460	Piya Traders, Tangail	27428	1715057961				10																		10

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
461	Polli Beej Vander, Joupurhat.	29420	1750854040			30	10																		40	
462	Porimol, Mirjapur, Gazipur					05							02													07
463	Porosh Seeds, Mahashpur, Jhenidaha.	10881	1913921586			20					10				10											40
464	Power Agro Science, Naogaon	8385	1740972357			30	10				10								10					10		70
465	Pran Agro Buisness, Dinajpur					20	30			10				20					10					10		100
466	Prodhan Agro Link BD, Kurigram	30828	1751649419			20	10				10			10				10	20	20				20		120
467	Prodhan Seeds, Kurigram.	3980	1751649419			30	10											10	10							60
468	Progoty Agro Seeds, Jashore.	31500	1718207846			40	10			10	20			10	20									10		120
469	Progoty Seed Farm, Kisorgonj.	17025	1717241423			30	10									20		20	20	10				10		120
470	Projukti Agro Science, Thakurgoan.	29553	1725194142			30								30					30							90
471	Puore Seeds Agro,Bogura.	89831					10								10			10	10	10						50
472	R S Seed Traders, Chuadanga.	12881								50																50
473	Rabbi Jamuna Seed, Sirajganj	13128	1714724201				10													20				20		50
474	Rafi Beez Vander, Sirajganj	26561	1714724201				10												20	10				10		50
475	Rafi Radit Beej Vander, Tangail.	44857	1721529888				10											10								20
476	Rafid Seed Compani Pro Ltd, Chuadanga.	29062	1769335050			20	10			10	10															50
477	Rahaman Agro & Farming, Dinajpur.					30	10				10			10					10	10				10		90
478	Rahaman Beej Vander, Natore.	20560	1722410078				10								10				10							30
479	Rahamotulla seed Store, Joypurhat.	45974	1782601992			30	10							10												50
480	Rahat Agro, Dinajpur.	23144	1717817592		20	10	10				10			10					20	10						90
481	Rahat Seeds, Chuadanga.	38197				10				10				20												40
482	Raja Seeds Company, Pirgasha, Rangpur, M/S					10								20	10			10	10	10						70
483	Rajib , Gazipur									03																03
484	Rajib and sons, Dinajpur					20	10																			30
485	Raju Seeds Ltd, Dhaka.	3453				20									10				20	20	10					80
486	Rakib Agro Seeds Traders, Thakurgoan.	29166	1768946764			20	10												10							40
487	Rakib Crop Care, Kazipur, Sirajgonj.	31629				10	10													10						30
488	Rana Seed, Madaripur.																		10							10
489	Ranga Agro, Dinajpur.	22069				20	20				10							10	20							80
490	Rangdonu Seeds Company Ltd, Natore.	22927	1757353739			10	20																			30
491	Rangpur Beej Vander, Rowmare, Kurigram. M\S	20671	1716126864				10						10													20
492	Ranok Seed, B-Baria.	48183	1710840242			50	10				10										10					80
493	Rasel Seed Store, Gobindhagonj, Gaibandha.	15785				10	10																			20
494	Rasel Seed Store, Nilpamari.	23908												10												10

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
495	Rashid Enterprice, B-Baria.	30902				30	10														10				50	
496	Ratna Beej Vander, Ullahpara, Shirajganj. M/S	2913	1712075552			30	10												50	50					140	
497	Raton Agro Business, Chapainobabgonj.	38849	1714219794				10																		10	
498	Rayhan Beej Vander, Joypurhat.	1532	1711071353	10		50	20			10									50	20				10	170	
499	Rayhan Seed Company, Modhupur, Tangail.	32078	1713567596		10	30	20									10			20	10				10	110	
500	Rayhan Traders, Dinajpur.					10	10												10	10					40	
501	Razzaque Enterprise, Sirajganj	14000	1712075552			30	10																		40	
502	Redoy Seed, Rajshahi.					20	10	10			10														50	
503	Redoy Traders, Jhenidha.	26571				10			10						10				10					10	50	
504	Rehad Seed, Tangail.	36932	1743477499		10	30	10												40	10				10	110	
505	Renesa Agro, Birganj, Dinajpur,	8294			10	70	30			10	10			30	20			10	70	20				10	290	
506	Renu Seed, Madaripur	3721	1714082961				10												30						40	
507	Resha Agro Farm, Dinajpur.	7797	1713715643			20	10																		30	
508	Rijia Enterprice, Katuli Bazar, Tangail. M/S	29555	1758028691				20																		20	
509	Rikel Krishi Bitan, Shirajgonj.	14580				10	10			10									10						40	
510	Ripon Enterprise, Tangail. M/S	19061	1724732445				10												10						20	
511	Risha Agro Farm, Ghoraghat, Dinajpur.	23660	1711415001																40	10					50	
512	Robi Seed, sirajgonj.	34557					10												10						20	
513	Rokeya Traders, Delduar, Tangail. M/S	27985	1725862955				20																		20	
514	Rokibul Hasan, Muradnagar, Cumilla.																		08		08					16
515	Royal Seed, Gazipur					20	10		30						10			20	40	30					160	
516	Royal Seeds, Chuadanga.	45408	1927015638		10	40	10		20				40					10	10						140	
517	Rupa Seed Company, Sharsha, Jashore.	10728	1732397676						10																10	
518	Rupam Seed Enterprise, Fulgaji, Feni.	8784		10															20	20				10	60	
519	Rupashi Bangla Seed Company, Tangail. M/S	30104	1719088176		10	10	10												20	10					60	
520	S M E Group Enterprise						10												10						20	
521	S K Agriculter Co Ltd, Dhaka.	31399	1719002130			100	100			80			100	40	20		150	200	150					20	960	
522	S K Seed House, Dumuria, Khulna.	429	1718405173			10							10	10											30	
523	S S Agro Vision, Sabgram, Bogura.	23422				30	10								10				10						60	
524	Sabuj Bangla Seed, Sherpur, Bogura	10102	1712022382			10	10							10					10		20			10	70	
525	Saddam Seed, Tangail.																		40	20					60	
526	Sadia Krishi Gor, Bogura.	10811	1731253970			30											20	10							60	
527	Sadia Seeds, Thakurgaon.	4804																	10						10	
528	Sadia Super Seed, Sadar, Magura.	24337				20	10		10				10	10					30	10					100	
529	Safe Agro Parivate, Jashore.	20531				10													10					20	40	

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
530	Saha Traders, Tangail.	20817	1716066808				10													10					20
531	Sahajalal Seeds, Sonargaon, Narangonj.	935									10														10
532	Sahida Beej Vander, Shatkhira.																	10							10
533	Saied Seed, Bogura.		1713785476			10												10							20
534	Saimon Seed, Sirajgonj.	48421				20	10												10	20					60
535	Sajib Beej Vander, Atgharia, Pabna. M/S	8054	1716881213			10	40				10								20	20					100
536	Sajib Beej Vander, Tangail.	20781	1746175872				10																		10
537	Salam Agro Farming, Kaharol, Dinajpur.	16060	1712274979	10		30	30			20	10			30				20	80	20				30	280
538	Salam Agro Seed Company, Pabna.	43307	1723714633				20												10		10				40
539	Samad And Brothers, Dhanbari, Tangail.	1955				30	60				10	10						10	30	20				10	180
540	Samir Seed Company, Dinajpur.	35437				30	10			10				10										10	70
541	Samiul Seed, Tangail.	36931	1725297402				10																		10
542	Samiul Seed, Tangail.																		10						10
543	Samiya Seed Co. Kalihati, Tangail. M/S	22070	1716899171				40				10								50						100
544	Sara Chemicals Ltd, Dhaka.	4011				30	10																		40
545	Sarkar Beej Company, Modhupur, Tangail. M/S	7171	1716625288		10	20	10												10						50
546	Sarkar Beej Vander, Kurigram.																		10	10					20
547	Sarkar Beej Vander, Nobabgonj, Dinajpur. M/S	24369	1718911022	10			30			10	10								20						80
548	Sarkar Seed , Pabna.	44208	1716901215				20												30	20				10	80
549	Sarkar Seed Farm, Jamalpur.	15371			10		10																		20
550	Sarkar Traders, Dinajpur	379		20		20	20			20					10			20	30	10				20	170
551	Sarker Seed, Dinajpur.			20		10	10				20									10					70
552	Sarker Seed, Gaibandha	29579				20	10				0			20	10				20	10				10	100
553	Satata Enterprise, Tarash, Shirajganj. M/S	13018	1711284027			20	40				10				10				30	30				20	160
554	Satata Seed, Dinajpur																	10						10	20
555	Satmail Beej Vander, Sadar, Jashore.	2278	1716848683			20				30	10		10		10			10							90
556	Sawkot Traders, Dinajpur.	37801	1712092248			20	10																		30
557	Sawon Seed, Bogura	27993				10	10												10						30
558	Saykot Traders, Sirajganj.	27559				10	10								10				10						40
559	Sayma Traders, Joypurhat.	22677	1711062891	10		30	10				10														60
560	Sazzad Seed, Rajshahi.						10				10														20
561	SCA, Gazipur.									10					10			20	10						50
562	Seaim Seed Store, Tangail.	20570	1719088176			10	10				10														30
563	Seba Agrotac & Seeds Ltd, Dhaka.	21987	1958069703			30	10			10	0			50	10				40						150

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
564	Seed Care Crop Science, Dhaka.	45344	1968773337			30	10							50												90
565	Sehab Seed, Bogura.					10														10						20
566	Sejan Seed, Pabna.						10																			10
567	Self-Help & Rehabilitation, Nilphamari.	16943	1733066467	20		10	10																			40
568	Sema Raya Agro Farm, Gauripur, Mymensingh.	14451	1743804586			30	10				10							10	30	20				20		130
569	Setu Seed Company, Nilphamari	10114				20	20				10			20					10	10	20					110
570	Seven Star Gold, Ullapara, Sirajgonj.	31759				10	10																	10		30
571	Seven Star Seed, Sirajgonj.	24345	1712641972				10																			10
572	Shabji Bijagar, Joupurhat.	3172	1711366288	10		30	10				10								20							80
573	Shadesh Seed, Mehearpur.	24995	1754210599									10				10			20	20				10		70
574	Shahid Beej Vander, Pakundia, Kishorgonj. M/S	1076	1711195383			40	10				10				10	10		20	40	40				30		210
575	Shahida Beej Vander, Shatkhira.	10686	1740981056			50																		10		60
576	Shakib & Karim Seed, Dinajpur.	33402				20	10												10					20		60
577	Shampa Beej Vander, Rangpur.					20	10							50					20					20		120
578	Shamsuddin Ahamed, Gazipur.																				02					02
579	Shapla Agro, Jamalpur.					10	10																			20
580	Shathi Krishi Beej Vander, Jashore.	8578	1716119282			10								20					10							40
581	Sheikh Agro, Khulna					10					10		10													30
582	Sheikh Seed Company Ltd, Natore.	14453	1725796880			40	40	10			10								40	20						160
583	Shibaloy Farms Group, Manikganj.						10				10								10					10		40
584	Shikarpur Seed Farms, Jashore.					40				40										20				40		140
585	Shimul Seed Farm, Jashore.	33493				10				20								10						20		60
586	Siam Traders, Tangail.	28764	1758028691				20												10							30
587	SiamTraders, Chuadanga.	31036	1732841762			10				10	10															30
588	Siblu Beej Vander, Pabna.	26082	1717799159				20												20							40
589	Siddiq Enterprise, Norsingdi	47836																10								10
590	Siddiquis Seeds, Mirpur, Dhaka.	12003			10		10												20	10				10		60
591	Sihab Seeds, Nilphamari.	17061	1721702268				40							20												60
592	Simul Traders, Dinajpur.	19600				10	10											10	10							40
593	Sneha Traders, Jashore.									50																50
594	Sobuj Agro Farm, Gaibandha.	33178				10	10																			20
595	Sobuj Krishi Bhandar, Jashore.					20				10				20	10			10							20	90
596	Sobuj Traders, Sirajgonj.	35681					20												10							30

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
597	Sodgir Traders, Sirajgonj.	33645				10	30											10	20	10					80
598	Sofiq Seed, Natore.	31738	1763886406			20	10												10						40
599	Sofol Agro Farm, Dinajpur.	3384	1712037540			10	10			10									40						70
600	Sohag Seeds & Agro Care Company, Manikganj.	41720																		50				100	150
601	Sohal Beej Vander, Joypurhat.	7700	1762220604	10		30	10																		50
602	Sohal Traders,Gaibandha.	12925				30	10							20	10			10	10	20				10	120
603	Sohali Traders, Tangail.	31104	1730850160				10																		10
604	SOJAG, Dhamrai, Dhaka.	3954	1730038501				50			10	10								10						80
605	Sojib Beej Vander, Chapainawabgonj.					30	10												20					30	90
606	Sojib Beej Vander, Manikganj.	36154	1713535265				10												10						20
607	Sojib Seed, Nilphamari.	446				30	10			10				20				20	30					30	150
608	Somridhhi Seed, Savar, Dhaka.	21408	1716505502				10											20	10						40
609	Sonali Agro Traders, Pabna.	15548				10	10												20	10					50
610	Sonali Beej Vander, Bogura.	124	1711968981			20	20				10							20	10						80
611	Sonali Enterprise, Dinajpur,	5209	1740875279			20	10											10	20						60
612	Sonali Seed, Mymensingh.				10	20												10	20						60
613	Sonar Bangla One Seed, Sirajgonj.	27560				10	10								10										30
614	Sonar Bangla Seed Farm, Kaligonj, Jhenaidah.	18674	1718554290							20								10							30
615	Sonar Bangla Seed, Mehearpur.	22188	1782082708											70											70
616	Soniya Seeds Company, Tangail.	47478	1725372929				20																		20
617	Sornali Agro Farming, Dinajpur.	8293			10	30	10			10					20			10	30	20				10	150
618	Sornomoyee Agro Vision, Kurigram.																	05						05	10
619	South Asian Seeds, Barishal.	12793	1971476231			20								100											120
620	Southern Agro, Gopalganj	4749	1713521201				10																		10
621	Sova Seeds Company, Moulovibazar.	37221					10												20	20				10	60
622	Sowkot , Gazipur.										02								02	02					06
623	SQ Trading & Engineering, Dhaka.	46701	1321219316			30	20							10					10						70
624	Square One Seed, Sirajgonj.					10	10								10				10						40
625	Square Seed, Bogura	20513	1816946636				10																	10	20
626	Square Seed, Sirajgonj.	44951				10	10												10	10				10	50
627	Square Seed,Meherpur.	27997	1723221041			20				10	10			20					20					10	90
628	Sree Nath, Dhaka.						50																		50
629	Srizon Agro, Nilphamari.			20		40	10							30					20						120
630	Standard Seed Company. Shokhipur, Tangail.	14587	1712266057			20	10												30						60

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
631	Star Seed Agro Science, Kustia.	16285	1718815239			20	10												10	10				10	60
632	Subha Traders Company, Bogura.	15387	1711303660			50	20				10					10									90
633	Sudipto Dash, Gazipur.																			02					02
634	Sufola Krishi Store, Rajbari.	16361	1728157973			20	30			10									20						80
635	Sufolon Seed Farm, Jashore.	12916	1761566109			20				20	10														50
636	Sujola Seed Farm, Jashore.	797	1716252714			50				100		10						30						20	210
637	Sulov Beej Vander, Joypurhat.	21017	1768489797			20	10																		30
638	Sultan Ahamed, Gazipur.																				15				15
639	Sumaia Seed, Sadar, Sadar, Kurigram.	19467	1717648069			20	30				10				10			20	20	10				20	140
640	Sundor Prity Inbred Seed, Tangail.	28125				10												10	20	10					50
641	Super Agro Seed, Dinajpur.	46478					10																		10
642	Super Discovery Seed, Gopalgonj.		1713512795			10	10			10						10			10	10					60
643	Super Seed Chattogram.													30											30
644	Supreme Seed Co. Ltd, Dhaka	851	1864467993			500	300				50			300	100				150						1400
645	Suva Seed, Panchagarh																		10						10
646	Suvo Seed Company, Tangail.	2622	1712709564	10		20	10				10							10	10	10				20	100
647	Suvro Enterprise Seed Farm, Jashore.	14084	1714949110			30				10				10	10			20							80
648	Swanirvor Seed Plus, Gurudaspur, Natore.						10																		10
649	Swanirvor Seeds, Gurudaspur, Natore.					20	10				10														40
650	Swapno Seed, Bogura.	32191	1783052179			20	10				10								10						50
651	Syngenta BD Ltd, Dhaka	647	1714103495			30	30				10								10						80
652	Tahia Seed, Tangail.	27552	1777090626				40												10						50
653	Takwa Beej Vander, Foridour.	47714	1788726777												10				10		10				30
654	Talukdar Enterprise, Tangail.	3690					10												10						20
655	Tanha Agro Seeds, Chuadanga.					10														10					20
656	Taniya Enterprise, Tangail.	19305	1716616237				10																		10
657	Tarek, BRR1, Gazipur.																							10	10
658	Tareq Traders, Arambag, Tangail. M/S	27426	1627171500				10												10						20
659	Tareq Traders, Kagmari Road, Tangail. M/S	12852	1715057961				20																		20
660	Tariful Traders, Solunga, Shirajgonj. M/S	10605	1716245822			10	20				10								10						50
661	Tarin Seed Company, Chuadanga.	19680				20													10						30
662	Tasin Enterprise, Manikganj.	34725	1774198832				10								10										20
663	Tikka Seed, Sirajganj.					10									10			10	10	10				10	60
664	Titir Seed, Pabna.	34175	1711489410			10																			10
665	Towhid Traders, Tangail.	31041	1758028691				20																		20

SI No	Name of Clients	Licence Number	Cell Number	BR16	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan36	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan63	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total	
666	Tuba Seed, Helkunda Bazar, Joypurhat.	32195	1741917813			20	10				10			10	10				10							70
667	Tur Agro Seeds, Dinajpur.	15556				30	10												50							90
668	Union Agro, Mymensingh.																		10	10	10					30
669	Unique Agro Scince Pvt, Thakurgaon.	39996	1792087959			10	10							10					10							40
670	Unique Seed Com. RDA, Sherpur, Bogura.	727				50	250				60							50	60							470
671	United Seed Agro Ltd, Dhaka.	33173	1715036527			50	10							30	20				100	50				100	360	
672	Upakul Seed, Malonchi Bazar, Jashore.	16819				40																				40
673	Utpadan Seed, Jamalgonj Road, Joypurhat.	13867	1712269989			30	10							10	10			10	10							80
674	Uttara Agro Farm, Gaibandha.	43188	1731237472			10	10							10				10						10		50
675	Uttara Agro Science, Kurigram.	46646				30	10							30				10								80
676	Uttara Seeds, Kurigram	6534				30	10							50	10			10	10	10				20		150
677	Uttaron Seeds & Farms, Nilphamari.	35844				10	10											10								30
678	Uzirpur Organic Somobai Shamity Ltd. Narial	3908				20	10		10	10	10		20	20	10	10		10	30	20	10			20		210
679	VIP Seeds Company, Thakurgaon.	31062	1751027048				10							10					10							30
680	Vai Vai BeezVander, Sirajganj					40	20							40	10				30	10						150
681	Vai Vai Enterprise, Madaripur. M\S	28779	1715702356				10												20							30
682	Vai Vai Enterprise, Tangail						10												10							20
683	Vai Vai Seed Company, Kaligonj, Jhenaidah.	900	1711143806							20	10								10							40
684	Vai Vai Traders, Mehearpur.	5740								10	10			620		10		10	10					260		930
685	Vai Vai Traders, Sahajadpur, Sirajgonj. M/S	32432					20				10				10				20	10						70
686	ValukGor Seed Farm, Jashore.	40916	1781162018			10				10				10										10		40
687	Vartex Agro Service, Gouripur, Mymensingh.	5756	1791696912			10	10												10							30
688	Vigor Seed, Sirajganj.					10																				10
689	WorldTech Seed, Dinajpur	417				30	10												10							50
690	Xplore, Dhaka	18051					10			10	10				10			10	20							70
691	Zebin Agro, Sherpur					29									36	20			80					50		216
	Total			510	1,900	22,882	19,119	50	80	3,854	3,126	330	2,797	11,011	3,470	980	140	5,013	16,309	8,667	700	360	210	5,529	107037	

Annexure 2. Client-wise distribution of seed (unsold breeder seed) (in kg) as free of cost for Boro 2022-23 season.

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
1	Abbas, Porabari.							15											10	25
2	Abdul Auyal, Mirrargao.		15											15						30
3	Abdul Auyal, Salna.		10												10					20
4	Abdul Hamim, BRR1.								10											10
5	Abdul Huce, BRR1.		10												10					20
6	Abdul Malak, Khatora.							10	05											15
7	Abdul. Auaial, Manikganj.							10	10											20
8	Abdur Gaffur, BRR1.									10									10	20
9	Abdur Rahaman, Gazipur.							07	08											15
10	Abdus Samad, BRR1.		10												20					30
11	Abdus Samad, Mirrargao.		20											20						40
12	Abdus Subahan, Jhenidha.															02				02
13	Abiar Hossain, BRR1.		10											10						20
14	Abu Jaiead, Netrokon.								10					10	10					30
15	Abu Md. Anayet Ullaha, DD, DAE, Manikganj.													5000	2000				1000	8000
16	Abul Basar, Gazipur.		10												10					20
17	Abul Kalam, BRR1.							10												10
18	Afas Uddin, Bortuli, Gazipur.							10	10											20
19	Afsana Begum, BRR1.								20										20	40
20	Ahamed Rubel, Gazipur.		15											15						30
21	Ajahaar Uddin, BRR1, Gazipur.		10																10	20
22	Ajahaar, Samantopur, Gazipur.		10											10	10					30
23	Ajaim Uddin Ahamed, G S, Noakhali.							200	100					200	200		300			1000
24	Ajaim Uddin, Netrokona.													15	10				10	35
25	Ajar Uddian, BRR1.		10												10					20
26	Akkas Ali, BRR1.		10												10				10	30
27	Aklima, Boraitola.							10	10											20
28	Aklima, Salma.							10									10			20
29	Akter, Bashbari.							15											10	25
30	Alak Jann, Gazipur.		20																	20
31	AlakJan, Koultia.																10		05	15
32	Alamgair Hossain, Mirrargao.		20																	20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
33	Al-Amin, BRRI.			10										10					10	30
34	Alauddian, Gazipur.							10									10			20
35	Alauddin, Jojitola, Gazipur.													20	20				20	60
36	Aliya, Kaultia, Gazipur.							10		05										15
37	Amainul Islam Likhon, BRRI.		02												10				10	22
38	Amana Begum, Gazipur.							10			10									20
39	Amana Begum, Mirrargao.															10			10	20
40	Amana Khatun, Salna, Gazipur.							10									10			20
41	Amana, Bashbari.							10		10										20
42	Amana, Gazipur.							5									10			15
43	Amdadul Hage, Gazipur.			10										10						20
44	Aminul, Mirrargao.		20											20						40
45	Anawer Hossain, Mirrargao.		20																	20
46	Anguri Rani Singh, BRRI.									20									10	30
47	Anowara, Gazipur.															15			10	25
48	Anower Hossain, Gazipur.																		16	16
49	Arif Hossain, Gazipur.		20											20						40
50	Arju, Gazipur.		10											10						20
51	Arjuda Khatun, Gazipur.				15															15
52	Arsab Islam, Mymensingh.								10											10
53	Arzu, Islampur.							10								10				20
54	Asan Gazi, Gazipur.							15												15
55	Asma, Kaultia.							10									05			15
56	Asmaul Husna, BRRI.													10	05					15
57	Asutos Bormon, Gazipur.							10		05										15
58	Ataur Rahaman, Mymensingh.									10							25			35
59	Ayaina, Gazipur.							10		05										15
60	Ayasa Khatun, Gazipur.							05									10			15
61	Ayaton Begum, Salna.		10											10						20
62	Ayeat Banu, Gazipur.																10			10
63	Ayeat Banu, Khatora.		10											10						20
64	Babu Chan, Salna.							10									05			15
65	Babul Hossain, Mirrargao.		15											20						35
66	Babul Hossain, Mirrargao.		15											20						35
67	Bakul, Takibari.															10			10	20
68	Bangladesh Krishokleg, Gazipur.							1000							1000	500			10	2500

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
69	Banin Roy, Cumilla.								150					100	120	280			150	800
70	Bepul Chandro Bisswas,										10									10
71	Bilbanu, Salna.							10											05	15
72	Bilkis, Mirrargao.		10											10						20
73	Bimla, Mirrargao.							05									10			15
74	Bina, Salna.							10									05			15
75	Bokul, Kultia.																10		15	25
76	Bulu, Islampur.								10						10					20
77	Champa, Bashbari.							10												10
78	Chan Mia, Gazipur.		15											15						30
79	Chan Mia, Gazipur.							10									10			20
80	DG, BRR1.		100	20		40								50	50					260
81	Dr. Bissojit Kormokar, PSO, Sonagazi.		20					200	50	30		20				20	20		20	380
82	Dr. A S M Masudujjaman, CSO, BRR1.											07								7
83	Dr. Amina Khatun, PSO, RFSD, BRR1.														400					400
84	Dr. Bisojit Karmarkar, SSO, Hobigonj.		20					200	50	30		20				20	20		20	380
85	Dr. Bissojit Kormokar, Fani.								50											50
86	Dr. Bodrunnessa, SSO, BRR1.								05			05				05			30	45
87	Dr. Habibul Bari Sojib, SSO, BRR1.									30										30
88	Dr. Hasina Khatun, SSO, PBD, Brri.								10					10	10					30
89	Dr. Herondonath Borman, SSO, BRR1.													40					40	80
90	Dr. Jannatul Ferdouse, SSO, BRR1.													10	10	10				30
91	Dr. Khandakar Md. Iftekar Uddula, CSO, BRR1.					10	10			05		05		15					20	65
92	Dr. Lutful Hasan, BAU, Mymensingh													500	500					1000
93	Dr. Md. Abdul Lotif, CSO, BRR1.		02	07										07		05				21
94	Dr. Md. Abubakkar Siddique D(A) BRR1.									1000										1000
95	Dr. Md. Adil Badsha, PSO, Sirajgonj.											150	800	800	150					1900
96	Dr. Md. Alamgiar Hossain, CSO, BRR1.					06		6100												6106
97	Dr. Md. Anower, Hossain, SSO, BRR1.												150	150						300
98	Dr. Md. Humayan Kabir, CSO, ARD, BRR1.							35	05		215		105	175	175	05	05	05	45	770
99	Dr. Md. Moniruzzaman, CSO, BRR1.							70												70
100	Dr. Md. Omar Ali, CSO, BARI.													40	40				10	90
101	Dr. Md. Rafiqul Islam, CSO, BRR1.															800				800
102	Dr. Md. Sazzadur Rahaman, PSO, BRR1.								100					100	200	100			400	900
103	Dr. Md. Sohidul Islam, CSO, BRR1																		10	10

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
104	Dr. Md. Sohiduzzaman, CSO, BARI.								10					20	10					40
105	Dr. Mohammad Jahidul Islam, SSO, Gopalgonj.					100														100
106	Dr. Ms. Salma Parbin, PSO, BRR1.												05							05
107	Dr. Munnojan Khanam, CSR, BRR1.														30					30
108	Dr. Z Karim DG, BRR1.													750	750					1500
109	Dulal Hossain, BRR1.		10							20										30
110	Dulal Mia, Netrokona.									20										20
111	Durjon, Gazipur.							10									10			20
112	Ety Akter, Gazipur.		20											20						40
113	Faizar, Lalmonirhat.															10			10	20
114	Faiziul Islam, B-Baria.									10					10	10				30
115	Faizul Islam, Ansar, BRR1.																05			05
116	Fajol Huqe, Mirarargao.							05									10			15
117	Fatema Islam, UAO, Soriatpur.													500	2000					2500
118	Fatema, Gazipur.									10									10	20
119	Fatema, Mirrargao.							10											10	20
120	Fatema, Mirrargao.									15									10	25
121	Fatrm, Mirrargao.																20			20
122	Fazlu Haqe, Salna.		10											10						20
123	Fazlul Haque Faruk, Serpur.									10				20	20					50
124	Feroja Khatun, Kaoultia.							10									05			15
125	Feroja, Gazipur.							10											05	15
126	Feroja, Mirrargao.									10									15	25
127	Feroja, Salna.		25											25						50
128	Feroza, Islampur.									10						10				20
129	Fojina, Gazipur.							10									07			17
130	Forid, Kaultia.							5									10			15
131	Foyez, Batti, Lokkipur.							10												10
132	Fuljan, Gazipur.							10		10										20
133	Full Mala, Mirrargao.							10		10										20
134	Fulmoti, Kaultia, Gazipur.							10									05			15
135	Furaja, Mirrargao.		10											10						20
136	Furaza, Gazipur.							05									10			15
137	Gadi, Mirrargao.							05									10			15
138	Goffar Uddian Sarkar, BRR1.		05																	5

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
139	Golam Hossain, Gazipur														20					20
140	Guljan, Khatora.							10		10										20
141	Habibul Bari Sojib, BRRI.										30									30
142	Habibur Rahaman, BRRI.													10	10					20
143	Hafaz Md. Nuruzzaman Khan, BRRI.	15	15																	30
144	Hajara Khatun, Gazipur.							5									10			15
145	Hajara, Gazipur.							10		10										20
146	Hajara, Kaultiya.									10									10	20
147	Hajara, Salna.							10		10										20
148	Hajrot, Mirrargao.							10								10				20
149	Hali Abdul Goni, Netrokona,		10																20	30
150	Hamela, Salna.							20												20
151	Hamidul Islam, Gazipur.		15																	15
152	Hannan Mia, Brr1.																		10	10
153	Harica, Salna.															15				15
154	Harun Mia, Gazipur.							05									10			15
155	Hasina, Gazipur.							05									10			15
156	Hasna Banu, Gazipur.							10									05			15
157	Hasna, Mirrargao.								10	10										20
158	Hasna, Salna.							05									10			15
159	Head, GQND, BRRI.		0.5						20.5	50			0.5	0.5				0.5	0.5	73
160	Helana Akter, BRRI.									15									15	30
161	Hemal Mia, LA, BRRI.		10											15					10	35
162	Hhajahan Mia, Mymensingh.								10								10			20
163	Husna Akter, Gazipur.										10								10	20
164	Ibrahim.							10		05										15
165	Iqbal Hossain, BRRI.									10									10	20
166	Ishita Akter, Samantopur.															10			15	25
167	Israt Jahan, BRRI.							15							10					25
168	Jaasim, Khatora.							10									10			20
169	Jahanara akter, Gazipur.							10									10			20
170	Jahanara Begum, Mirrargao.							10		10										20
171	Jahanara, Konabari.															10			10	20
172	Jahangir Alam, BRRI.								10											10
173	Jahangir Alam, Lokkipur.							10		10										20
174	Jahara Khatun, Gazipur.							10			10									20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
175	Jahidul Islam, Gazipur.							10												10
176	Jahied, Ansar, BRRI.													15	15					30
177	Jahura Islampur.							10								10				20
178	Jahura Khatun, Salna.							5									20			25
179	Jaj Mia, Kaultia.							10									10			20
180	Jakir, Bashbari.							15	15											30
181	Jakir, Kaultia.							05									10			15
182	Jalil, Salna.		10											10						20
183	Jamal Molla, Naraingonj.														10				10	20
184	Jamal Uddian, Gazipur.		20											10						30
185	Jamal Uddian, Koyar, Gazipur.		10											10						20
186	Jamal, Gazipur.															10			10	20
187	Jamala Khatun, Gazipur.							05									10			15
188	Jami Akter, Kaultia.																10			10
189	Jamila, Bormi, Gazipur.							10											05	15
190	Jannat, Khotara.															10			10	20
191	Jasim Uddian , BRRI.									10				10	10					30
192	Jasim Uddian, Mirraargao.		20												10					30
193	Jasim, Salna, Gazipur.							10	05											15
194	Jasuna, Gazipur.																10			10
195	jiya Biswas, Netrokona.		10											20						30
196	Johir Uddian, Gazipur.							10	10											20
197	Johura Bashbari.															15				15
198	Johura, Salna, Gazipur.		20											20						40
199	Jolaka, Gazipur.																20			20
200	Jomala, Mirrargao.								10										10	20
201	Jonaki, Gazipur.								10								10			20
202	Jorina, Porabari.							05									10			15
203	Josna Begum, Mirrargao.		15												15					30
204	Jowel Akando, Gazipur		05																	5
205	Joynal Abidin, Gazipur.								20	15									10	45
206	Joynob, Gazipur.							05									10			15
207	Jusna, Islampur.								10										10	20
208	Kafil, Khatora, Gazipur.							10												10
209	Kaium Hossain, BRRI.																		10	10
210	Kajol, Gazipur.							10												10

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
211	Kalu Mirrargao.									15									15	30
212	Kamal Jan, Kathora.							10		10										20
213	Kanock, Gazipur.		15											15						30
214	Kazi Badol, LA,BRRI.			10																10
215	Kazi Badol, LA,BRRI.									15	10								10	35
216	Khadija Akter, Gazipur.							10									5			15
217	Khadija, Gazipur.							10									5			15
218	Khadija, Khatora.																15			15
219	Khadija, Salna.							10									10			20
220	Khadoja, Gazipur.							20												20
221	Khandokar Saiful Islam, Gazipur.																		100	100
222	Khandro Chandro, Gazipur.														10				15	25
223	Khorsed, Gazipur.		10											10						20
224	Khuarshid Sehab, BRRI.		20							30				40	40				40	170
225	Kohinur Akter, Mirrargao.							10											10	20
226	Koli, Boraitoli, Gazipur.							05									10			15
227	Krishi Beed Saowkhot Hossan.													400	400					800
228	Krishi Beed Mosiuar Rahaman Humayan, Dhaka.		400							500				600						1500
229	Krishibeed Dinn Mohammed Dinu, BAU, Mymensingh.		10											20	20				10	60
230	Kudroat Ali,Gazipur.		15											15						30
231	Kulsum Khatun, Gazipur.							05									10			15
232	Kulsum, Gazipur.							05									10			15
233	Labli, Islampur.									15						10				25
234	Lahaj, BRRI.		10																	10
235	Lal Mia, Salna.		15											15						30
236	Lima akter, Gazipur.															10			10	20
237	Lima, Salna.																		10	10
238	Liza, Gazipur.									10									15	25
239	Loti Full Bari.		10																	10
240	Lotifa, Mirrargao.		10											10						20
241	Lutfa, Gazipur.																10			10
242	Mabiya Khatun, Gazipur.							10									05			15
243	Mafuja Akter, Gopalgonj.							520			280								240	1040
244	Mahafuja Akter, Khotora.							10												10

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
245	Mahala, Salna.							05		05										10
246	Mahedi Hasan letion.																		15	15
247	Mahi Mirrargao.		10											10						20
248	Majada Khatun, Mirrargao.		10											10						20
249	Majada, Khatun, Gazipur.							10									05			15
250	Majharul Islam, BRR1.		05																	05
251	Majnu Bapari, Ansar, BRR1, Faridpur.		10											10						20
252	Makbul Hossain, BRR1.		15												15					30
253	Malak Jann, Gazipur.							05												05
254	Malaka, Gazipur.							05									10			15
255	Malaka, Salna.							10									05			15
256	Mamun Mia, Serpur.													10					10	20
257	Maraim Begum.							10	10											20
258	Marsal Alam Joseaf, Netrokona.			03																03
259	Masud Rana , BRR1.		05																	05
260	Masud Rana, Bashbari.							10		10										20
261	Md Najim Ahamed, Ansar, BRR1.													10	10				10	30
262	Md, Habibur, Rahaman, BRR1.													10						10
263	Md, Jahingir Alam														50					50
264	Md,. Monir Hossain, Gazipur.															10				10
265	Md,. Siddiqe Bulbul, Netrokona.		300											300	200				400	1200
266	Md. Abbas Uddin, BRR1.									15					10					25
267	Md. Abdul Alim, Gazipur.							10									05			15
268	Md. Abdul Barak, Tangail.							5									10			15
269	Md. Abdul Gafur, Bogura.		70																	70
270	Md. Abdul Hakim, Pabna.									10							10			20
271	Md. Abdul Jabbar, Pabna.					10								10	10					30
272	Md. Abdul Khalil, Gazipur.							05									10			15
273	Md. Abdul Malak, Gazipur.							10	10											20
274	Md. Abdul Malak, Gazipur.		25											25	25				20	95
275	Md. Abdul Malak, Salna.							05									10			15
276	Md. Abdul Rahaim, Mirargao, Gazipur.		20											15						35
277	Md. Abdur Rahaman, Gazipur.		15												15					30
278	Md. Abdur Rahim, Nilphamari.		10												10					20
279	Md. Abdur Rashied, Gazipur.		10											10						20
280	Md. Abdur Rashied, Kurigram.		10												10				10	30

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
281	Md. Abdus Salam, BRR1.									20					10				10	40
282	Md. Abed Ali, Gazipur.		15											15						30
283	Md. Abed Khan, Gazipur.													10	10				10	30
284	Md. Abiar Hossain, Mirrargao.		10												10					20
285	Md. Abu Bokkar, Gaibandha.																		05	05
286	Md. Abu Siddique, Salna.															10			10	20
287	Md. Abu Tahar, Gazipur.									20										20
288	Md. Abul Basar, Gazipur.									10							10			20
289	Md. Abul Hossain, Gazipur.																		10	10
290	Md. Abul Hossain.									10									10	20
291	Md. Afjal Uddian, Mirrargao.		10												10					20
292	Md. Afzal Hossain, Shatkhira.		10												10					20
293	Md. Ahasanul Habib, Gazipur.		05																15	20
294	Md. Aiubullah, Gazipur.		15											15						30
295	Md. Ajgor Ali, BRR1.		20																	20
296	Md. Ajjiz, BRR1.		10											15						25
297	Md. Akkas Ali, Gazipur.		20																	20
298	Md. Akkas Ali, Sirajgonj.									10							10			20
299	Md. Akram Ali, Rajshahi.		10												10				10	30
300	Md. Akter Hossain, Gazipur.									30						30				60
301	Md. Al Kafi Mia, Ansar, BRR1.													20						20
302	Md. Al Mamun, BRR1.							10		10										20
303	Md. Alaim, Gazipur.							05									10			15
304	Md. Alaim, Tangail.							25												25
305	Md. Alaluddin, Mirrargao.		15																	15
306	Md. Al-Amin Mia, Gazipur.									20	20				20					60
307	Md. Alamin, Kurigram.									10					15					25
308	Md. Al-Emran, LA, BRR1.		15								10				10					35
309	Md. Ali, Kaultoli, Gazipur.							10		10										20
310	Md. Ali, Khotara.		10												10					20
311	Md. Ali, Mirrargao.																20			20
312	Md. Aliam, Mirrargao.		15											15						30
313	Md. Almas Mirrargao.							05									05			10
314	Md. Amain Uddian, Mirrargao.							05									10			15
315	Md. Amarat Ali, BRR1.													15	15					30
316	Md. Amian, Gazipur.							10									10			20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
317	Md. Aminul Isalm, Rajshahi.									10									10	20
318	Md. Amir Ali, Gazipur.									20									10	30
319	Md. Amir Hossain, Gazipur.		20											20						40
320	Md. Amir Hossan Babu, BRRI.													20	20				20	60
321	Md. Anisujaman, SSO, PBD, BRRI.						10			10				10		10				40
322	Md. Anisur Rahaman, BRRI.															10				10
323	Md. Anower, Gazipur.							10									05			15
324	Md. Anower, Hossain, BRRI.													15	15					30
325	Md. Anower, Gazipur.							10									05			15
326	Md. Arif Hossain, Mirrargao.		20											20						40
327	Md. Arifful, Mirrargao.							10									05			15
328	Md. Ariful Islam, Gazipur.													10	10					20
329	Md. Ariful Islam, Mirrargao.		10												10					20
330	Md. Arshad, Kishorgonj.		10												05				05	20
331	Md. Asadul Islam, Sirajgonj.									10	10									20
332	Md. Asadullah, Dinajpur.									10						10				20
333	Md. Asikur Rahaman, SO, BRRI.		10											10	10					30
334	Md. Asraful Islam, Gazipur.		15											15						30
335	Md. Asraful Karim Tusar, Netrokona.		400											400	300				500	1600
336	Md. Asraful, Gazipur.													10					10	20
337	Md. Atauore Rahaman		05												05			05		15
338	Md. Atayour Rahaman, BRRI.		10												10					20
339	Md. Atiqe, Gazipur.										10								10	20
340	Md. Azharul Islam, BRRI.										10									10
341	Md. Bahar Uddian, Mirrargao.							15												15
342	Md. Bahar Uddian, Salna.		10												10					20
343	Md. Balayet Hossain, BRRI.																		10	10
344	Md. Billal Hossain, Gazipur.		05											10	10					25
345	Md. Billal Hossain, Jhenaidha.																		400	400
346	Md. Billal Hossain, Mirrargao.							10												10
347	Md. Boni Ismail, Gazipur.									05									05	10
348	Md. Bupul Mondol, Gazipur.															10			10	20
349	Md. Chan Mia, BRRI.							25												25
350	Md. Delowar, Gazipur.		15											15						30
351	Md. Dulal Hossain, Tangail.					05				20										25
352	Md. Eddies, Gazipur.		10							10					10					30

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
353	Md. Faizar Rahaman, Lalmonirhat.																		10	10
354	Md. Faizul Islam, BRR1.													10	10					20
355	Md. Faruk Mia, BRR1.													10	10					20
356	Md. Gaisuddin, BRR1.														10					10
357	Md. Habel, Gazipur.							10									10			20
358	Md. Hafij Uddian, Gazipu.		15											20						35
359	Md. Hafizur Rahaman, Kurigram.														20					20
360	Md. Halal Uddin, BRR1.		15																10	25
361	Md. Hamidul Islam, Gazipur.		10												10					20
362	Md. Hamidul Islam, Gazipur.								10	10										20
363	Md. Hanif, Mirrargao.		10											15						25
364	Md. Harunur Rashiad, BRR1.																		5	5
365	Md. Hasam, Gazipur.							10									10			20
366	Md. Hasam, Mirrargao.							15											15	30
367	Md. Hasan, Ansar, BRR1.								20											20
368	Md. Helal Uddian, Ansar, BRR1.																		10	10
369	Md. Hellal Uddian.								10							10			10	30
370	Md. Herion, Mymensingh.							10									10			20
371	Md. Heron Bhuya, Gazipur.		10																10	20
372	Md. Ibrahim Mia, Gazipur.								10							10			10	30
373	Md. Ibrahim, Gazipur.															10			10	20
374	Md. Imam Ali, Bagarhat.								10										10	20
375	Md. Imam Hossain,								10										10	20
376	Md. Ismail Hossain, Kathora.		15											10						25
377	Md. Ismail mSherpur.							10							10	10				30
378	Md. Javed Ali, Gazipur.							10									05			15
379	Md. Jahaidul Islam, Gazipur.															10			10	20
380	Md. Jahaingir Mia, Ansar, BRR1.		10											10						20
381	Md. Jahaingir Mia, BRR1.		10												10					20
382	Md. Jahangir Alam,											50								50
383	Md. Jahangir Alam, Kurigram.																		12	12
384	Md. Jahangir, Gazipur.									10									10	20
385	Md. Jahar Ali, Gazipur.		20											20						40
386	Md. Jahidul Islam, Ansar, BRR1.		10											10						20
387	Md. Jahidul Islam, Pabna.								10										10	20
388	Md. Jakir Hossain, Ansar, BRR1>		10												10					20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
389	Md. Jamal mHossain, Gazipur.		05													05				10
390	Md. Jamal Uddian, Gazipur.		10											10	05					25
391	Md. Jamal Uddian, Gazipur.							10			10									20
392	Md. Jaman nHossain, Salna.		25											15						40
393	Md. Jaman, Islampur.									10									10	20
394	Md. Jamil Hossain, Boriutuli.							10		10										20
395	Md. Jewel, Mirrargao.		20												20					40
396	Md. Jewel, Netrokona.													10	10				10	30
397	Md. Jinnat Ali, Khatora.		10												10					20
398	Md. Jahir Sarkar, BRR1.							15											10	25
399	Md. Jahirul Islam, BRR1.										30			30						60
400	Md. Joj Mia.		20											20						40
401	Md. Joli Akando.		10											10						20
402	Md. Joni Akhando, Tangail.		25																10	35
403	Md. Jossef, Netrokona.									10					10					20
404	Md. Joynal Abidin.		10																07	17
405	Md. Joynal Abidin.										15									15
406	Md. Joynal Islam, Gazipur.							10											5	15
407	Md. Juwel Akando, Netrokona.									10									35	45
408	Md. Kadar, Mirrargao.							05											10	15
409	Md. Kamal Hossain, BRR1.									20										20
410	Md. Kamal Hossain, Gazipur.																		10	10
411	Md. Kamriul Islam										05								05	10
412	Md. Khairul Islam.													10	10					20
413	Md. Khariul Alam, BRR1.		10												15					25
414	Md. Khokon Ali, BRR1.		10											10						20
415	Md. Khokon Hossain, Kustia.									10									10	20
416	Md. Khokon, Gazipur.							05											15	20
417	Md. Kobirul Islam Khan, BRR1.		10												10					20
418	Md. Korban Ali.Salna.		10											10						20
419	Md. Kowsar, Gaibandha.									10	10									20
420	Md. Kutubuddian.		10												10					20
421	Md. Lahaj Uddain, Gazipur.							10											05	15
422	Md. Lehaj Huudain, Koultia.							10											05	15
423	Md. Mahabub, Gazipur.										10								10	20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
424	Md. Mahabubur Rahaman Daoan, SSO, Kustia.										180			250	100	340			500	1370
425	Md. Mahaim, Ansar, BRR1.									10	10									20
426	Md. Maharuf Hossain, Ansar, BRR1.													10					10	20
427	Md. Mahedi Hasan, Netrokona.													10	10				10	30
428	Md. Mahedi Hasan, Ansar, BRR1.													10	10				10	30
429	Md. Mahedi Hasan, Khotara.		10												10					20
430	Md. Mahedi Hasan, Netrokona.												10	10	10				10	40
431	Md. Majam Ali, Gazipur.							10									05			15
432	Md. Majharul Islam, Gazipur.		10												10					20
433	Md. Mamun Hossain, BRR1.													150	150					300
434	Md. Mamun Howlader, Borguna.										10					10				20
435	Md. Mamun Rana, BRR1.															10			10	20
436	Md. Mamunur Rashied, Joypurhat.		10												10				10	30
437	Md. Mannan Ali, Mirrargao.															10			10	20
438	Md. Mannan, Ansar, BRR1.		10												10					20
439	Md. Masud Parbej, Gazipur.										10								10	20
440	Md. Mehadi Hasan, Rajshahi.									10					10					20
441	Md. Mizanur Rahaman, BRR1.									15					10				15	40
442	Md. Mizanur Rahaman, Gazipur.		10																	10
443	Md. Mofazzsal, Cotodeora.							10											10	20
444	Md. Mohammad Abdul Momin, SLO, BRR1.																		100	100
445	Md. Mohiuddian, BRR1.													15	15				10	40
446	Md. Mojal, Khotara.		10												10					20
447	Md. Mojnu Bapari, Faridpur.															10			15	25
448	Md. Mojnu, Ansar, BRR1.		10												10					20
449	Md. Momin Gazipur.													15	15					30
450	Md. Momin Mia, Kishorgonj.		05																	5
451	Md. Monsur, Ansar, BRR1.		10											10	10					30
452	Md. Montajur Rahaman, Ansar, BRR1.																		10	10
453	Md. Montu Mia.									10									10	20
454	Md. Moslam, BRR1.		10											10						20
455	Md. Mostafa Kamal.		20											15						35
456	Md. Motaleb Hossan, Treosal.							15		10										25
457	Md. Motalib, Gazipur.							10									10			20
458	Md. Motalib, Naraingonj.														10				15	25

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
459	Md. Motiar Rahaman, Netrokona.									40				40					40	120
460	Md. Motiar Rahaman, Rangpur.									10							10			20
461	Md. Moyjuddin Mia, Tangail.									20									10	30
462	Md. Mubarak Hossain, Cumilla.		10												10					20
463	Md. Mubarak Hossain, Gazipur.									10									10	20
464	Md. Munna, Jolarpar, Gazipur.																10			10
465	Md. Munsur Rahaman, Sirajgonj.		10																	10
466	Md. Munsur Rahaman.														10					10
467	Md. Munsur, Ansar, BRR1, Nilphamari.		10																10	20
468	Md. Mursalin Rabbi, BRR1.		10										10							20
469	Md. Muzzeem Hossain, Khulna.									10							10			20
470	Md. Nahid Islam, Gazipur.		10											10	10					30
471	Md. Nahidul Islam,									10									10	20
472	Md. Nasir Uddian, Gazipur.															10			15	25
473	Md. Nasir Uddin Naiem, Jhenidha.		300								100								300	700
474	Md. Nazim Ahamed, Ansar, BRR1.		05											05	10				05	25
475	Md. Nazimuddin, BRR1.		10												10					20
476	Md. Nazriul Islam, Jamalpur.							10												10
477	Md. Nazriul Islam, Mymensingh.														15	15			20	50
478	Md. Nazriul Islam, Treasal.							15		10										25
479	Md. Nazrul Islam, BRR1.		15												15					30
480	Md. Nurazzaman, Islampur.															10			10	20
481	Md. Nurr Mohammed, Gazipur.		20											20						40
482	Md. Nurul Hsque, Gazipur.									10	10									20
483	Md. Oajead Ahamed, Rangpur.		10												10					20
484	Md. Oasiem, Mymensingh.															10			10	20
485	Md. Osiam Mia, Gazipur.		10												10					20
486	Md. Osman Ali, BRR1.														10					10
487	Md. Osman Bhuya, Gazipur.		10																	10
488	Md. Oudud Ullah, Dinajpur.									20										20
489	Md. Rabbi Hossain, Gazipur.														10				10	20
490	Md. Rabbi, Gazipur.							05									10			15
491	Md. Rabiul Isalm, Khulna.									10						10				20
492	Md. Rabiul Islam, LA, BRR1.													20	20					40
493	Md. Rafiqul Hasan, Gazipur.									15									10	25
494	Md. Rafiqul islam, Gazipur.							10		10										20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
495	Md. Rafqul Islam, BRRI, Gazipur.														10					10
496	Md. Rahaj Uddain, Gazipur.							10									05			15
497	Md. Rahim Mia, Gazipur.				20															20
498	Md. Rajon, Mymensingh.													20	20				20	60
499	Md. Raju Mia, Ansar, BRRI.													10					10	20
500	Md. Rasal Hossain, Gazipur.							10		10										20
501	Md. Rasel Mir, BRRI.													10					10	20
502	Md. Rayhan, Gazipur.										10								10	20
503	Md. Razayan Kabir.		05																	05
504	Md. Raziul Kariam, BRRI.		10												10					20
505	Md. Reaziul, Gazipur.														10				10	20
506	Md. Reaziul, Jamalpur.										10								10	20
507	Md. Ripon Mia, BRRI.		10											10						20
508	Md. Rofikuddn							15		10										25
509	Md. Rofiqul Isalm, B-Baria.									10						10	10			30
510	Md. Romajuddian, Natore.													10	10					20
511	Md. Rubal Mia, Jamalpur.															10			10	20
512	Md. Rubel Rana Ansar, BRRI.															10				10
513	Md. Rubel Rana Ansar, BRRI.														10				10	20
514	Md. Ruhul Amian, BRRI.									05				10						15
515	Md. Ruhul Amian, Mymensingh.							10									10			20
516	Md. Sadak, Khatora.							10											10	20
517	Md. Sadi, Gazipur.									10					20					30
518	Md. Sago, Gazipur.																10			10
519	Md. Sahab Mia, Dinajpur.													20	20					40
520	Md. Sahabuddian, Gazipur.										20									20
521	Md. Sahain Alam, SA, BRRI.		05											05	05					15
522	Md. Sahajan Mia, Gazipur.																10		15	25
523	Md. Sahidur Rahaman,							10												10
524	Md. Saidur Rahaman, Damuda, Sharitpur.													500	500					1000
525	Md. Saidur Rahaman, Joypurhat.							05									10			15
526	Md. Saidur Rahaman, Netrokon.																		40	40
527	Md. Saiful Ahamed, Gazipur.																		05	05
528	Md. Saiful, Gazipur.							10									10			20
529	Md. Saikul Islam. BRRI.	30											30						30	90
530	Md. Sajib Mia, Ansar, BRRI.													10	10				10	30

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
531	Md. Sajol Hossain, Ansar, BRR1.													10	10					20
532	Md. Saju Mia, Gazipur.		10												10					20
533	Md. Salam.																		15	15
534	Md. Salim Akando,																		100	100
535	Md. Salim Hossain, Gazipur.		10												10					20
536	Md. Salim Mia, Gazipur.		10												10					20
537	Md. Salim, Rangpur.													10					15	25
538	Md. Saly Ahamead, Gazipur.									10									10	20
539	Md. Serajul Islam, UDA, BRR1.					10				10										20
540	Md. Shahabuddian, BRR1.		15																	15
541	Md. Shaib Ali, Naraingonj.														10				15	25
542	Md. Shain Mia, Netrokona.														10					10
543	Md. Shajahan Bhuya, BRR1.													20	20				20	60
544	Md. Shajahan Mia, Ansar, BRR1.									10									10	20
545	Md. Shajahan Mia, Salna.							10									05			15
546	Md. Shakil Ahamed, Ansar, BRR1.														15					15
547	Md. Shamim Hossain, Mymensingh.									80									50	130
548	Md. Shamimur Rahaman, Ponchogor.		05												05					10
549	Md. Shek Karamot Ali, Gazipur.																		10	10
550	Md. Shipon Mia,																15			15
551	Md. Shipon Mia, Tangail.							10											10	20
552	Md. Shoriful Islam, SA,BRR1.									30										30
553	Md. Sobdul, Salna.							10		10										20
554	Md. Sofiqul Islam, Gazipur.							10		10										20
555	Md. Sofiqul Islam, SA, BRR1.		10				08			10				20						48
556	Md. Sohal Bhuya Shopon.														15					15
557	Md. Sohal Rana, ansar, BRR1.													15						15
558	Md. Sohal Rana, BRR1.		10																	10
559	Md. Sohal Rana, BRR1.									15										15
560	Md. Sohal Rana, BRR1.		10	05																15
561	Md. Soharab Ali, Mirrargao.		10												10					20
562	Md. Sohudul Islam Babu.									10					10					20
563	Md. Sohudul Islam.									10	10				10					30
564	Md. Solaiman, Mymensingh.													10						10
565	Md. Solaiman.													10						10
566	Md. Soriful Islam, Gazipur.							10									10			20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
567	Md. Subo, Salna.		15											15						30
568	Md. Sukkor Ali, Ansar, BRR1.															10				10
569	Md. Sumi, mMirragao.							10								10				20
570	Md. Sumon Islam, Kustia.							20												20
571	Md. Suroj Mia, Gazipur.							10												10
572	Md. Tahar, Gazipur.							10	10											20
573	Md. Taniam Islam, Gazipur.							10	10											20
574	Md. Tarikul, Sardi, Gazipur.		10												10					20
575	Md. Tofajjal Hossain, Gazipur.							15								10				25
576	Md. Ujjal Mia. Netrokona.			10															20	30
577	Md. Ukiluddian, BRR1.								10										10	20
578	Md. Yearuddin, Mirragao.		15											15						30
579	Md. Yeasin, Kasipur.														15					15
580	Md. Yesin Mia, Gazipur.									20					20					40
581	Md. Younus Ali.		10											10						20
582	Md. Yousuf Ali.		10							10										20
583	Md. Yunus Ali, Salna.		10											10						20
584	Md. Ziayour Rahaman, Ansar, BRR1.		10												15					25
585	Md.Rasal Ahamed, Gazipur.								10										10	20
586	Mehadi All Mansur, Tangail.													10	10				10	30
587	Mehadi Hasan Sohal, BRR1.													15	08				12	35
588	Mina Akter, Gazipur.									05									05	10
589	Minara Akter, Gazipur.							05									10			15
590	Minara, Khotara.							05									05			10
591	Minhaz, Kustia.																		10	10
592	Minuti Sarkar, Gazipur.							05												15
593	Mizanur Rahaman, BRR1.															10				10
594	Mofajjal Ali, Gazipur.							10											05	15
595	Mohammad Ali, Gazipur.							05											10	15
596	Mohiuddian, BRR1.		10																	10
597	Mojibur Rahaman, Gazipur.														15					15
598	Mojibur Rahaman, Kaultia.							10								10				20
599	Mojida, Salna.									15									10	25
600	Mojida, Salna.																		20	20
601	Mojina, Mirragao.									10									10	20
602	Mojnu Mia,									10									10	20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
603	Moklaes Mia, BRRI.		15												15					30
604	Moksad, Kalihati.										10						05			15
605	Momata, Mirrargao.							10											10	20
606	Momata, Salna.		10											10						20
607	Momataz Begum, Konabari.							10									10			20
608	Mominuddian, BRFRI.		10																	10
609	Moni Mukta, Salna.							05									10			15
610	Monir Hossain, Gazipur.														12					12
611	Monir Rana, Gazipur.														12					12
612	Monora Begum, Gazipur.														10				10	20
613	Monora, Porabari.																		20	20
614	Monowar, Mirzapur.							10									10			20
615	Monowara, Gazipur.							10									10			20
616	Morium, Mirrargao.							10									10			20
617	Mosaraf, Kaultia.							5									10			15
618	Mostofa, BRRI.															10				10
619	Moyfol, Salna.							10			10									20
620	Moyful, Salna.		20											20						40
621	Moyjuddin Mia, Tangail.									20									10	30
622	Mst Nacema, Gazipur.							10												10
623	Mst, Amana Khatun, Khatora, Gazipur.							10									10			20
624	Mst, Asma Begum, Chadpur.								10										08	18
625	Mst, Momana, Gazipur.							10									10			20
626	Mst, Monora Begum, Gazipur.													20					10	30
627	Mst, Razia, Lokkipur.									20										20
628	Mst. Ajiron, Gazipur.							10									05			15
629	Mst. Aklima Akter, Gazipur.							5									10			15
630	Mst. Aklima, Gazipur.							10									10			20
631	Mst. Asma Khatun, AO, BRRI.			10									10							20
632	Mst. Asma, Mirrargao.		10												10					20
633	Mst. Ayaiman Khatun.							10	10											20
634	Mst. Bilkis Banu.							10											05	15
635	Mst. Borsha, Gazipur.							10									10			20
636	Mst. Esrat Jahan, Salna.							05									10			15
637	Mst. Fatema, Gazipur.																10			10
638	Mst. Fatema.							20												20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
639	Mst. Hajara Khatun, Gazipur.							05									10			15
640	Mst. Hanifa, Gazipur.							05									10			15
641	Mst. Hapi Akter, BRRI.		50																	50
642	Mst. Hasina, Begum.							10	10											20
643	Mst. Honufa Akter, Gazipur.							10									10			20
644	Mst. Honufa akter, Kaoultia.							10									10			20
645	Mst. Hosnara, Gazipur.								10								10			20
646	Mst. Hosnara, Gazipur.							05									10			15
647	Mst. Jorina, Gazipur.		15											15						30
648	Mst. Joynib, Gazipur.							20												20
649	Mst. Liza, Gazipur.							5									10			15
650	Mst. Majada, Gazipur.															10			15	25
651	Mst. Malaka, Salna.															10			10	20
652	Mst. Mim, Gazipur.							10									10			20
653	Mst. Mitu akter, Gazipur.							10									05			15
654	Mst. Momataz, Gazipur.							10									05			15
655	Mst. Moni Akter, Gazipur.							10	10											20
656	Mst. Morium, Gazipur.							10									05			15
657	Mst. Mukta Akter, Gazipur.								10										10	20
658	Mst. Nargies, Gazipur.									10							10			20
659	Mst. Nazma Akter, Gazipur.									10									10	20
660	Mst. Nazma Khatun, Gazipur.							15												15
661	Mst. Nupur Akter, BRRI.								20										20	40
662	Mst. Ojifa, Gazipur.																20			20
663	Mst. Razia, Gazipur.							15		10										25
664	Mst. Rehana Parbin, Gazipur.							10	10											20
665	Mst. Rikta Parbin, Salna.								10										10	20
666	Mst. Saami Akter, BRRI.								20											20
667	Mst. Sabjan Khatun, Gazipur.							10												10
668	Mst. Sahida.									10							10			20
669	Mst. Sobiron, Gazipur.							10		10										20
670	Mst. Sohana Akter, Gazipur.							10												10
671	Mst. Somla, Gazipur.							10									10			20
672	Mst. Sufiya Begum,Salna.		10												10					20
673	Mst. Surjo Banu, Mirrargao.							10								10				20
674	Mst. Tania Akter, Gazipur.							10									05			15

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
675	Mst. Taslima Akter, Gazipur.							10												10
676	Mudul Kanti Deb, Brri.		10												10					20
677	Muhammed Ali. Gazipur.							08		07										15
678	Munir H Mollah, Gazipur.		80						30		30								30	170
679	Nacema Begum, Gazipur.							10									05			15
680	Nacema Khatun, Gazipur.							10									08			18
681	Nacema, Gazipur.							05									10			15
682	Nacema, Mirrargao.																		20	20
683	Nadia, Salna.							10									10			20
684	Nargis Akter, Gazipur.							5									10			15
685	Nasima, Mirrargao.							20											05	25
686	Nasir Uddian, Gazipur.									15									10	25
687	Nasir Uddian, Gazipur.							10									10			20
688	Nasir, Mirrargao.							20												20
689	Nasium Monir, SO, BRR1.														10				10	20
690	Nasrian Sultana, Gazipur.							10												10
691	Nazma, Salna.							10									10			20
692	Nazmz Akter, Gazipur.																20			20
693	Nazriul Islam, Ansar, BRR1.																		10	10
694	Nazriul Islam, Salna.							05									10			15
695	Nazriul, Rupgonj.																		20	20
696	Nill Moni, Gazipur.							10		05										15
697	Nipa Sarkar, Mirrargao.							05									10			15
698	Nirmol Chandro Dash.																		15	15
699	Noaiab Ali, Gazipur.							10		05										15
700	Nurjahan, Mirrargao.							10		05										15
701	Nurjahan, Salna.							10		10										20
702	Nurr Chan Mia,														16					16
703	Nurr Mia, Gazipur.							10									05			15
704	Nurr Nobi Hossain, Gazipur.		10												10				05	25
705	Nurr, Gazipur.		15												10					25
706	Nurrjahan, BRR1.														15					15
707	Parbej, Salna.							10			10									20
708	Parul Begum, Gazipur.									10									10	20
709	Parul Begum, Gazipur.							10									05			15
710	Prangon Otjam Unnoyan Songsta, Gazipur.													300	300	200				800

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
711	Prof. Dr. Sagor, BAU, Mymensingh.													500	500					1000
712	Rabiul Islam , BRRI.		200	20										50	50					320
713	Rabiya, Gazipur.							10									05			15
714	Rafial Nokral, Netrokona.												10			10			10	30
715	Rafiqul, Bashbari.							10												10
716	Rahiem Paloan, Gazipur.									10									10	20
717	Rahim Uddin			20																20
718	Rahima, Gazipur.							10									10			20
719	Rajib Mia, Mymensingh.		10												10					20
720	Raju Mirraargao.		15											15						30
721	Rana Hossain, Gazipur.		15											15						30
722	Ranu, Mirrargao.							10									10			20
723	Rasal Hossain, Mirrargao.							10	10											20
724	Rashadul Islam, BRRI.		10												10					20
725	Rashadul Islam, Nilphamari.							10												10
726	Rashida, Kaultia.							10									05			15
727	Rashida, Khatora.															10			10	20
728	Rasida Akter, Gazipur.									10									10	20
729	Rasida Khatun, Gazipur.							10	05											15
730	Rasida Salna,		10											10						20
731	Raton Mia, Durgapur.									10									10	20
732	Raymon Khatun, Gazipur.							10	10											20
733	Razia Sultana, BRRI.									15					10				15	40
734	Razia Sultana, Gazipur.							10	10											20
735	Reazaual Karim, AO, BRRI.								05		05								05	15
736	Repon, Mirrargao.							10									05			15
737	Reziya Khatun, Gazipur.							10									05			15
738	Reziya, Khotara.							10								10				20
739	RMd. Reazul Karim, AO, BRRI.								05		05								05	15
740	Rociya Akter, Gazipur.		15											15						30
741	Rojina Akter, Gazipur.							10	10											20
742	Rokeya Begum, BRRI.		10											10						20
743	Rokeya Begum, Gazipur.									10									15	25
744	Rokeya Begum, Salna.							10	10											20
745	Rokeya, Basbari.		15											15						30
746	Rokrya Akter,Gazipur.							10	10											20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
747	Roksana Akter, BRRI.														10					10
748	Romizuddian, Konabari.							10									10			20
749	Rowsonara Begum, Konabari.								10								10			20
750	Rubel, Gazipur.							10	10											20
751	Rubiya Bashbari.							10									10			20
752	Rukon, Gazipur.		15											10						25
753	Ruma Akter, Gazipur.							10									05			15
754	Rupa, Kodda, Gazipur.							10									05			15
755	Rupbanu, Gazipur.							5									10			15
756	Sabjan, Salna.							10									10			20
757	Sadia Afrin Sufta, SO, BRRI.		10			15													10	35
758	Sadia Akter Mim, Bashbari.																		10	10
759	Safali, Gazipur.							05									10			15
760	Sagor, Gazipur.								15											15
761	Sahaalam, Mirrargao.								10										10	20
762	Sahab ali, Mirrargao.							05									10			15
763	Sahaida Khatun, Gazipur.							05									10			15
764	Sahala, Gazipur.								10								10			20
765	Sahala, Mirrargao.		20											20						40
766	Sahanaj, Gazipur.							10									05			15
767	Sahanaj, Salna.							20												20
768	Sahanaz, Gazipur.							10												10
769	Sahara Khatun, Gazipur.							10									05			15
770	Sahara, Mirrargao.								15										15	30
771	Sahara, Gazipur.							10									10			20
772	Sahasa Khatun, Khotara.							10			10									20
773	Sahida Akter, Gazipur.							15												15
774	Sahida Akter, Gazipur.							15												15
775	Sahida, Gazipur.							15												15
776	Sahida, Mirrargao.							05									10			15
777	Sahida, Gazipur.				15															15
778	Sahina Akter, Mirrargao.		20												15					35
779	Sahina, Porabari.							10	10											20
780	Sahina, Salna.		20											20						40
781	Sahinur, Gazipur.							10									08			18
782	Sajada, Gazipur.							10							10					20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
783	Sajiron, Salna.																10		10	20
784	Sajol Hossain, Ansar, BRR1.													10	10					20
785	Sakir Hossan, SSO, GQND, BRR1.													15						15
786	Salaha, Mirrargao.																10		10	20
787	Salma Akter, Gazipur.							10									10			20
788	Salma Akter, Koultia.							10									05			15
789	Salma, Akter, Gazipur.									10										10
790	Salma, Gazipur.							10	05											15
791	Salma, Gazipur.							5									10			15
792	Salma, Koultia.							10	10											20
793	Salma, Mirrargao.							10									10			20
794	Salma, Boraitoli.							10	5											15
795	Samad, Gazipur.							15	10											25
796	Samim Member, Mymensingh.							40												40
797	Samira, Bashbari.							10	10											20
798	Samiya, Khotara.								20											20
799	Samol Kumar Singh, BRR1.		10						10										10	30
800	Samsul Islam, Gazipur.		20												15					35
801	Samsul, Master Bari.							30												30
802	Samsun Nahar, Salna.							10									05			15
803	Samurun, Gazipur.									10							10			20
804	Sangkar Singh, BRR1.														10				10	20
805	Sanjida Islam, Salna.							05										10		15
806	Sanowar, Kaulita.							05									10			15
807	Sarian, Konapara.							10											10	20
808	Sarmin, Mirrargao.								10										15	25
809	Sathi, Salna.							10									05			15
810	Sazzad Hossain, Lokkipur.		12																10	22
811	Shah Alam, Gazipur.																10			10
812	Shakil Ahamed, Gazipur.																		10	10
813	Shamim Ahamed, BRR1.													10				10		20
814	Shamim Ahamed, Gazipur.		20											20						40
815	Shamol Chandro Dash, AD, BRR1.														06					6
816	Shamsuddian Ahamed, Gazipur.		05												05					10
817	Shapna Akter, Islampur.								10						10					20
818	Sharif Mia, Ansar, BRR1.		10											10						20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
819	Sharif, BRRI.																		10	10
820	Sharifa, Khatora.							10									05			15
821	Sidduqe Mia, Kaultia.							10									10			20
822	Sofikul, Gazipur.								10										15	25
823	Sofiqul Isalm, BRRI.		20											25	20					65
824	Sohag, Gazipur.								10										10	20
825	Sohal Rana, BRRI.		10																	10
826	Sohidul Islam, Mymensingh.		10												10				10	30
827	Sohied, Salna.		15											15						30
828	Sojib Hasan, Ansar, BRRI.		10											10	05					25
829	Sokina, Gazipur.							10									05			15
830	Sonjoy Kumar, Gopalganj.															30			240	270
831	Sonjoy Rai, BRRI.												05		10				10	25
832	Sonna Ullah, Gaibandha.							10	10											20
833	Sorala Begum, Mirrargao.							10									05			15
834	Soriful Islam, Kustia.							10												10
835	Sorkot Ali, Mirrargao.							10											10	20
836	Sorkot Ali, Salna							10									10			20
837	Sree Asis Sarkar, Gazipur.		10												10					20
838	Sree Komol Chandro, BRRI.																		10	10
839	Sree Subas Chandro, Gazzzipur.														10					10
840	Srieete Akter, Mirrargao.		25																	25
841	Subas Biswas, Pabna.		07																	7
842	Suchitra Vomik, Kishorgonj.																		15	15
843	Sufia Khatun, Khotara.							10									05			15
844	Sufia, Gazipur.							05									10			15
845	Sufia, Kaultia.							10									07			17
846	Sufiya Akter, BRRI.												10	10						20
847	Sufiya Bashbari.																		15	15
848	Sufiya, Dakibari.								15										15	30
849	Sufiya, Salna, Gazipur.								10										10	20
850	Suily, .							05									10			15
851	Sultana Khatun, Gazipur.							10	10											20
852	Surjo Banu, Gazipur.																10			10
853	Suruj Mia, Salna.		20											25						45
854	Suruj, Salna.								10								10			20

SI No	Name of Clients	BR26	BRR1 dhan28	BRR1 dhan29	BRR1 dhan47	BRR1 dhan50	BRR1 dhan58	BRR1 dhan67	BRR1 dhan74	BRR1 dhan81	BRR1 dhan84	BRR1 dhan86	BRR1 dhan88	BRR1 dhan89	BRR1 dhan92	BRR1 dhan96	BRR1 dhan97	BRR1 dhan99	Bangabandhu dhan100	Total
855	Tahamina Ahamed, BRR1.										15			15					15	45
856	Tajjul Islam, Ansar, BRR1.		20												15					35
857	Tamina, Mirrargao.		20											20						40
858	Tanha Akter, Gazipur.							20												20
859	Tanjima Islam, Dina, BRR1.													10	10					20
860	Tapon Kumar Pal, DD, DAE, Rangamati.														500					500
861	Tara Banu, Gazipur.									10									10	20
862	Taslina, Mirrargao.		10											10						20
863	Tuhin Haldar, BRR1.										15									15
864	Tuta Mia, Gazipur.							10	05											15
865	Ujjal Hossain, Ansar, BRR1.										10								10	20
866	Yearuddian, Gazipur.							10	10											20
867	Yesian, Gazipur.														15					15
868	Younus Ali, Gazipur.										10								07	17
	Total	45	4,429	125	50	190	34	5,060	6,545	2,856	2,525	50	377.5	13,928	13,448	3,113	2,100	30.5	7,128	62032

Annexure 3. Client-wise distribution of breeder seed (in kg) with cash memo for Aus 2022-23 season.

SI No	Name of Clients	Lic. Number	Cell Number	BR26	BRR1 dhan48	BRR1 dhan65	BRR1 dhan82	BRR1 dhan83	BRR1 dhan85	BRR1 dhan98	Total
1	3S Ago, Dhaka.		1760499383		100						100
2	Abdul Mannan, Gazipur				05						05
3	Abdul Wahed, Gazipur.				05						05
4	ACI Limited, Dhaka.	3711	1730024476		500						500
5	Advanced Multi Farm Limited, Dhaka.	3353	1731674787		50						50
6	Alam Seed, Cumilla				20				10	20	50
7	Al-Karim Agro Seeds, Kurigram.	48739	1921463043		10		10			10	30
8	Ampol Agro Care, Uttara, Dhaka.		1711420800		15					20	35
9	Ankur Agro Science, Naogaon.	21356	1947325657			10					10
10	Auto Crop Care Limited, Dhaka.	3237	1988866882		100						100
11	Babylon Agro, Dhaka				220						220
12	BADC, Dhaka		1717697310	70	4202	100	1350	200	100	8022	14044
13	Bissmillah Beej Vander, Bogura.	524	1717449420		40						40
14	BMDA, Rajshahi.		1712701716		20					20	40
15	Bokul Seed Store, Rajshahi.	12002	1719252978			10					10
16	BRAC, Dhaka.	390	1728113890		50					20	70
17	Brother Seed Company, Chuadanga				10					10	20
18	Chashi Betan, B-Baria.	5366	1727622310		50						50
19	Gachihata Agro Care, Kishorganj.		1716858978							10	10
20	Giant Agro Processing Limited, Dhaka.	5666	1991138300		200						200
21	Habibur Rahman, Gazipur									04	04
22	Inshaf Seed, Faridpur.		1719215022		10						10
23	IRRI Bangladesh, Dhaka								14		14
24	Ispahani Agro, Dhaka		1731347908		200						200
25	Joya Seed Limited, Rajshahi.	45610	1837421023		60					10	70
26	Krishibid Seed Limited, Dhaka.	23722	1700729232		200						200

SI No	Name of Clients	Lic. Number	Cell Number	BR26	BRR1 dhan48	BRR1 dhan65	BRR1 dhan82	BRR1 dhan83	BRR1 dhan85	BRR1 dhan98	Total
27	M R Seed, Meherpur				30						30
28	Md Joshim Uddin, Gazipur				05						05
29	Md Rashidul Islam, Gazipur				03						03
30	Md Sabuj Mia, Gazipur		1982543459							03	03
31	Md Sohel Rana, Gazipur				14						14
32	Md Zahangir, Sreepur, Gazipur									03	03
33	Md. A. Alamin.		1913078622							02	02
34	Md. Abdul Halim		1935280227		04						04
35	Md. Aminul Islam.		1779663268							04	04
36	Md. Jahangir Alam, BARI, Gazipur.		17188893000		120						120
37	Meher Alli, Kaliganj.		1850086598		05						05
38	Metal Agro, Dhaka				40					20	60
39	Minhaj Traders, Laxmipur		1722336751							10	10
40	Modern Seed, Chuadanga				20						20
41	Molla Traders, Natore.	1432	1716872858		20						20
42	Nasirullah, Chandana, Gazipur.		1777813546		04						04
43	Orbit Agro, Pabna.		1717738031		70		10			10	90
44	Pinki Reduan Agro Farm, Pakundia, Kishorganj.	14131	1718353114		50						50
45	Power Agro Science, Naogaon.	8385	1740972357			10					10
46	Raja Seed Company, Rangpur.	19952	1713792560		10						10
47	Ridoy Seed, Rajshahi		1719395021		10					10	20
48	Ripon Mia, Gazipur									08	08
49	Sadia Super Seed, Magura		1719215022		10						10
50	Said Seed, Bogura.				10						10
51	Sakil Beej Vander, Kurigram.	23909	1922213787		10						10
52	SCA, Gazipur				10						10
53	Shakil Ahmed, LGED, Gazipur									20	20
54	Shawdesh Seed, Meherpur.									10	10

SI No	Name of Clients	Lic. Number	Cell Number	BR26	BRR1 dhan48	BRR1 dhan65	BRR1 dhan82	BRR1 dhan83	BRR1 dhan85	BRR1 dhan98	Total
55	Sova Seed Company, Mulovebazar.	37221	1672432251	10	30		10			10	60
56	SQ Trading & Engineering, Dhaka.	46701	1709816610		200						200
57	Square Seed, Meherpur.		1723221041		30						30
58	Sufola Seed, Rajbari.	35239	1728157973		30						30
59	Sujola Seed Farm, Jashore.	797	1716252714		30						30
60	Supreme Seed Company Limited, Dhaka.	851	1841145273		50					20	70
61	Uzirpur Multipurpose Co-operative, Narail.	3908	1711965566		20					20	40
62	United Seed Agro Limited, Dhaka.				26		20	30	39		115
	Total			80	6,928	130	1,400	230	163	8,296	17,227

Annexure 4. Client-wise distribution of seed (unsold breeder seed) (in kg) as free of cost for Aus 2022-23 season.

SI No	Name of Clients	Cell Number	BR26	BRR1 dhan42	BRR1 dhan43	BRR1 dhan48	BRR1 dhan65	BRR1 dhan82	BRR1 dhan83	BRR1 dhan85	BRR1 dhan98	Total
1	Abdur Rahaman, Laxmipur.	1746784420									300	300
2	Abu Md. Anaetullah, DD, DAE, Manikganj.	1711985499									500	500
3	BRR1 regional station, Rajshahi					800						800
4	BRR1 regional station, Sonagazi					800						800
5	D. Bishwajit Karmakar, CSO, BRR1 Sonagazi.	1715181609				50			40		200	290
6	D. Humaun Kabir, CSO, ARD, BRR1	1718237812							200		340	540
7	D. Ibrahim PSO, RFS Division, BRR1.	1918153684									200	200
8	D. Kazi Shirin Aktar, PSO & BRR1 Barishal.					3000				150	700	3850
9	D. Md. Enamul Haque, Murdoch University.	1716637791	03	03	03		03			03		15
10	D. Md. Fazlul Islam PSO & Head BRR1 Rajshahi	1711195220				50					1200	1250
11	D. Rakibul Hasan PSO & Head, BRR1 Rangpur.	1731565431									1050	1050
12	D. Ruhul Amin Sarkar, PSO & Head, Bhanga.	1712677493							100			100

SI No	Name of Clients	Cell Number	BR26	BRR1 dhan42	BRR1 dhan43	BRR1 dhan48	BRR1 dhan65	BRR1 dhan82	BRR1 dhan83	BRR1 dhan85	BRR1 dhan98	Total
13	DD, DAE, Barishal					500						500
14	DD, DAE, Dinajpur					500						500
15	DD, DAE, Gaibandha					500						500
16	Fazle Rabbi, Misarai, Chattragram.	1825666966									200	200
17	Head, Plant Pathology, BRR1					10		10				20
18	IWM, BRR1, Gazipur					300					400	700
19	Mamun Hossain, Labour, FMD, BRR1					1000						1000
20	Md Harun Mia, Borguna					30					30	60
21	Md. Jashim Uddin,										04	04
22	Md. Khalilur Rahaman, Mirpur, Dhaka.	1711460712									50	50
23	Md. Riajuddin, UAO, Ramgati, Laxmipur.	1749272010				100						100
24	Md. Riajur Rahaman, UAO, Shibaloi, Manikganj.	1724570427									100	100
25	Partha Sarothi Bishwas, CSO, Habiganj	1648552446				20						20
26	Rubel Hossain, Sonargaon, Narayanganj					02						02
27	Sumal Kumar Basak, UAO, Kapashia, Gazipur.	1938821836				200						200
28	UAO, Ranisongkoyl, Thakurgaon										300	300
29	AFM Sahabuddin, UAO Bhola Sadar									200		200
30	Md Joynal Abedin, BRR1 Gazipur									20		20
32	FM Sazid Ur Rashid BRR1, Gazipur									20		20
			03	03	03	7,862	03	10	340	393	5,574	14,191

Annexure 5. Client-wise distribution of breeder seed (in kg) with cash memo for T. Aman 2023-24 season.

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total		
1	3S Agro Services Limited, Dhaka.		10	20					30						10																								150	290
2	A K Traders, Pabna.																								20															20
3	Abdul Sukkur, Tangail																																							20

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total					
4	Abdur Rahaman Traders, Dinajpur.		10						20																10									10	20					70			
5	Aboni Seed Chuadanga.2	10	10	10	30																										10										70		
6	Adarsha Chashi Ghar, Jhenaidah	10			10			10																	10					10	10				10							70	
7	Advanced Chemical Industries Limited, Dhaka.	320	80	380	470	20			200		10			10	10	130									30						290				50							2000	
8	Advanced Multi Farm Limited, Dhaka.	50	20	30	20			10	10	10	10	20	10			20			10			10									20											270	
9	Afsin Traders, Dinajpur.		10						20																10						10				10							60	
10	Aftab Bohumuki Farms Ltd, Dhaka.		20	40					20					10	10	20															20											140	
11	Agriget Network Ltd. Banani. Dhaka.								20																								10									30	
12	Agro Care co. Comilla.2			50																										10					20	20					100		
13	Agro fruit and Vegetable Ltd, Dhaka.								20					10											10																		40
14	Agroni Seed Farm, Bogura.													10	10																				20	30						70	
15	Ahad Beez, Satkhira	40	10		60			10																	10					40												170	
16	Ahan Traders, Dinajpur.								20																									10								30	
17	Ajay Beej Vander, Magura.		10	10				10																	10						20											60	
18	AK Traders, Pabna.																													20												20	
19	Al Amin Beej Vandar, Dinajpur								30																																	30	
20	Alamgir Traders, Laxmipur.		10	20	60											10																				20						120	
21	All Karim Agro Seed, Kurigram.																		10												20											30	
22	Allahar Dan Agro Seed, Chattogram.		30	30												20																										80	
23	Aman Seed Traders, Jashore.	30			50																				10						20												110
24	Ampara, Mymensingh.													10																	40											50	
25	Anamika Seed, Dinajpur.								40																10																		50
26	Ankur Agro Science, Naogaon.																																		10							10	
27	Ankur Beej Gor, Kishorgonj.		10	20					20					10																													60

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total			
28	Apon Seed, Jhenaidah	30													10										20						30									90	
29	Arafat Agro Farm, Natore.								20																10																30
30	Arif Traders, Dinajpur.								20																10						10				10						50
31	Arman Beej Vander, Mehearpur.2	10	10	10		10		10								10									10																70
32	Asha Seed, Dinajpur.								10																										10						20
33	Astha Seed Company, Rangpur		10						10							10									10																40
34	Atique Seed Co. Tangail.	20	20	50	50			10	20	10	10		10	10		20									20						30				20	10				320	
35	Auto Crop Care Ltd, Dhaka	50	40						100					10	20																									220	
36	Babu Enterprise, Bogura.													10											10															20	
37	Babylon Agro, Dhaka.	30	20	50	100			10	20	10				10	10	30									10					50		0	20	30	50				450		
38	Bacco Traders, Bogura.								10																														10		
39	BADC, Dhaka	200	2800	1430	700	340	180	70	270	100			140	8300	3680	2740	40	40	40	40	40	110	140	70	2550	390	10	60	30	40	5050	890	40	700	150	500	50		31930		
40	Badhon Agro Farm, Bogura.		10						20					20		10									10															70	
41	Bangal Seed, Sirajganj.	10																							10					20										50	
42	Banglaseds Seed Company, Naogaon.																							10																10	
43	Barinagar Agro, Jashore	30	10												10																									50	
44	BD Seed, Thakurgaon								20																															20	
45	Bikrompur beej vander, Dinajpur		10						20							10																								40	
46	Bismillah Beez Vander, Bogura.2								20																					20			20							60	
47	Biswas Seed, Chuadanga.2	10			10																																			20	
48	Biswash & Brothers, Pabna.							10																	10									10	10	10				50	
49	Biswash Seeds Farm, Jhenaidah																								10															10	
50	Bithi seed Store, Tangail	10	10	30	20				10		10		10		10	10									10					20					10					160	
51	Bkash Seed, Gaibandha.		10					10	20																10										10	10	20			90	
52	BMDA, Rajshahi.														20										10										10		10			50	
53	Bokul Seed Store, Rajshahi.																								10										10					20	
54	Bondhon Seed Company, Rangpur.								20																											20				40	
55	Bonolota Beej Vander, Natore.							10																	10															20	

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total			
56	Borsha Seed Company, Dinajpur.								20						10																				30					60	
57	Bowalia Agro, Cumilla.			20									10																											30	
58	BRAC Center, Mohakhali, Dhaka.	70	50	50	50			20	80		10				20	20	10	20							40																480
59	Brishti enterprise, Dinajpur.								20																10																30
60	Brothers Seed Company, Chuadanga.2	20	10	10	10				20																															90	
61	Bushara Agro, Dinajpur.		20						20						10										10										20	20				100	
62	CCDB, Dhaka.								30						10																									40	
63	Century Agro Limited, Gazipur.2		10						70						10	10																								100	
64	Chamok Seed Enterprise, Dinajpur.		10						20																										10					40	
65	Champion Seeds, Sherpur.																																		20	30			50		
66	Chashi Seeds, Mehearpur.2	20		20				10		10															10															80	
67	Chemist Agrobiotech Limited, Dhaka.		20		50			20	20						10	10																								200	
68	Chemist Crop Care Limited, Dhaka.		20		50				20							20																								180	
69	Chitra Seed, Narial.	20														10									10															50	
70	Chowdhury Seeds, Nilphamari.		10						20																															30	
71	Chuadanga Agro Seed Company, Jashore.	30	10	20	20											10									10											10				120	
72	Chuadanga Seed Farm, Jashore	30	10		50										10																									120	
73	Clean Seeds Ltd, Dhaka.														10										10												30		30	80	
74	Combined Agro, Cox's Bazar.2										10														10															20	
75	Corbel International Ltd. Dhaka.2		30						10							40																					20			130	
76	CSO, DFRD, BRRI.																						10																	10	
77	Cumilla Seed Farm, B-Baria.			30																																				30	
78	Delowar Seed Store, Dinajpur.		10						20																10																60

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total	
79	Deshbondhu Seed, Lalmonirhat.		10												10																			10	20	10		60	
80	Dhawagiri Beej Utprdan , Bogura.								10														10													10			40
81	Dinajpur Beej Vander, Dinajpur.2		20						100						10										20									30	30	20		230	
82	Doel Traders, Bogura																													10			20	20			50		
83	Ejab Agro Limited, Dhaka.		20	20											10																							50	
84	Eon Agro Industries Limited, dhaka.		30											10	10																								50
85	Explor Seed, Bogura.			10																					10														20
86	Fahim Seed Company, Dinajpur.								20																								10	10	10		50		
87	Faloboti Seed Company Ltd, Khulna.	20			30	10																								10								70	
88	Friends Seeds Company, Jhenadha.													10	20																							60	
89	Gachihata. Kishorganj.																													20								20	
90	Gazipur Krishi Seed, Jamalpur.		10	30												10																		10		30		110	
91	Gazipur Standard Seed, Jamalpur.								10	10	10				10	10																		20	20	20		150	
92	Gazipur Super Seed, Jamalpur.2		20	30	10				10							20															10							100	
93	Giant Agro Processing Limited, Dhaka.		20						40	10				10	10	10									10									20	30	100		260	
94	Global Agro, Farming, Dinajpur.								20																								20		30		70		
95	Golden Agro Seed, Joypurhat.	10	10						20		10																											50	
96	Golden Seed Co, Kustia.		10					10																	10						20			10	10			70	
97	Golden Seed, Barishal.	10			20																										30							60	
98	Golden Valley, Dhaka		20						20	10					10	20															20			20	20	50		200	
99	Green Global Seed, Nilphamari		20						20						10	20																						70	

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total							
100	Green Seed Agro Farming, Dinajpur.								20																															20					
101	Growtech Agro, Dhaka.		20						20					10																										100	100	250			
102	H R Agro Limited, Panchogar.2								20							10																			10	10	10				70				
103	H Rahaman Agro Fram Limited, Dinajpur.								20						10																				10						40				
104	Habib Seeds, Dinajpur.								60																										10						70				
105	Harun Enterprise, Dinajpur.								20																										10	20					50				
106	Haychem(Bangladesh) Limited, Dhaka.2		60						120					10		60							20																	20		540			
107	Heed Seed, Jhenidha.																						30		10																40				
108	Hena Traders, Dinajpur.								20																																10	10	50		
109	Himadri Limited, Bogura.		10																																							10			
110	Himalay Agro Farm, Thakurgaon.																								10																	10			
111	Himalay Seeds & Agro Ltd, Dhaka.								40																																	20	70		
112	Hobigonj Agro Limited, Dinajpur.				10				20																																	10	80		
113	Hori GuruChand Beej Vander, Patuakhali.		10	20	40											10																											80		
114	Hossain Seed, Satkhira.	20																								10																	10	40	
115	Imran Beej Mela Ghor, Bogura.																									10																	20		
116	Insaf Seed, Faridpur.	20		10	30																					10																50	140		
117	Iqbal Store, Chattogram.	10	10										10																														30		
118	IRRI, Dhaka																																										100	200	
119	IRRI, Dr. Kamal																																										03	03	
120	Ispahani Agro, Dhaka	50	50		120	20		20	100	20					10	20	50																											20	900
121	Issamoti Agro Seed Farm, Jashore.	30			10																																						40		
122	J & S Agricare, Sherpur.								20							10																												20	50
123	J S T Agro Products Limited, Foridpur.																																											10	10

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total			
150	Krishok Vai Bejagar, Natore.							10																	10						20						10		50		
151	Kulsum Seed, Dinajpur.								10																						10									20	
152	Labib Enterprisr, Sirajgonj.2		10						20					10	10	10																			10	10	20			100	
153	Loard International Beej Vander, Natore.								20																10																30
154	Loknath Traders, Rangpur.		10						20							10																			10	10	20			80	
155	M R Agro Seed Traders, Jhenidaha.																								10						10										20
156	Ma Baba Traders, Rangpur.																														10				10					20	
157	Mahabub Enterprise, Rangpur.		10													10																								20	
158	Mahadi Seed, Tangail.		10												10	10																								40	
159	Mahim Seed Company, Bogura.2	40	20							10				10	20										10																130
160	Mamun Seed Store, Mymenshingh.								10				10			10																									30
161	Mamun Seed, Dinajpur.								20																										10	10	10			50	
162	MAP Agro Ind Limited, Chuadanga.2	80	40	30	70				20					10	20	40									30																340
163	Mariam Beej Vander, Netrakona.2		10	10	10				20																						10									70	
164	Master Agro Seed Farm, Jashore.2	70	10		40			10							10	20															40			10						220	
165	Master Seed Company Limited, Natore.									10															10						10						10			40	
166	Master Seed Company, Bogura.	10	10	10		10			20		10		10			10										10					10			10	10	10				140	
167	Master Seed, Tangail.		10	10																																				20	
168	Masud Seed Company, Dhaka.		10											10																										20	
169	Maysha Agro Limited, Dinajpur.								20																															20	
170	McDonald Seeds Limited, Dhaka. 2	10	10	10	40	10	10		20						10	10									10										10	10	10			170	
171	Meghna Seed Co, Meherpur.		10					10																							10									30	
172	Metal Seed, Dhaka.	80		150	200	30			100					10	40	20									30					100				50						810	
173	Methu Fokir, Natore.																								20															20	

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total		
174	Meya Store, Jashore.	20			20																			10						20										70
175	Milon Beej Vander, Jhenidha.	10																						10											10	10				40
176	Miron Seed, Tangail		10	30	20					10	10				10	10														20										120
177	Mizan Seed Company, Tangail.		10	20	10				10	10	10					10						10																		90
178	MK Seed Farm, Jashore.	50	10		50										10										20					30										170
179	Modern Agro, Mymensingh.			10																													10						20	
180	Modern Cropcare, Gazipur.				10											10						10								20						20			80	
181	Modern Seed, Chuadanga.													10	10										20					30									70	
182	Modhupur Beej Vander, Tangail.																													10									10	
183	Mohim Seed Farm, Mymensingh.								20																															20
184	Mohona Seed Company, Dinajpur.								20																									10	20				50	
185	Molla Seed Traders, Jashore.	20			20																				10					20					10				80	
186	Molla Traders, Natore.																								10														10	
187	Mollik Traders, Jashore.													10	10															20									40	
188	Momota Agro Seed Ltd, Kishoreganj.			20										0																									20	
189	Momota Company Limited, Rangpur.								20							10						20		10					30	30					20				140	
190	Mother Seed														10															10									20	
191	Mou Seed Farm, Jashore.								30					10										10															50	
192	Mou Seeds Farm, Dinajpur.								80																						10								90	
193	Mousumi Beej Vander, Thakurgaon								30							10							10																50	
194	MS Seed and Agro, Jhinaidah.								10																														10	
195	Mugdho Beej Vander, Rajbari.		10																					10					10										30	
196	Mukta Beej Vander, Cox,s Bazar.							10					10												10														30	
197	Mukta Beez Utpadon Farm, Mymensingh		10	10					20						10																								50	
198	Multitrade International, Dinajpur.		10						20																														30	

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total				
199	Munshi Traders, Jashore.	20	10		10																																			40		
200	Nafiz Enterprise, Satkhira.																								10						30										40	
201	National Agricare Import Ex, Dhaka.2		30						50					10											20												120			230		
202	National Seeds Company, Gaibandha.		10								10					10									10									10	10					60		
203	Nayeem Beej Vander, Natore.																								10						30									40		
204	Nazir Beej Vander, Joypurhat.	20	20	30	10				20							30	10								10						30			30	40	50				300		
205	Nazmul Seed, Rangpur		10																						10									10	10					50		
206	Netu Seed Company, Jamalpur.									10																														10		
207	New Jashore Agro, Jashore.					10																									10									20		
208	New Molla Traders, Jashore.														10																10									20		
209	New Popular Nursery, Dinajpur.								20																															20		
210	New Super Seed, Barisha,.				100																																			100		
211	Neyaz Traders, Dinajpur.								20					10												10									20	20	50				130	
212	Nobo Digionto Source, Rangpur.		10						10							10															10			10							60	
213	North Bangla Seed, Dinajpur.								20																																20	
214	North South Agro, Dinajpur.								20																10																	30
215	Northern Agricultural And Industrial Co Ltd, Thakurgaon.		20																																						20	
216	One Seed, Thakurgoan.																								10										10	20	10				50	
217	Orbit Agro, Pabna		10	30	30			10	10	10			10												10						40			20	30	40				270		
218	Padma Seed, Meherpur.		10																						10						10										30	
219	Padma Seeds, Pabna.																								10																10	
220	Petrochem Bangladesh Limited, Dhaka.		20		60			10	50																						100										240	
221	Pinki Reduan Agro, Kishorganj		10	30					10							10															10					10	10				90	
222	Polli Unnayan Seed, Bogura.																								10																	10
223	Power Agro Science, Naogaon.														10																				20						30	

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total					
224	Prodan Agro Link BD, Kurigram.2		20												10	10									10									30							80		
225	Prodhan Seed, Kurigram	10	10	10												10									10								10	10							80		
226	Progoti Agro Science, Thakurgaon.								20																																	20	
227	Progoti Agro Seeds, Jashore.	20			40	10									10	10									10								20									120	
228	Progoty Seed Farm, Kishorgonj.		10	10												10									10								10									50	
229	Pure Seed Agro, Bogura.								20																																	30	
230	Rabbi Jumana Seed, Sirajgonj.																								10														30			40	
231	Rafi Enterprise, Meherpur.																								10																	30	
232	Rahaman Seeds, Dinajpur.								20																										10						30		
233	Rahat Agro, Dinajpur.								20						10																											30	
234	Raihan Seed Co, Tangail.	20	10	30	30				10	10						10						10																				160	
235	Raja Seed Company, Pargacha, Rangpur.		10						20	10						10																										50	
236	Rakib Traders, Thakurgoan.								10																																	20	
237	Ranga Agro, Dinajpur.								20						10										10																		80
238	Razia Beej Vander, Dinajpur.								10																																	10	
239	Rehad Seed, Tangail.		10	20	50																																					80	
240	Relesa Agro, Dinajpur.2								40						10										10																	60	
241	Ridoy Seed, Rajshahi							10		10															10								50									80	
242	Ritu Beej Vander, Dinajpur.								20						10																											30	
243	RMJ Seed Product, Faridpur.																								10																	30	
244	Rowson Seeds, Panchagor.												10																								10				20		
245	Rupam Seed Enterprise, Feni	10	10	20											10																											100	
246	Ruposhi Bangla Agro Care, Tangail.		10	20												10									10																	50	
247	Sabina Enterprise, Kurugram.																																									10	
248	Sabu Seed Farm, Jashore.	20	10												10																											40	
249	Sadia Seed, Thakurgaon								10																																	10	
250	Sadia Super Seed, Magura		10																			20			40																	170	
251	Safe Agro private, Jashore.																								10																	50	
252	Salam Agro Farming, Dinajpur.								20						10										10																	60	

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total	
253	Samad and Brothers, Tangail								10					20	20															10						10		70	
254	Samir Seed Company, Dinajpur.		10						20							10																							40
255	Sarkar Beej Co. Tangail.		10						20	10																				20								60	
256	Sarkar Beej Vander, Dinajpur.								10																													10	
257	Sarkar Seeds, Gaibandha.		10													10																	10	10	10		50		
258	Sarkar Traders, Dinajpur.								50																													50	
259	Sarkar Traderss, Dinajpur.		10						10																							10					30		
260	Satmail Seed House, Jashore.	10		10	10										10															10							50		
261	Sazzad Seeds, Rajshahi.									10															10													20	
262	SCA, Gazipur.																				05									20							25		
263	Seba Agrotech & Seed Limited, Dhaka.								20	10															10				20									60	
264	Setu Seed Company, Nilphamari.		10													10																	10		50		80		
265	Shadesh Seed, Mehearpur.																												10				10			20			
266	Shafiq Seed, Natore.																								10												10		
267	Shampa Beej Vander, Rangpur		10						10							10																	10	10	10		60		
268	Shuvo Enterprise, Jashore.					10																															10		
269	Shuvo Seed Company, Tangail.		10	10	20					10						10														10							70		
270	Shuvro Enterprise, Jashore.	30			50													10						10					20								120		
271	Siam Seed, Rangpur.		10																													10	10			30			
272	Siam Seeds farm, Dinajpur.		10				10	20																	20												60		
273	Sihab Seed, Nilphamari.							30																			10										40		
274	Sima Raya Agro farm, Mymensingh.		10	10					10	10						10									10				10								70		
275	Simul Seed Farm, Jashore.	20	10																										30							60			
276	SK Agricultural Co, Dhaka	20	30	60	20				110	10					10	10						20			20				20			10	60	20		420			
277	Sobuj Bangla Seed, Bogura.			10									10															10								30			
278	Sofol Agro Farm, Dinajpur.								20																20												40		
279	Sofol Agro, Dinajpur.								20																10										20		50		
280	Sohan Seed, Dinajpur.								10																												10		

	Clients	BR10	BR11	BR22	BR23	BRR1 dhan30	BRR1 dhan32	BRR1 dhan33	BRR1 dhan34	BRR1 dhan39	BRR1 dhan41	BRR1 dhan44	BRR1 dhan46	BRR1 dhan49	BRR1 dhan51	BRR1 dhan52	BRR1 dhan56	BRR1 dhan57	BRR1 dhan62	BRR1 dhan66	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan76	BRR1 dhan77	BRR1 dhan78	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	Nizershail	Total	
281	Soheed Beej Vander, Kisorgonj.		10	30											10															10					10	10		80	
282	Sohel Seed, Barishal.		10		50										20																								80
283	Sojib Seeds, Nilphamari.		10						10						10									10										20	20	20		100	
284	Sonali Beej Vander, Bogura.								10						10																		20	30	20		90		
285	Sonali Enterprise, Dinajpur.								20																									20			40		
286	Sonar Bangla Seed Farm, Jhenaidha.														10									10														20	
287	Sornali Agro Farming, Dinajpur.								20															10														30	
288	South Asian Seeds, Barishal.		10	30	50																																	90	
289	Sova Seed Company, Moulvibazar.		10	20					10					10	10																							60	
290	SQ Trading & Engineering, Dhaka.	30	20	50	60				30																													190	
291	Square Agro Development, Dhaka.														10																							10	
292	Square Seed, Meherpur.		10					10							10									10						20								60	
293	Subha Seed, Bogura.		10																																10		20		
294	Sufola Seed, Rajbari.		10					10									20							10														70	
295	Sujala seed farm, Jashore	30	20		40	10								10																								130	
296	Sumaiya seed, Kurigram		10													10																			10	20	20	70	
297	Super Seed Company, Chattogram.	20	10	20	20			10		10	10	20				10									10											10		150	
298	Supreme Seed, Dhaka		70	20	20			20							20										20						50							220	
299	Swarna Seed, Faridpur.																														40							40	
300	Syngenta Bangladesh, Dhaka	10	20	10					20																20													80	
301	Takwa Beej Vander, Faridpur.								20																													20	
302	Taowhid Enterprise, Gaibandha.																								20					100								120	
303	Tarin Seed Co. Chuadanga.	10			10																																	20	
304	Thailand Agro Seed, Mymensingh		10	10											10																							30	
305	Toha Enterprise, Mehearpur.																					10								40								50	
306	Tur Agro Seeds, Dinajpur.		10						30																10									10	20			80	

SL No.	Clients	BRRRI dhan34	BRRRI dhan49	BRRRI dhan51	BRRRI dhan72	BRRRI dhan80	BRRRI dhan87	BRRRI dhan90	BRRRI dhan93	BRRRI dhan94	BRRRI dhan95	BRRRI dhan103	Total
8	J R Agro, Ranjpur.											10	10
9	Samad & Brothers, Tangail.							05				05	10
10	Tawhid Enterprise, Gaibandha.											10	10
11	Synginta, Bangladesh, Dhaka.							10					10
12	Md. Habibur Rahaman, kapashia.						10						10
13	Adarsho Chashighar, Jhenaidah.											10	10
14	Gazipur Krishi Seed, Jamalpur.			20				10		10		10	50
15	Rafi Enterprise, Meherpur.											10	10
16	MAP Agro Int. Ltd. Churdanga.											10	10
17	BADC, AD											10	10
18	Swadesh Seed, Meherpur.											10	10
19	Mizan Seed Co, Tangail.			10									10
20	Milon Beej Vander, Jhenidah.			30									30
21	Jebin Agro Seed, Sherpur.											20	20
22	Bangal Seed Sirajganj.	50		20									70
23	Md. Nazrul, BRRRI Gazipur.											10	10
24	Md. Nazrul, BRRRI Gazipur.	20											20
25	Hychem Bangladesh Ltd. Dhaka.											10	10
26	Md. Nazrul Islam, Narshindi.											10	10
27	Mcdonaled Seed, Dhaka.	30	50	50				20					150
28	Hid Seed, Jhenaidah.											10	10
29	Samsun Nahar, BRRRI. Gazipur.						05						05
30	Asmaul Husna, BRRRI, Gazipur.											05	05
31	Sabuj, Sirajganj.											5	10
32	AP AO, Mymenshingh.											10	10
33	Habib Seed, Dinajpur.			20									20
34	AO Dhunat, Bogura.											15	15
35	Abdul Barek, Gazipur.		05										05
36	Dr. Md. Abdul Kuddus, CSO, BARI.							05					05
37	Md. Saheb Mia, BRRRI, Gazipur.	25											25
38	Md. Sona Mia, BRRRI, Gazipur.	20											20
39	Combina Agro Farm, Cox's Bazar.											05	10
40	Md. Nazrul Islam, BRRRI, Gazipur.	20											20
41	S R Agro Traders, Jhenaidah.			10									10
42	Ahad Seed, Satkhira.			10									10
43	Molla Seed, Joshore.			10									10
44	Nafij Enterprise, Satkhira.			10									10
45	Stare Seed, Kushtia.			20									20

SL No.	Clients	BRR I dhan34	BRR I dhan49	BRR I dhan51	BRR I dhan72	BRR I dhan80	BRR I dhan87	BRR I dhan90	BRR I dhan93	BRR I dhan94	BRR I dhan95	BRR I dhan103	Total
46	Gachihata Agriculture Agro Farm, Ltd. Kishorganj.	10										10	20
47	Riad Seed, Jhenaidah.			10									10
48	Rabul, BRR I	05		05									10
49	Harunur Rashid. Badda.	10											10
50	SCA, Gazipur.							10					10
51	Liakot Alli. Tangail.	10					10						20
52	Rafique. BRR I.	20											20
53	Nazim BRR I.						10						10
54	Arafat. Natore.	20		10				10					50
55	Helal, BRR I				10								10
56	Bismilla Beej, Bogra.							20					20
57	Jasim Uddin, Gazipur.		01						01	01	01		04
58	Abul Hoshin. BRR I.	05											05
59	Farmer, Jashore.						10				10		20
60	Mizanur. Gaziur.		10										10
61	Nuruzzaman, S B. BRR I.						10						10
62	Sukkur, Gazipur.						10						10
63	Majharul, Gazipur.						10				10		20
64	Sahabuddin, Gazipur.										10		10
65	Habib Narayanganj						10	05		05	05		25
66	A Matin Narayanganj.						20				10		30
67	Dipon, BRR I							05			20		25
68	A Bakar Siddique NATA, Gazipur.	10											10
69	CSO DFRD, BARI			30									30
70	Pho Uiter, Dhaka.								20	20			40
71	Nazrul Tangail.				10		10				10		30
72	Md. Deluar BARI.	05				10							15
73	Agriget Network Ltd. Banani, Dhaka.			10									10
74	Md. Liton, BRR I, Gazipur.										20		20
75	Md. Azahar, BRR I.	05											05
76	Dr. Abdus Shahid, DUET, Gazipur.						10						10
77	Md. Sarowardi, Gazipur.						20						20
78	Dr. Mizanur Rahaman.	20											20
	Total	387	66	275	20	10	155	120	01	36	116	195	1,381

Annexure 7. Client-wise distribution of Seed (unsold BS and TLS) (in kg) as free of cost for T. Aman 2023-24 season.

SL No.	Clients	Phone/Cell Phone Number	BR10	BR23	BRR1 dhan34	BRR1 dhan49	BRR1 dhan51	BRR1 dhan56	BRR1 dhan57	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	BRR1 dhan103	Total
1	A B M Basir Raihan.	1728621684				05											05	02						12
2	A K M Fazlul Haque, Secratary, Ministri.					10	10																35	55
3	A Matin Sarkar, UP Chirman, Trishal,					20																		20
4	A Rahaman, Bhaloka, Mymenshingh.	1660171797										10												10
5	A. Mazid, BAFLF, Gazipur.	1714110641										600					50					500		1150
6	Abdul Gafur, Labor, Ph: Division, BRRI.	1914450429															05							05
7	Abdul Khalaq, BRRI, Gazipur.					05																		05
8	Abdul Mahid, DUET, Gazipur.	1734346233															10							10
9	Abdur Rowf,	1618338219															10							10
10	Abdus Salam Mollah, BRRI. Gazipur.	1716606631															05							05
11	Abu Bakar Siddik, Vadai, Lalminirhat.	1575088704																	03					03
12	Alinur Rahaman, PGRC, BARI.	1712486891															10							10
13	Amili Aktar, B&CD, BRRI.	1716872668				05	10																	15
14	Asadul Islam, SAU, Dhaka.											01												01
15	Asaduzzaman, Valoka, Mymenshingh.	11716670770																				130		130
16	Asiqur Rahaman, SO, GRSD, BRRI.	1718684231			10																			10
17	Asmaul Husna, Store Officher, BRRI.	1301650843			05	05																		10
18	Azad Hossain, Mirpur, Dhaka.									07														07
19	Azahar Uddin, Zolarpara, Gazipur.	1751932368					10																	10
20	BADC, Dhaka.	2223387839																					150	150
21	BINA, Mymenshingh.	1797371659															02						02	04
22	DD Emran BRRI.	1685443809																				10		10
23	DG, BRRI.					20																		20
24	Director Admin, BRRI.																	05						05
25	Dr. Afjal, BARI, Gazipur.	1711377227											10											10
26	Dr. Afzal Hossain, WMM BRRI, Gazipur.				15																			15
27	Dr. Amina Khatun, PSO, RFSD, BRRI.				20												100		30	50	250			450
28	Dr. Ashiq Iqbal Khan, PhD, BRRI.	1711146324															10							10
29	Dr. Badrunnesa, SSO, PPD, BRRI.	1776975087															20							20
30	Dr. Haridash Chandra Monta, CSO, BARI.	1823468179		50																		100		150
31	Dr. Md. Humayun kabir, SSO, BRRI.					20																		20
32	Dr. Md. Sahidul Islam, Statistice Division, BRRI.																						06	06

SL No.	Clients	Phone/Cell Phone Number	BR10	BR23	BRR1 dhan34	BRR1 dhan49	BRR1 dhan51	BRR1 dhan56	BRR1 dhan57	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	BRR1 dhan103	Total	
33	Fazlur Rahaman AM, Mymensingh.	1601220899					30					200													230
34	Halima Aktar, Sirajganj.	1311202016					05																		05
35	Hamida, BRRI.	1726036685					10																		10
36	Head BRRI Satkhia,																			50		300			350
37	Head GRS, BRRI.				35													35					05		75
38	Head RFS, BRRI, Gazipur.	1948153684			03												500	300							803
39	Head, BRRI, Comilla.	1680350179			10																				10
40	Head, ARD, BRRI, Gazipur.	1742090404												05			05	05		05		05	05		30
41	Head, BRRI, Rajshahi.	1716718781																							30
42	Head, Farm Division, BRRI.	1915772448															05	50							05
43	Head, GQN, BRRI.	1721831391			05																				05
44	Head, Pathology Division, BRRI.	1775787338													03		03								06
45	Head, Plant Breeding Division, BRRI.	49272040			10				06			07		05			17		14						59
46	Head, WMMD, BRRI.																				100	100			200
47	Iqbal Hossain, Mymensingh.	1790810194			05	05																			10
48	Kamrul, Labor, FMD, BRRI.																05								05
49	Kawsar Ahamed, SAD, BRRI, Gazipur.	1723309094			10												05					05			20
50	Kazi Badal LA Hybreed Division, BRRI.	1757338337			05		10										05			05					25
51	Khalilur Rahaman, Labor, BRRI, Rarishal.	1728152022			05																				05
52	Liakot Ali, Tangail.				10																			02	12
53	Mahmudul Hasan, FMD, BRRI.	1858437490				10	10																		20
54	Mamun Hossain, Labor Clab, BRRI.	1884088428	100		50							500													650
55	Manik Mia, Bhabanipur.	1970332254																05							05
56	Mazedul Islam, Tangail.	1779794201																06							06
57	Md. A Aziz, BRRI, Gazipur.	1823796140			01		08																		09
58	Md. A Baten, Trishal, Mymenshigh.						20																		20
59	Md. Abbas Uddin, BRRI.	1850405280					10										10								20
60	Md. Abdul Kalam, Mymensingh.	1750526298					20																		20
61	Md. Abul Bashar, Gazipur.	1928128692																				10			10
62	Md. Abul Hasan, Mymensingh.	1750526298					20																		20
63	Md. Amzad Hossain, Dhaka.	1915102399								07															07
64	Md. Aowal.	1815883736			05		10																		15
65	Md. Asadul Hasnat, BRRI.	1917939786			05																				05
66	Md. Atiqur Rahaman.	1724148016			10		10																		20
67	Md. Azimuddin Mia, Mymensingh.	1930164132				05	10																		15

SL No.	Clients	Phone/Cell Phone Number	BR10	BR23	BRR1 dhan34	BRR1 dhan49	BRR1 dhan51	BRR1 dhan56	BRR1 dhan57	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	BRR1 dhan103	Total
68	Md. Babar khan, BRR1	1911113093				05	05																	10
69	Md. Belayet Hossain, Gazipur.	11815883736			08																			08
70	Md. Delowar, Gazipur.	1751865735			03	03	10																	16
71	Md. Farid Mia, BRR1.	1718604939			15	05								05										25
72	Md. Harunur Rashid, WAMMD, BRR1.	1731044795			5												10							15
73	Md. Hasibur Rahaman, SO Sonalibank, BRR1.	1738423469			10																			10
74	Md. Hazrat Ali, Driver, BRR1, Gazipur.				10																			10
75	Md. Helal Uddin, Samantopur, Gazipur.	1725426656																				10		10
76	Md. Jamal Uddin, Gazipur.	1724819764										05												05
77	Md. Kamal Hossain, BRR1.	1679599030															10							10
78	Md. Kamrul , BRR1.	1732860590															05							05
79	Md. Mahim, Gazipur.					02																		02
80	Md. Momen SA, BRR1.		0.5													0.5								01
81	Md. Monir Hossain, Gazipur.	1677295233															12							12
82	Md. Moslem Uddin, BRR1.	1683936984				10											10							20
83	Md. Mostofa. BRR1.	1815327290															10					05		15
84	Md. Najmul Hossain,	1987197009			15	10											10							35
85	Md. Nazimuddin, Driver, BRR1, Gazipur.																10							10
86	Md. Nazmul Haque, BRR1, Gazipur.				20																			20
87	Md. Niazi BRR1.	1987197009					05																	05
88	Md. Nur E Alam, Gazipur.	1911888705																				10		10
89	Md. Nurul Kabir	1828431738																				05		05
90	Md. Rasel Medical, BRR1.	1676204273															10				20			30
91	Md. Riaz Uddin UAO, Laxmipur.	1749272010										400											70	470
92	Md. Ruhul Amin, Labor, GRSD, BRR1.	1719215022			12	05														10		10		37
93	Md. Sahab Uddin, BRR1.	1706466293															10							10
94	Md. Saroar Jahan Belal, CSO, AAD, BARI.							06																06
95	Md. Selim Pramanik, Pabna.	1787991024															10							10
96	Md. Sha Alam Sikder, Cheragali, Tangi.	1951206662			05																			05
97	Md. Shafiqul Islam, Netrokona.	1318930712			05																			05
98	Md. Shahin, Pajulia, Gazipur.					02																		02
99	Md. Shamim	1945564934															15			15		10		40
100	Md. Shamim, UP Member, Mymenshingh.	1727733371					10										15				20			45

SL No.	Clients	Phone/Cell Phone Number	BR10	BR23	BRR1 dhan34	BRR1 dhan49	BRR1 dhan51	BRR1 dhan56	BRR1 dhan57	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	BRR1 dhan103	Total
101	Md. Shariful Islam, Mathani, Netrakona.				05																			05
102	Md. Shariful Islam, SA, ARD, BRR1.	1870815898															10				10			20
103	Md. Syful Islam, Chirman, Mymenshingh.	1711332173					10										20				30			60
104	Md. Syful Islam, Gazipur.	1707580032				05																		05
105	Mofazzal Hossain, Netrakona.	1710594364					05																	05
106	Mohammad Ali, Gazipur.	1613579504				10																10		20
107	Mohanand Barman, WMMD, BRR1.	1731044795			05																			05
108	Mostofa Alamgir Ratan, Jhenaidah.	1715155347				40	50										50							140
109	Mousumi, Dhaka.				02																			02
110	Mridul Kanti, Gazipur.																					05		05
111	Munir Hossain, Dhirashrom, Gazipur.	1716323237				05																		05
112	MURDOCK Univercity																				06	06		12
113	Nazim Uddin, Mymenshingh.	1932105905				05	10																	15
114	Nazim, Driver, BRR1.	1728755727															10							10
115	Nazmul	1717951367																	10			10		20
116	Niaz Md. Farhad, BRR1.								05															05
117	Nur Mohammad Kathora.					05											05							10
118	Nur Mohammad, Workshop, BRR1.	1735793574																			10			10
119	Obaidullah, Sirajganj.																						10	10
120	PGRC, BARC, Dhaka.	1640530715			05																			05
121	Probir Chandra Sen, Mymenshingh.	1681271105				05	10										10							25
122	Prodip Chandra, FMD, BRR1.	1714813555															10							10
123	Rabbi Khan, Mymenshingh.																10							10
124	Rabiul Islam, Magura.	1842590575									10													10
125	Rafiqul Hasan, SSD, BRR1.	1743967124															20							20
126	Rajesh Chokroborti, SBAU, Dhaka.				02					02						02								06
127	Rajob Ali, SCA, Gazipur.					15																		15
128	Resalot Ahamed, UAO, Tangail	1673374121			10																			10
129	Rezaul Karim, Gazipur.				05												05							10
130	RFS Division, BRR1.	1948153684															1500					300		1800
131	Sabbir Hossain, Narayanganj.	1922220811										05												05
132	Sabuj Mia, Gazipur.	1704974812																				05		05
133	Sakil Ahamed, Sherpur.	1739531797																				10		10
134	Samirkanti Chakma, BRR1.	1862011184					10					10												20
135	Sammi Aktar, BRR1.	1722336751			05																			05

SL No.	Clients	Phone/Cell Phone Number	BR10	BR23	BRR1 dhan34	BRR1 dhan49	BRR1 dhan51	BRR1 dhan56	BRR1 dhan57	BRR1 dhan70	BRR1 dhan71	BRR1 dhan72	BRR1 dhan73	BRR1 dhan75	BRR1 dhan79	BRR1 dhan80	BRR1 dhan87	BRR1 dhan90	BRR1 dhan91	BRR1 dhan93	BRR1 dhan94	BRR1 dhan95	BRR1 dhan103	Total
136	SAU, Dhaka.	1796994087				01														02				03
137	SCA, Gazipur.	1721194802			04																			04
138	Selim	1726001019					10															10		20
139	Shafiqul Islam, SA, BRR1.Gazipur.	1723478756			10									10			10							30
140	Shaikh Md. Abul Wasek, Madabpur, Habiganj.				05												10							15
141	Shankar Chandra Sing, TD, BRR1.	1682710449					10																	10
142	Shihab, Bogra.	1785558996																				10		10
143	Sipon Aktar, BD, BRR1.				05																			05
144	Sohel, GRS, BRR1.	1722336751			05		05										05					05		20
145	Sufi Sydunnabi, BRR1.	1723696000				10											20					10		40
146	Suvas Chandra, BRR1.						10																	10
147	Sydul Islam, BRR1.	1834239207					10															10		20
148	Syful Islam, Mohespur.							10																10
149	Tareq Salauddin, BRR1, Gazipur.				05																			05
150	Zahur Talukdar, Netrakona.					05											10							15
151	Zakia Sultan, DAF, Jamalpur.	1715114697															200			70		50		320
152	Zalal Uddin Akanda, Shripur, Gazipur.											05												05
153	Ziaul Haque BRR1.	1316994610															10							10
	Total		101	50	400	193	438	16	11	16	10	1,743	10	25	03	2.5	2,834	408	17	197	246	2,041	180	8,941