Research Program 2017-18

Plant Breeding Division

Proposed Research Program 2017-2018

Programme area/Project	Major Objectives	Annual Budget (Thousand TK)
Programme Area: Varietal Development Programme (VDP)		
1. Rice Breeding		
1.1 Development of Upland Rice	Development of genotypes suitable for dry direct seeded (upland rice) condition at drought prone environment with emphasis on quick seedling emergence, vigorous growth, plant architecture for lodging tolerance and earliness.	700.0 (GOB)
1.2 Development of T Aus rice	Development of short duration high yield potential genotypes having tolerance to lodging, high temperature at reproductive phase and pre-harvest sprouting tolerance including good grain quality.	500.0(GOB)
1.3 Development of Shallow Flooded Rice varieties	Development of high yielding (4.0-5.0 t/ha) rice varieties for shallow flooded area (up to 1.0 m depth), shallow deep area (30 cm water) and medium deep area (50-60 cm water) along with submergence, facultative elongation and hypoxia tolerance.	250.0 (GOB)
1.4 Development of Rainfed Lowland Rice (RLR)	Development of genotypes superior to standard varieties and adaptable to rainfed lowland environment in T. Aman season.	2400.00 (TRB, GOB)
1.5 Development of Salt Tolerant Rice	Development of salt tolerant varieties suitable for the saline prone coastal areas in *Aman* and *Boro* seasons.	25000.0 (STRASA, TRB, GOB)
1.6 Development of Premium Quality Rice (PQR)	Development of aromatic and non-aromatic fine quality rice with international (Basmati/Banglamati/Soru Balam type) standards in Boro season for domestic use and export.	1500.00 (GOB)
1.7 Development of Cold Tolerance Rice	Development of cold tolerance at seedling and reproductive stage.	550.00(GOB)
1.8 Development of Favorable Boro Rice	Development of short duration high yield potential genotypes having tolerance to lodging, high insect and disease resistance including good grain quality.	600.00(GOB)

1.9 Development of zinc enriched rice	Development of rice varieties with high zinc content.	600.00(GOB)
1.10 Development of insect resistant rice	Development of rice varieties resistant to BPH, WBPH, GLH and GM.	500.0 (TRB, GOB)
1.11 Development of Disease Resistant Rice	Development of varieties resistant to BB, RTV & Blast.	550.00
1.12 Development of Submergence and Water Stagnation Tolerant Rice varieties	Development of short duration and high yielding rice varieties with three weeks submergence, stagnant flood and anaerobic germination tolerances with yield target 6.0-6.5 t/ha (stress 5.0 t/ha) Development of multiple stress tolerant rice varieties like submergence+ stagnant flood, submergence+ drought with yield target 6.0-6.5 t/ha (stress 5.0 t/ha)	1000.0 (GOB, TRB)
1.13 Development of Drought Tolerant Rice (DTR)	Development of high yielding rice varieties tolerant to drought stresses for the rainfed lowland rice ecosystem in Bangladesh.	2000.00 (TRB, GOB)
1.14 Development of Water Saving and Aerobic Rice varieties	Development of low water and aerobic rice which will give significantly higher grain yield (at least 10% more) than standard check (BRRI dhan28) but will save water (20-30%).	250.00 (GOB)
1.15 Development of Green Super Rice	Development of less input but high yield potential rice variety with tolerance to different stresses (biotic & abiotic).	700.00 (GSR)

Biotechnology Division

Proposed Research Program 2017-18

Sl No.	Program area/ Project	Major objective	Annual budget (in Lakh Taka)
Program area: Biotechnology			
1	Development of low glycemic index (GI) rice variety through anther culture	To develop low glycemic index rice variety	2.00
2	Development of salt tolerant rice variety through anther culture	To develop salt tolerant rice variety	2.00
3	Development of premium quality Kalijira type rice through anther culture	To develop Kalijira type aromatic rice variety	2.00

4	Development of Aus rice variety through anther culture	To develop short duration high yield Aus rice variety	1.00
5	Development of Swarna type rice variety through anther culture	To develop Swarna type rice variety	2.00
6	Development of antioxidant enriched black rice variety	To develop rice variety with antioxidant through anther culture	3.0
7	Development of somaclone using EMS treated rice seed	To develop modern rice varieties for Aus, Aman and Boro	3.00
8	Development of Aus rice variety through somaclonal variation	To develop high yielding Aus rice variety	1.00
9	Development of antioxidant enriched rice variety through somaclonal variation	To develop high yielding antioxidant enriched rice variety	1.00
10	Improvement of BRRI dhan47 through somaclonal variation	To develop somaclone of BRRI dhan47 with reduced shattering.	1.00
11	Progeny selection	To select the best progeny with high yield and desirable traits	1.00
12	Observational trials	To select agronomically desirable and high yield potential breeding lines	1.00
13	Primary yield trials	To evaluate initial yield potential of advanced breeding lines	0.5
14	Secondary yield trials	To evaluate further yield potential of advanced breeding lines	0.5
15	Regional yield trials	To evaluate yield potential of advanced breeding lines at the regional level	2.00
16	Propose variety trials	On farm evaluation of proposed lines by the NSB team for releasing as a new rice variety	6.00
17	Development of rice variety through wide hybridization followed by embryo rescue	To develop different stress tolerant rice variety through wide hybridization	1.5
18	Development of rice variety through wide hybridization followed by anther culture	To develop modern rice variety for Aus, Aman and Boro	1.5
19	Development of salt tolerant transgenic rice	To develop salt tolerant transgenic rice lines	6.00
20	Salinity screening of transgenic rice lines	To screen transgenic rice lines containing *PDH45* against salinity at seedling and reproductive stage	2.00
21	Identification of QTLs for salinity tolerance both at seedling and reproductive stage	To identify QTLs for salt tolerance both at seedling and reproductive stage	3.00

22	Identification of QTLs for taller seedling height	To identify QTLs for taller seedling height for developing tidal submergence tolerant rice variety	3.00
23	Gene pyramiding for resistance to bacterial blight (BB)	To develop breeding lines possessing multiple BB resistance genes through Marker Assisted Selection	2.00
24	Gene cloning	To isolate and cloning of salt tolerant gene(s)	10.00

GRS Division

Proposed Research Program 2017-2018

SL No.	Program area/Project with duration	Major Objectives	Annual Budget (Thousand Tk)
Program Area 01: Varietal Development Program (VDP)			
3	**Sub-program area: Rice Germplasm and Seed**		
3.1	Rice germplasm conservation and management	Collection, characterization, conservation and rejuvenation of rice germplasm to enrich the Genebank of BRRI and its sharing with rice researchers	1020.00
3.2	Seed production and variety maintenance	Maintenance of nucleus seed stock and production for supplying breeder seeds as per National demand and MOU/LOA with seed growers.	7595.00
3.3	Exploratory and genetic studies	Conduct problem related genetic studies for breeder seed and rice germplasm.	1960.00
3.4	Seed technology packages	Exploratory and genetic studies of seed technology for recommending as rice seed production technology.	50.00
3.5	Out research activities	Visit to Breeder and Foundation seed production farms to ensure the quality of produced seed.	160.00

Hybrid Rice Division

Proposed Research Program 2017-2018

Research Division/ Regional Station: Hybrid Rice Division, BRRI

SL.	Experiments	PI and CI	Major Objective(s)	Amount Budget Thousand

				Tk.
Program Area: Varietal Development **Project: Development of parental materials for high yield, high amylose content and fine grain containing hybrid rice variety** **Duration: 2017-2018** **Program leader- Dr. Md. Jamil Hasan**				
1.1	Source Nursery	PI: MJH CI: A Ak, MHR, & LFL	Identification of prospective maintainers and restorers from diverse genetic origin	40,000.00
1.2	Test cross Nursery	PI: A An CI: AAK & MJH	1. Confirmation of maintainers and restorers from the crossed entries, 2. Selection of heterotic rice hybrids, 3. Conversion of prospective materials into new CMS lines.	50,000.00
1.3	Backcross Nursery	PI: MJH CI: A An, PLB, & MHR	Developing CMS lines from identified maintainer by back crossing.	70,000.00
1.4	CMS Maintenance and Evaluation Nursery	PI: MJH CI: AKP, PLB	Maintain and evaluate of CMS lines	70,000.00
1.5	Development of disease resistant parental lines (BB)	PI: A Ak CI: MRB & MJH	To develop new CMS lines resistance to disease(BB) and selection of heterotic rice hybrids resistance to disease(BB)	80,000.00
1.6	Improvement of parental lines by (B x B) and (R x R) crosses.	PI: A An CI: PLB, MJH	To broaden the genetic base of parental lines	50,000.00
SL.	Experiments	PI and CI	Major Objective(s)	Amount Budget Thousand Tk.
Project-2: Breeding for BB resistant hybrid rice variety **Duration: 2017-18** **Program leader- Anowara Akter**				
2.1	Screening of existing maintainers and restorers against BB resistance.	PI: A Ak CI:, MJH, A Ara	To identification of BB resistance maintainers and/or restorers from existing materials.	50,000.00
2.2	Source Nursery	PI: A Ak CI: MJH,	Identification of prospective maintainers and restorers of	30,000.00

		AKP	diversified origin for making experimental rice hybrids.	
2.3	Test cross Nursery	PI: A Ak CI: MJH, A KP & PLB	1. Confirmation of maintainers and restorers from the crossed entries. 2. Selection of heterotic rice hybrids. 3. Conversion of prospective maintainers into new CMS lines.	50,000.00
2.4	Backcross Nursery	PI: A Ak CI: MJH, AKP, & PLB	Developing BB resistant CMS lines from identified maintainer by back crossing.	2,00000.00
Project-3: Evaluation of parental materials & hybrids Duration: 2017-2018 Program leader- Program leader- Dr. Afsana Ansari				
3.1	Observational Trial (OT) of experimental hybrids	PI: A An CI: MJH	Selection of promising hybrids	50,000.00
3.2	Preliminary Yield trials of promising hybrids	PI : A An CI : MJH, PLB & R/s scientistes	To study the wider adaptability and yield potentiality of promising hybrids	80,000.00
3.3	Combining ability of A, B & R lines	PI : MUK CI : MJH, PLB	To select the best combiner (S) in respect of grain yield & yield components	60,000.00
3.4	National Hybrid Rice Yield Trial (NHRYT)	PI: MJH CI: MUK & PLB	Evaluation of imported hybrids for subsequent selection	Funded by SCA
3.5	Quality ensure of previous season produced F_1 and CMS lines through grow out test	PI: AKP CI: MUK, A An	To determine purity of parental lines and hybrids of BRRI released hybrid rice	30,000.00
3.6	Demonstration trials of BRRI released hybrids along with promising hybrids and checks	PI: AKP CI: PLB	To evaluate the performances of released hybrids with promising ones	30,000.00
SL.	Experiments	PI and CI	Major Objective(s)	Amount Budget Thousand Tk.
Project-4: Seed Production of Parental lines and Hybrids **Duration: 2017-2018** **Program Leader: Dr. Priya Lal Biswas**				

4.1	CMS multiplication of promising A line	PI: MJH CI: AKP & MUK	To produce pure and good quality seed of CMS lines for subsequent use.	1,50000.00
4.2	CMS multiplication of BRRI hybrid dhan1 & BRRI hybrid dhan4	PI: PLB CI: A AK, MJH	Production of pure and good quality seed of CMS lines.	2,00000.00
4.3	CMS line multiplication of BRRI hybrid dhan2	PI: PLB CI: MJH & AKP	Production of sufficient quantity quality seeds of CMS lines for subsequent use	75,000.00
4.4	CMS line multiplication of BRRI hybrid dhan3	PI: AKP CI: MJH & PLB	Production of sufficient quantity quality seeds of CMS lines for subsequent use	75,000.00
4.5	F_1 seed production of BRRI hybrid dhan3	PI: AKP CI: MJH & MKH	Production of sufficient quantity quality hybrid seed for subsequent use	1,00000.00
4.6	F_1 seed production of BRRI hybrid dhan4	PI: PLB CI: MJH & AKP	Production of sufficient quantity quality hybrid seed for subsequent use	1,00000.00
4.7	F_1 seed production of BRRI hybrid dhan5	PI: PLB CI: MJH & AKP	Production of sufficient quantity quality hybrid seed for subsequent use	1.00000.00
4.8	CMS line multiplication of BRRI hybrid dhan5	PI: AKP CI: MJH & PLB	Production of sufficient quantity quality seeds of CMS lines for subsequent use	75,000.00
4.9	F_1 seed production of BRRI hybrid dhan6	PI: MJH CI: PLB & AKP	Production of sufficient quantity quality hybrid seed for subsequent use	1.00000.00
4.10	CMS line multiplication of BRRI hybrid dhan6	PI: AKP CI: MJH & PLB	Production of sufficient quantity quality seeds of CMS lines for subsequent use	75,000.00
4.11	F_1 seed production of promising hybrids	PI: MJH CI: PLB & UKM	Production of sufficient quantity quality hybrid seed of promising hybrids for subsequent use	1,00000.00
SL.	Experiments	PI and CI	Major Objective(s)	Amount Budget Thousand Tk.
4.12	F_1 seed production of promising hybrids	PI: MJH CI: AKP & A An	To produce sufficient quantity of seed for OST and OFT	2,00000.00
4.13	Growth duration differentiation method (GDDM) for synchronization in flowering	PI: AKP CI:PLB	To determine proper heading time of parental lines (A &R) of promising hybrids	30,000.00
4.14	Nucleus seed production of BRRI hybrid dhan1 & BRRI	PI: AAn CI:MJH	To produce parental lines nucleus seeds of BHD1 & BHD4	60,000.00

	hybrid dhan4			
4.15	Nucleus seed production of BRRI hybrid dhan2	PI: UKM CI:MJH	To produce parental lines nucleus seeds of BHD2	60,000.00
4.16	Nucleus seed production of BRRI hybrid dhan3	PI: PLB CI:MJH	To produce parental lines nucleus seeds of BHD3	60,000.00
4.17	Maintainer and restorer lines multiplication of BRRI released hybrids	PI: AKP CI: MJH & PLB	Production of sufficient quantity quality parental lines for subsequent use	30,000.00
Total (Twenty-five lakh and thirty thousand taka only)				25,30000.00

PI= Principal Investigator, CI= Co-investigator, MJH= Md. Jamil Hasan, AKP= Ashish Kumar Paul, PLB= Priya Lal Biswas, A An= Afsana Ansari, A Ak= Anowera Akter, MHR= Md. Hafizar Rahman, LF L= Laila Ferdousi Lipi & A Ara = Anjuman Ara, BHD1= BRRI hybrid dhan1, BHD2= BRRI hybrid dhan2, BHD3= BRRI hybrid dhan3, BHD4= BRRI hybrid dhan4, BHD5= BRRI hybrid dhan5 and BHD6= BRRI hybrid dhan6

GQN Division

Proposed Research Programme 2017-2018

Sl.No.	Programme area/ project with duration	Major Objective	Annual budget Thousand Tk.
Varietal Development			
Project-1: Grain Quality Characteristics for Variety Development			
1.1	Determination of physicochemical and cooking properties of rice grain (Cont.)	To help to develop data base on physicochemical cooking and eating qualities of grain for newly developed breeding lines.	2.5
1.2	Evaluation of Physicochemical properties of newly released BRRI varieties (Cont.)	To determine physicochemical and cooking qualities of recently released BRRI developed rice varieties for updating the data base.	0.5
1.3	Determination of physicochemical properties of Black rice	To determine physicochemical and cooking qualities of Black rice cultivars from different sources in Bangladesh.	2.5
Project-2: Grain Quality parameters for consumer preference			

2.1	Evaluation of commercial rice bran oil, soybean oil and mustard oil available in the local market (Cont.)	To determine the Peroxide Value, Saponification Value, Iodine Number and Fatty Acid composition present in the oil.	1.5
2.2	A survey of rice grain quality in Bangladesh: consumer preference	To identify scientific reasons of preferring local varieties over HYV in terms grain quality and nutrition.	2.5
2.3	Effect of critical time and temperature on parboiling, drying and milling of BRRI varieties	To determine the milling performance based on critical time and temperature	2.5
Project-3: Nutritional Quality Assessment of Rice			
3.1	Effect of different degree of milling on the retention of micro nutrient of BRRI released high Zinc varieties (Cont)	To find out the optimum milling time and percent degree of milling thus retains most micronutrient.	1.0
3.2	Determine an appropriate processing method for increase the concentration of resistant starch (RS) of cooked rice (Cont.)	To maximize the conversion of rice starch to resistant starch using different cooking and cooling method.	1.5
3.3	Identification of rice genotypes having low heavy metal uptake ability at seeding stage (Cont.)	To assess the heavy metal uptake in rice plant by different rice cultivars. To assess the dose response uptake of heavy metals on different rice genotype. To identify low heavy metal uptake rice genotype.	3.0
3.4	Study on the effect of protein content on the basis of varietal difference, regional variation and different doses of nitrogen application at Boro season as well as seasonal variation at Boro, Aus and Aman season, 2017-18	To determine the reason of variation for rice protein content based on 1) varietal difference 2) regional variation 3) seasonal variation and 4) different doses of nitrogen application for BRRI released variety.	0.5
3.5	Study on antioxidative and anticancer properties of black rice in Bangladesh	To evaluate the anticancer effect of black rice on experimental animal model.	0.5
Project-4: Commercial Rice Based Products			
4.1	Physicochemical, cooking and sensory properties related to quality of rice	To standardize a laboratory-scale method for making	0.5

	noodles (Cont.)	flat rice noodles, To study genotype variation in physicochemical cooking and sensory properties of rice flour in relation to noodle quality, and To identify specific characteristics responsible for producing superior quality of rice noodles.	
4.2	Determination of physicochemical properties and quality of puffed, popped and flattened rice from newly released BRRI varieties (Cont.)	To identify the physical quality of puffed, popped and flattened rice To determine the nutritional value of puffed, popped and flattened rice	1.0

Agronomy Division

Proposed Research Programme 2017-2018

Sl. No.	Programme area	Major objective(s)	Annual budget Tk.
01	Seeds and Seedlings		
1.1	Effect of different seed rate on raising quality seedling in mat nursery at variable time of seeding in winter season (Boro, 2017-18)	To find out the optimum seed rate with different seeding time for production of quality seedling in Boro season	50,000/-
1.2	Role of salicylic acid (SA) on quality seedling production of Boro rice under natural cold stress condition (Boro, 2016-18)	To find out the effective dose of SA and its efficacy on quality rice seedling production in Boro season	50,000/-
02	**Planting Practices**		
2.1	*Performance evaluation of four crops based cropping pattern with appropriate agronomic management (February, 2017 to Boro, 2018)*	i) To validate BRRI developed 4 crops systems ii) To increase the cropping intensity and productivity iii) To improve the soil health	1,50,000/-
2.2	Effect of plant spacing on growth and yield of mechanically transplanted rice (Boro, 2017-18)	To compare the growth and yield of mechanical transplanted rice as affected by hill- row spacing.	50,000/-
2.3	Effect of date of planting on growth and yield of advanced lines in Aus, Aman and Boro seasons (On going)	To determine suitable time of planting and selection of high yield potential genotypes	2,00,000/-

2.4	Effect of planting date on growth and yield of BRRI released varieties in Aman and Boro seasons in different regions of Bangladesh (Aman, 2017 to Boro, 2018)	i) To determine the cutoff date for planting in different location. ii) To determine suitable date of planting.	2,00,000/-
2.5	Effect of seedling age on tillering dynamics of BRRI released varieties and its impact on yield (Aman, 2017 to Boro, 2018)	i)To find optimum tiller number of a variety for higher grain yield ii)To find out the effect of seedling age on tillering dynamics of a variety.	1,00,000/-
03	Fertilizer Management		
3.1	Effect of Zinc management on uptake pattern of BRRI dhan74 (Boro, 2017-18)	To determine the uptake pattern of zinc with different zinc management in BRRI dhan74	50,000/-
3.2	Effect of nitrogen and potassium management on growth and yield of short duration T. Amanrice at varying time of planting in Rangpur (T. Aman, 2017-18)	To find out the effect of nitrogen and potassium management for maximum yield	50,000/-
3.3	Effect of potassium fertilizer on growth and yield of transplanted Aman rice under drought Stress (T. Aman, 2017-18)	To find out the effect of potassium fertilizer on growth and yield of transplanted aman rice under drought stress.	50,000/-
3.4	Effect of nitrogen and potassium fertilizer management on growth and yield of mechanically transplanted rice in irrigated ecosystem (Boro, 2017-18)	To determine the suitable N and K fertilizer management option for mechanically transplanted rice	50,000/-
3.5	Influence of N and K management options on growth and yield of Swarna5 cultivar under varying time of planting (T. Aman, 2017)	To develop complete production package for higher yield of Swarna5	50,000/-
04	Weed Management		
4.1	Weed persistence, crop resistance and phytotonic effects of new molecule herbicides in transplanted rice (Boro, 2017-18)	To identify the phytotonic effect of herbicides on weed and crop growth for sustained rice production.	50,000/-
4.2	Effect of continuous application of herbicide on weed species shifting and resistance (Boro, 2014 to open)	i)To identify weed species that shift due to continuous application of herbicide ii)To identify resistance weed species for specific herbicide	50,000/-
4.3	Effect of herbicides on soil microbial population (Aus, 2014 to open)	To observe the status of microbial population after herbicide application	1,00,000/-
4.4	Evaluation of candidate herbicides (Routine work)	To find out the efficacy of new herbicides	1,00,000/-
4.5	Mixed weed flora management by new	To determine efficacy of new	1,00,000/-

	molecule herbicides in transplanted and direct seeded rice (Aman, 2016 to Boro, 2018)	molecule herbicides in transplant and direct seeding condition	

4.6	Cop residues for weed control efficiency in rice (T. Aman, 2017-18)	To find out the weed control efficiency of crop residues of sorghum and rice straw	50,000/-
4.7	Relative study of BRRI multi row power weeder and BRRI weeder (T. Aman, 2016-18)	To compare WCE and economics of BRRI multi-row power weeder and BRRI weeder	50,000/-
05	Yield Maximization		
5.1	Nutrient management for yield maximization of fine rice (Boro, 2017-18)	i) To obtain maximum grain yield ii)To reduce sterility	50,000/-
5.2	Nutrient management for yield maximization of hybrid rice (Boro, 2017-18)	i) To obtain maximum grain yield ii)To reduce sterility	50,000/-
5.3	Yield maximization of aromatic rice through integrated nutrient management (T. Aman, 2017-18)	i)To observe the tillering pattern, and DMP of aromatic rice ii)To know the growth, yield and quality of aromatic rice	50,000/-
5.4	Yield maximization of Boro rice through adjustment of ratio of N and K splitting (Boro, 2015-18)	To increase N use efficiency of rice for higher yield	50,000/-

	Project 1: Salinity Tolerance		
Sl No.	**Program Area/ Project with duration**	**Objectives**	**Budget (lac)**
	Salinity tolerance		
1	Exploring new sources of salinity tolerance from BRRI Gene Bank collections at seedling stage **Date of initiation:** March 2017 **Date of completion:** December 2018	To find out new sources of salinity tolerance from Bangladeshi germplasms at seedling stage.	1.00
2	Screening for salinity tolerance of advance breeding lines and anther cultured materials at seedling stage during T. aman and Boro season **Date of initiation**: 2017 **Date of completion**: 2018	To check the level of tolerance of advance breeding lines at seedling stage	0.50
3	Characterization of advanced breeding lines at different salinity stress for whole growth period during T. Aman and Boro season **Date of initiation**: 2017 **Date of completion**: 2018	1. To know the level of tolerance of different genotypes. 2. To identify the safe level of soil and water salinity for growing the genotypes.	3.00
4	Physiological characterization of tolerant germplasm for whole growth period salinity tolerance (TRB-Project). **Date of initiation:** July 2017 **Date of completion:** March 2018	1. To find out yield potential at varying salinity level. 2. To measure the level of tolerances of tested genotypes. 3. To identify the physiological traits associated with tolerances.	2.00
5	Validation of the QTLs identified from Horkuch at reproductive stage **Date of initiation:** July 2017 **Date of completion:** March 2018	To measure phenotypic gain of advance lines contained different combinations of identified QTLs from Horkuch.	1.00
6	Investigations of antioxidant systems of high-yielding salt tolerant rice varieties **Date of initiation:** July 2017 **Date of completion:** March 2018	To identify the antioxidant capacities of the salt tolerant high-yielding rice varieties.	5.00
7	Identification of novel sources of salt tolerance through physiological and biochemical characterization of diverse rice germplasms **Duration:** 2017-2018	To identify novel donors through physiological characterization associated with tolerances at seedling stage.	5.00
8	Molecular characterization of rice germplasms using microsatellites markers **Duration:** 2017-2018.	To analyze genetic diversity of the germplasms.	5.00
	Submergence tolerance		
9	Identification of rice germplasm and advance breeding lines for flash flood submergence tolerance Date of initiation: March, 2017 Date of completion: December 2017	1. To identify tolerant germplasm and breeding lines for 2 weeks or more complete submergence 2. To observe elongation capacity under complete submergence	1.00

		3. To identify germplasm and breeding lines with better recovery ability	
10	Effect of Complete Plant Submergence at Different Growth Stages on Grain Yield and Yield Components of Submergence Tolerant BRRI Varieties **Date of initiation**: June, 2017 **Date of completion**: December 2017	To determine the effect of complete crop submergence at different growth stages on yield and yield components	2.00
11	Screening of some rice gremplasm for medium stagnation **Date of initiation**: June, 2017 **Date of completion:** December 2017	1. To identify tolerant genotype for water stagnation condition 2. To observe tillering ability under water stagnation conditions	1.00
12	Screening of some advance line for anaerobic germination **Date of initiation**: July'2017 **Date of completion:** December 2017	1. To identify best advance breeding lines with anaerobic germination 2. To determine the seedling vigor under anoxia through seedling biomass	1.00
	Drought tolerance		
13	Screening germplasm for drought tolerance at reproductive phase **Starting date:** July' 2017 **Expected ending date:** April' 2018	To identify rice germplasm tolerant to drought stress at reproductive phase.	5.00
14	Screening germplasm under drought stress at vegetative stage in the rain-out shelter **Date of initiation**: March, 2017 **Date of completion**: June, 2018	To evaluate germplasm under control drought condition in the rain-out shelter.	2.00
15	Confirmation of performance of ALART/ RYT materials under drought stress at reproductive stage **Starting date:** July, 2017 **Expected ending date:** December, 2018	Evaluation of two GSR and 5 RYT materials under control drought condition in the net house.	3.00
16	Evaluation of PYT materials under drought stress at reproductive phase in the rain-out shelter **Starting date:** July, 2017 **Expected ending date:** December, 2018	Evaluation of PYT materials under control drought condition in the rain-out shelter	3.00
	Heat Tolerance		
17	Screening rice germplasm for heat tolerant **Duration:** 2017-2018.	To identify new heat tolerant donor	2.00

18	Evaluation of breeding lines towards the development of heat tolerant rice **Duration:** 2017-2018.	To identify heat tolerant advance breeding lines	1.00
19	Marker-assisted introgression of spikelet fertility loci (*qHTSF4.1*) from N22 in to two Bangladeshi mega rice variety BRRI dhan28 and BRRI dhan29. **Duration:** 2017-2018.	To develop heat tolerant BRRI dhan28 and BRRI dhan29 by introgressing spikelet fertility loci through MABC.	5.00
	Cold Tolerance		
20	Exploring new sources of cold tolerance from BRRI Gene Bank collections at seedling stage **Duration:** 2017-2018.	To identify rice genotypes which can tolerate low temperature at seedling stage.	1.00
21	Screening for cold tolerance of advanced breeding lines (TRB-Project) at seedling stage. **Duration:** 2017-2018.	To identify advanced breeding lines which can tolerate low temperature at seedling stage.	2.00
22	Characterization and evaluation of some selected rice genotypes for cold tolerance **Date of initiation**: October 2017 **Date of completion**: May 2018	To identify cold tolerant rice genotypes at natural condition.	4.00
23	Evaluation of Nepalese rice varieties for cold tolerance at seedling and reproductive stage **Date of initiation**: October 2017 **Date of completion**: May 2018	To find out the cold tolerance capacity of Nepalese rice varieties for seedling and reproductive stage	5.00
	Growth studies		
24	Determination of photo-period induction cycle of photosensitive rice varieties **Duration:** 2017-2018.	To determine photoperiod induction cycle	1.00
	Yield Maximization		
25	Trait discovery for improving yield potential of current high-yielding ideotype (KGF-Project) (3 years) **Date of initiation:** 2017	To characterize rice germplasm/variety/advance lines for improve canopy structure for better light penetration, higher total biomass yield and grain yield with a reasonable balance of grain to straw ratio.	8.00
26	Evaluation of some rice cultivars for yield and ancillary characters (supplied by Honorable Agriculture Minister and Dr. Abed Chaudhury) **Duration:** 2017-2018.	To find out yield potential and other important traits of the tested cultivars	3.00
27	Manual weather station data recording, transfer, storage and maintenance. **Duration:** 2017-2018.	To collect, transfer and storage of different weather data	1.00

28	Automatic weather station data collection, storage and supply. **Date of initiation**: 2012	To monitor weather condition in different rice growing season	8.00
		Total	81.5

Soil Science Division

Proposed Research Program for 2017 – 2018

Program area: **Crop-Soil-Water Management**
Sub-program: **Soil and Fertilizer Management**
Program performing unit: **Soil Science Division**

Project/ Exp No.	**Project title and Expt.**	**Major Objectives**	**Annual budget (lakh Tk.)**
Sub-sub program I: Soil Fertility and Plant Nutrition			
I.	**Fertility assessment of rice soils and nutrient use efficiency in rice**	To assess fertility of rice growing areas and determine optimum fertilizer requirement of rice	
	1.1. Determination of N P K fertilizer doses through SSNM for ALART materials (On-going)	• To quantify rice yield responses to added fertilizers • To determine optimum doses of N, P, K for ALART materials/newly released varieties.	4.0
	1.2. Nutrient management for growing four crops in a year (On-going)	• To increase crop production, • To maintain soil fertility and improve nutrient use-efficiency. • To determine nutrient depletion/mining.	3.0
	1.3. Effect of nitrogen and potassium on modern rice cultivation(T. Aman and Boro) (On-going)	• To find out suitable ratio of N and K for MV rice cultivation • To study N and K dynamics in soil and plant.	3.0
	1.4. Evaluation of BRRI rice varieties under P deficient soil (T. Aman and Boro).	• To find out P efficient rice varieties	2.0
Sub-sub program II: Nutritional Disorders in Rice			
II.	**Identification and Management of Nutritional Disorders in Rice**	To determine upcoming nutritional disorders in rice under intensive rice cultivation with different fertilizer management practices	

	2.1. Long-term missing element trial at BRRI regional station (On-going)	• To determine nutrient mining problem on soil fertility and its influence on rice yield, • To find out nutrient management options for correcting soil problems	7.0
	2.2. Long-term effect of organic and inorganic nutrients on yield and yield trend of lowland rice (T. Aman and Boro).	• To evaluate changes in soil physical, chemical and biological properties • To determine management options for solution of soil problem(s)	1.0
	2.3Consequences of continuous wetland rice cropping on rice yield and soil health (On-going)	• To evaluate soil fertility and rice yield changes over time • To find out mitigation options of soil health	1.2
	2.4. Effect of double/triple rice cropping on rice productivity and soil fertility (On-going)	• To improve land productivity and soil health under intensive cropping system	3.0
Sub-sub program III: Integrated Nutrient Management			
III.	**Integrated Nutrient management for intensive rice cropping**	To increase rice productivity with sustainable soil health.	
	3.1. Integrated nutrient management for double and triple rice cropping for maximizing productivity (On-going)	• To improve land productivity and soil health under intensive cropping system	3.0
	3.2. Performance of vermicompost and poultry manure on Rice yield and soil health (On-going)	• To find out the effect of poultry manure and vermicompost with chemical fertilizers on yield and yield attributes of rice and its impacts on soil nutrient status and uptake of micronutrients by rice plants.	2.0
	3.3. Organic and inorganic fertilizer management effect on physical properties of a soil under rice-rice system (On-going)	• To assess the changes of inorganic carbon and nitrogen content, physical and hydraulic properties of the soil with long-term applications of organic and inorganic fertilizer under rice–rice cropping system.	1.0

	3.4. Long term effects of organic and inorganic amendment on soil phosphorus availability, fractionation, adsorption-desorption isotherm in wetland rice soil (New)	• To evaluate P adsorption and desorption isotherms in flooded rice soil after long-term fertilizations. • To investigate long-term fertilization effects on soil P fractions	2.0
	3.5. Effects of Long term Organic Amendments on Quantity/Intensity Parameters and buffering of Potassium in Grey Terrace Soil (On-going)	To assess the K supplying power soils amended with different organic materials	1.0
Sub-sub program IV: Soil and Environmental Problems			
IV.	**Greenhouse gas emission study**	To study GHG emission from rice field	
	4.1. Mitigating Greenhouse Gas (GHG) emissions from Rice-based Cropping Systems through Efficient Fertilizer and Water Management(T. Aus, T. Aman and Boro(On-going)	• To determine GHG emission from rice-based cropping system under different water and N management	KGF
	4.2. Climate Smart Agricultural Practices for Crop Production in Bangladesh(On-going)	• To find out of greenhouse gas emission by using Cool Farm Tool Beta-3	IRRI-CIMMYT
	4.3. Greenhouse Gas Emission from Selected Cropping Patterns in Bangladesh(On-going)	• To find out the Greenhouse gas emission by using close chamber under different cropping pattern.	KGF
Sub-sub program V: Soil Management for Unfavorable Ecosystems			
V	**Management of saline soils**	To find out a suitable management package for saline soils	
	5.1.. Evaluation of salt tolerant rice varieties in salt affected soil (On-going)	• To evaluate the performance of salt tolerant varieties at different levels of soil salinity • To study the nutrient dynamics in soil and plant at different growing periods having different solar radiation and temperature	2.0
Sub-sub program VI: Soil Microbiological Studies			
VI.	**Soil Microbiology and Biofertilizer**	To study the microbial enzyme activity and nutrient release patterns at different soil layers of long term nutrient	

		management studies	
	6.1. Effect of long term nutrient management on soil microbial properties (New)	• To determine the effect of long term nutrient management on beneficial soil bacteria • To identify the beneficial bacteria populations from long-term nutrient management experiments.	2.0
	6.2. Evaluation of bio-organic fertilizers in soil plant system (On-going)	• To evaluate bio-organic fertilizer and its efficacy to promote rice plant growth and yield. • To standardize the dose of bio-organic fertilizer and chemical fertilizer for rice yield maximization.	2.0
	6.3. Isolation and characterization of plant growth promoting bacteria from saline and acidic soil (New)	• To enumerate total bacteria, fungi and actinomycetes population • To isolate and enumerate beneficial bacteria • To characterize beneficial effects such as, IAA production, P solubilization, N-fixing capacity of these isolates.	2.0
	6.4. Bioremediation of Arsenic contaminated paddy soils (New)	• To isolate arsenic resistant bacteria from As contaminated soil • To determine arsenic reclamation capacity of the potential isolates in laboratory and greenhouse conditions	2.0
	6.5. Soil processes as influenced by temperature (New)	• to asses changes of microbial population and community in different temperature regime • to determine nutrient mineralization rate from organic and chemical fertilizer	1.0
	6.6. Determination of nutrient mineralization rate from different organic material during composting (New)	• to determine C, N, P, K and S mineralization rate from different organic material • to determine stability and suitability of compost for rice production	1.0

Irrigation and Water management Division
PROPOSED RESEARCH PROGRAMME 2017-2018

Sl No.	Program area/Project with duration	Major objectives	Annual budget (Thousand Tk)
Sub -Sub Program I: Water Use Efficiency Improvement in Irrigated Agriculture			
01	Water Requirement	• To generate water efficient technologies for rice cultivation	
	1.1 Determination of physical and hydraulic properties in different soil types 2015-2017	i) To document the important soil physical properties (bulk density, particle density, hyd. conductivity etc) in different soil profiles ii) To develop a soil moisture characteristics curve	50
	1.2 Development of Soil moisture declination model for alternate wetting and drying (AWD) irrigation for Rice cultivation 2013-2018	i) To study the soil moisture dynamics of AWD irrigation ii) To develop a model for prediction of soil moisture dynamics iii) To predict the time of re-irrigation using the model.	50
	1.3 Study on the problems and potentials for productivity improvement in the Haor areas through agricultural water management 2015-2018	i) To document the existing status of irrigated agriculture of the Haor area ii) To identify potentials of agricultural productivity improvement through crop and water management iii) To recommend suitable water management practices for the area.	100
	1.4 Study on the problems and potentials for productivity improvement through Agricultural water management in the Hilly areas 2015-2018	i) To identify potentials of water resources development for agriculture and livelihood improvement in the Hilly area ii) To recommend suitable water management options for productivity and livelihood improvement in the area.	100
	1.5 Study on water stress tolerance capacity for different advanced rice genotype of BRRI 2015-2018	i) To quantify the tolerance capacity of soil moisture deficit for different varieties that plant suffers during its growing period through Towfique's drought model ii) To determine yield of varieties under different water stress condition	100

	1.6 Optimization of irrigation water for maximum year round production 2014-2017	i) To investigate the single and integrated effects of date of transplanting and variety on irrigation, yield, water saving, and water productivity, ii) To find out suitable cropping patterns based on Boro and Braus iii) To compare the cost-benefit ratio for different treatments/approach	150
	1.7 Study on the operation status of Ganges-Kobadak (G-K) irrigation project after six decades of its initialization 2016-2018	i) To investigate the present actual irrigation coverage ii) To identify constraints of the project iii) To make some recommendations for better performance based on constraints analysis	50
	1.8 Optimization of irrigation water use for boro cultivation under different establishment methods 2017-2020	i) To compare the irrigation requirement and productivity under different methods of Boro cultivation ii) To findout problems of Boro cultivation under non-conventional water management practices iii) To findout suitable method of Boro cultivation under water limiting conditions	200
Sub- Sub Program II: Utilization of Water Resources in Rainfed Environment			
02	Water Management for rice cultivation in climate change situation	• To obtain optimum rice yield under changing climatic environment	
	2.1 Effect of drought on different T. Aman varieties 2011-2018	i) To study the relative drought tolerance of the T. Aman varieties based on the yield performance ii) To findout suitable T. Aman variety for drought prone area	100
	2.2 Rain water harvesting from roof top of BRRI campus, Gazipur 2015-2018	i) To determine the total amount of rain water harvested from the roof. ii) To determine the scope of rain water utilization iii) To compute the ground water savings and its economics	200
	2.3 Maximum Utilization of Rainwater in Potato- T. Aus- T. Aman Cropping Pattern 2014-2017	i) To find out suitable planting time of T. Aus for maximum use of rain water	50

	2.4 Agricultural drought forecasting for mitigating drought in T. Aman rice 2017-2020	i) To determine drought using forecasted rainfall and evaporation ii) To mitigate drought by applying supplemental irrigation iii) To determine suitability of drought model for forecasting iv) To determine yield performance after mitigating drought	200
Sub–Sub Program III: Land Productivity Improvement in the Coastal Environment			
03	Land and Water Resources Use for Sustainable Crop Production	• To increase land and water productivity for improving food security and livelihoods in the coastal zones	
	3.1 Assessment of suitable water resources availability for irrigation to increase crop production in tidal areas of Barisal region 2015-2018	i) To monitor the dynamics of surface water salinity in the dry season at different locations of Barisal region ii) To assess the suitability of water for irrigated crop cultivation iii) To assess the availability of water and potentials for irrigated crop cultivation iv) To assess the constraints and prospects of tidal water utilization for crop production.	200
	3.2 Design and installation of non-return valve (NRV) for tide water harvesting to cultivate Boro rice in non-saline areas of Barisal region 2016-2018	i) To conserve tidal water for Boro rice cultivation ii) Intensification of cropping pattern by utilizing conserved water	500
	3.3 Use of less saline water resources for increasing cropping intensity in Barisal region 2018-2021	i) To bring fallow land under Boro cultivation ii) To improve crop and land productivity in the region	200
	3.4 Water resources assessment during dry season crop cultivation in selected polders of coastal region 2017-2020	i) To bring fallow land under Boro cultivation ii) To improve crop and land productivity in the region	200
Sub- Sub Program IV: Sustainable Management of Water Resources			
04	Surface and Ground Water Assessment	• To identify the aquifer characteristics and quality of groundwater in Bangladesh and its relationship with rainfall	

	4.1 Monitoring of groundwater fluctuation and safe utilization in different geo-hydrological regions 1979- Continued	i) To determine the fluctuation of groundwater level over time and its relationships with rainfall ii) To determine water quality for assessing suitability for irrigation.	100
	4.2 Delineation of areas having water shortage during Boro rice cultivation in Northwest Bangladesh 2015-2018	i) To identify STW areas facing water scarcity during boro season ii) To identify period of water shortage with magnitude iii) To assess the possibility of shifting from Boro to alternative crops (Braus/Aus/Non-rice crops)	100
	4.3 Waste water irrigation for crop production 2016-2019	i) To delineate the sources of waste water ii) To determine the quality of waste water and suitability for irrigation iii) To develop a mechanism for storing and irrigating waste water iv) To determine the irrigation coverage by waste water	200
	4.4 Development of suitable method for safe ground water recharge 2016-2019	i) Determination of a safe method for artificial groundwater recharge, and ii) Identify qualities and microbial activities of artificial recharged water	200
Sub-Sub Program V: Renewable Energy			
05	Renewable energy for irrigation	• To identify some renewable energy sources for irrigation	
	5.1 Evaluation of smallholder surface water solar irrigation system for crop production 2017-2020	i) To evaluate the technical and economic performance of a small capacity solar powered centrifugal and submersible pumps for smallholder ii) To develop a portable type PV panel structure iii) To determine the maximum command area covered by the pumps for rice irrigation iv) To analyze the feasibility of the pumps for rice cultivation, and v) To assess the value addition for versatile use of solar panels	355
Sub- Sub Program VI: Technology Validation in the Farmers' Field			
06	Water Management Technologies Demonstration and Dissemination at Farmers' Field	• To increase the irrigation efficiency and water productivity by appropriate management of water through BRRI developed water management technologies.	

	6.1 Improving water use for dry season agriculture by marginal and tenant farmers in the Eastern Gangetic Plains 2015-2018	i) Determine existing water resources and sustainable utilization for irrigation from tanks and groundwater ii) Determine the socio-economic, structural and institutional constraints to sustainable water use iii) Determine and evaluate approaches for access to water for irrigation focusing on using renewable technologies and alternate approaches to land tenure and their impact on livelihoods and resilience iv) Facilitate long term up-scaling and out-scaling of approaches and alternative opportunities	
	6.2 Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India (LWR/2014/73) 2016-2019	i) Develop a regional scale understanding of the surface water and groundwater resources, recharge/discharge mechanisms and trends in the case study polders. ii) Develop a detailed understanding of the salt and water dynamics of the polders and develop pre-monsoon and post-monsoon groundwater abstraction regimes that improve groundwater quality and availability during the dry season. iii) Develop detailed understanding of crop production responses to various improved polder water management strategies. iv) Test suitable cropping options and polder water and salt management strategies (developed in ii and iii) through field evaluation and co-learning with farmers	
	6.3 Modelling Climate Change Impact on Agriculture and Developing Mitigation and Adaptation Strategies for Sustaining Agricultural Production in Bangladesh 2016-2020	i) Assessment and characterization of climatic variability and climate change	

Plant Pathology Division

Proposed Research Program for 2017– 18

Sl. No	Programme area/Project	Major objectives	Annual Budget (1000TK)
	Programme Area: Pest Management (Plant Pathology)		
01.	Survey and monitoring of rice	To investigate the present status of	600

	diseases in selected areas	different rice diseases in different climatic environments	
02.	Diversification and evolution of avirulence genes in the field isolates of *Pyricularia oryzae*	To confirm the evolution of new pathotypes in Bangladesh	100
03.	Pathotypic and genetic diversity of *Rhizoctonia solani* AG1-IA	i) To estimate the genetic diversity of *R. solani* AG1-IA using ITS region sequences; (ii) to examine differentiation in aggressiveness of the isolates using seedling/plant assays in the greenhouse/field; and (iii) to determine the relationship between geographic origin and the pathogenic as well as genetic variability of *R. solani* AG1-IA populations.	500
04.	Molecular characterization of Bakanae causing fungi in Bangladesh	To find out the fungi associated with Bakanae disease of rice in Bangladesh	500
05.	Molecular characterization and distribution of Rice Tungro Bacilliform (RTB) and Rice Tungro Spherical (RTS) virus in Bangladesh	To identify the major tungro strains and their distribution in Bangladesh	200
06.	Development of differential system of *Xanthomonas oryzae* pv. *oryzae* and study on its molecular diversity	i) To identify a standard differential set of isolates of *X. oryzae* pv. *Oryzae*; ii)To know the diversity of *X. oryzae* pv. *oryzae*.	500
07.	Confirmation of the ecotypic variations of *Pyricularia oryzae* races in Bangladesh	To confirm the seasonal variation between the isolates of Aman and Boro seasons.	200
08.	Detection and confirmation of blast resistance genes in land races using differential system and allelism tests	To characterize the land races against blast disease	200
09.	Studies on hyphal anastomosis between rice and wheat blast pathogen through molecular marker	To observe the hyphal fusion or anastomosis pattern between rice and wheat pathogens.	30
10.	Reaction pattern of differential rice and wheat (new) blast isolates on monogenic rice lines and wheat varieties	To find the pathogenic diversity of Blast pathogen on two different hosts	50
11.	Effect of drought tolerant microbes (*Pseudomonas* spp. and *Trichoderma* spp.) on drought response of rice	To identify potential microbes for drought tolerance in rice To find out the efficacy of microbes as drought tolerance in rice	50
12.	Exploring new sources of resistance and pyramiding blast resistant gene in Boro rice	To find new source of major resistant gene(s) against blast disease in the native land races. Introgression of known resistant genes	1000

		and/or gene pyramiding to develop durable blast resistant variety.	
13.	Pyramiding of major BB resistant gene(s) in susceptible rice variety/lines	To introgress major resistant gene(s) into the selected cultivar to develop durable BB resistant variety	300
14.	Evaluation of blast resistant multiline variety of IR64	To check resistant reactions of multilines variety.	50
15.	BB resistance and yield performance of selected breeding lines	To evaluate yield performance including BB resistance	100
16.	Screening of rice germplasm against Bakanae disease	To identify the source of resistance against bakanae disease of rice.	50
17.	Screening of advanced rice breeding lines against Blast and Sheath Blight diseases	To identify the source of resistance against blast and sheath blight diseases of rice.	100
18.	Introgression of Blast resistant genes into BRRI dhan47	To develop durable blast resistant variety harboring *Pi40* and *Pi9*	100
19.	Screening of breeding lines and germplasms against BB	To identify resistant source(s) against BB	950
20.	Identification of major blast resistant genes in rice germplasm (zhoom rice	To find out blast resistant source(s) of *Pish, Pita, Pita-2, Pib, Pi9, Piz,* and *Pi40*	100
21.	Linkage and QTL mapping of tungro resistance in rice	To identify significant QTLs with linked marker for tungro resistance in rice land race Kumragoir.	700
22.	Screening and diversity analysis of upland rice germplasm against blast disease	i)To identify new sources of resistance from upland rice germplasm ii)To assess the diversity based on phenotypic reactions and molecular marker	50
23.	Development of blast resistant varieties using differential system and molecular markers	To develop blast resistant varieties for Bangladesh	200
24.	Gene detection of bacterial blight (BB) resistance in local rice cultivars using phenotypic and molecular studies	To identify BB resistant genes in native cultivars	100
25.	Detection of major resistant genes and pyramiding of bacterial blight resistance into parental lines of hybrid rice using MABC	i)To screen available maintainers and restorers against differential isolates of BB. ii)To develop pyramiding of bacterial blight resistant hybrid rice parental lines carrying *Xa4, xa5, xa13* and *Xa21*.	200
26.	Improvement of BRRI varieties for resistance to blast and bacterial blight diseases using marker assisted backcross breeding	To develop durable resistant cultivars through pyramiding of both BB and blast genes (broad spectrum resistance)	200

27.	Development of tungro resistant variety	To develop tungro resistant advanc lines	200
28.	Development of inoculation technique for panicle blast disease	To easily identify resistance sources under field condition at mature stage	50
29.	Reaction of BB in different nutritional status	To know the growth response of BB in different nutritional supplement	100
30.	Recovering ability of recently released T. Aman varieties to tungro under natural condition	To know the varietal resistance against RTV	30
31.	Distribution, severity and yield loss in Bangladesh and development of a qualitative modeling framework	i)To identify current status of false smut in Bangladesh and its geographical distribution ii)To develop yield loss assessment model iii)To identify the factors associated with false smut spread	500
32.	Epidemiological study of rice false smut disease	To measure the disease development pattern across the season; To identify major weather variables influencing the disease	100
33.	Integrated approach on rice false smut disease management	To develop integrated management option for controlling false smut disease	200
34.	Studies on identification of seedling blight pathogens and its management	i)To identify the causal organisms ii)To study the incidence of the disease across the seasons iii)To manage the disease	200
35.	Impact of seedling-blight affected seedlings on growth and yield of rice	To investigate the effect of seedling blight (SB) on seedling quality, growth and yield of rice.	200
36.	Effect of soil and seedling treatment on False smut disease development	To know the efficacy of both soil and seedling treatment for controlling false smut disease	100
37.	Chemical control of grain spot disease of rice	To identify suitable chemicals to control grain spot disease.	100
38.	Validation of healthy seedling raising technique and restructuring of Ankuri	i)To test the Efficacy of disease free seedling raising technique in trays and field ii)To optimize and digitalize of Ankuri for seed germination	1000
39.	Management of Bakanae disease through integrated approach	To find organic amendments for controlling bakanae disease	50
40.	Management of Kresek (*Xanthomonas oryzae* pv. *oryzae*) in rice seedling	To identify suitable control measure for Kresek	50
41.	Efficacy of biopesticides against sheath blight of rice	i)To investigate the effect of biopesticides against fungal growth *in-vitro*	50

		ii)To investigate the effect of bio-pesticides in disease reduction, plant growth and yield	
42.	Application of fungicide to control rice false smut disease	To identify the time of fungicide application; and to find out its frequency in order to control rice false smut disease.	50
43.	Development of novel bio-pesticides against Sheath blight and bacterial blight diseases of rice in Bangladesh	To identify the antimicrobial agents' (fungi or bacteria) which can control the rice diseases Sheath blight and Bacterial blight To develop novel biopesticides against ShB and BB diseases	100
44.	Evaluation of silver and copper nano-particles against Blast, Bacterial Blight and False Smut diseases in Bangladesh	To find out effective nano particles for rice disease management	100
45.	Management of Sheath blight disease utilizing *Trichoderma harzianum*	To investigate the efficacy of *Trichoderma harzianum*	100
46.	Identification of crop damage phenomenon by red eelworm and their management	To identify whether red eelworm cause significant crop damage or not and formulate sound management strategy to control the pathogen if they are pathogenic	500
47.	Identification of potential bio-control agents and formulation of biopesticides against Bakanae disease of rice	i)To identify and confirm effective microbes (*Bacillus* spp, *Pseudomonas* spp., *Trichoderma* spp.) *in vitro* and molecularly as sources of biocontrol agent/s for controlling bakanae disease. ii) To find out suitable carrier materials with prolong shelf life for biopesticide formulation.	1500
48.	Evaluation of new chemicals against Blast, Bacterial blight, Sheath blight, False smut and Bakanae diseases of rice	To find out the effective chemicals suitable for Blast, ShB, False smut, Bakanae and Bacterial blight diseases	200

Entomology Division

Research Programme: 2017 –18

Project no.	Programme area/Project with duration	Major objectives	Annual budget Thousand TK
1.	**Project: Survey & Monitoring of Rice Arthropods**	To determine the incidence and abundance patterns of insect pests and their natural enemies at BRRI farm and in different	

		AEZ's for better management of rice pests.	
1.1	Pest monitoring in BRRI Farms (Duration: 1972-till to date)	To study the insect pest and their natural enemy incidence at BRRI farm and to create a database to develop a forecasting system.	150
1.2	Insect pests and natural enemies in light traps (Duration: 1972 - till to date)	To study the pest and their natural enemy incidence patterns in rice fields and to create a database to develop a forecasting system.	150
1.3	Construction of epidemiology information interchange system for migratory disease and insect pests of rice. (Duration: 2013 to 2016)	Establishment of a sustainable multinational collaboration network for the management of migrating rice planthoppers and associated viruses to reduce their incidences below the threshold level in Asian countries.	700
1.4	Survey of rice insect pests in selected AEZ's of Bangladesh (Duration: 1972 to present)	To find the incidence patterns of major insect pests and their natural enemies in different Agoro-ecological Zones (AEZs) to examine the relationship between biotic and abiotic factors on their abundance.	200
1.5	Develop bioclimatic models to forecast the dynamics of rice insect pests (Duration: 2016 to 2018)	To develop, validate, demonstrate and assist rice growers to adopt an integrated system for the management of rice insect pests.	200
1.6	Modification of light trap for maximizing insects caught (Duration: 2017 to 2019)	To increase number of insect caught in light trap	200
2	*Project: Studies on rice insect pest and natural enemy ecology*	To study the ecology and development of insect pest of rice.	
2.1	Studies on the biology of green mirid bug (Duration: 2015 to 2018)	To know the biology of green mirid bug.	200
2.2	Study on biology of new rice insect pest	To know life cycles of aphid, black beetle and water weevil.	200

	(water weevil, black beetle, aphid). (Duration: 2017 to 2019)		
2.3	Study on the mechanism of rapid spread of plant virus by insect vector (Duration: 2017 to 2019)	To understand host plant-virus-vector that improve management of vectors and plant diseases in agricultural crops To identify the behavior of infective GLH for infesting new healthy plant	100
2.4	Effect of new molecule insecticides on egg parasitoids of rice stem borer. (Duration: 2017 to 2019)	To identify relatively safer insecticides to parasitoids for using in IPM program.	200
3.	*Project: Biological Control of rice insect Pests*	To evaluate the role of natural enemies in controlling rice insect pests.	
3.1	Conservation of natural enemies through ecological engineering approaches (Duration: 2014 to 2018)	To conserve natural enemies through different ecological managements	200
3.2	Perching as a tools for insect pests management (Duration: 2016 to 2018)	To know the effects of perching on insect pests and it's natural enemies.	100
3.3	Functional response of predator (carabid beetle, spider and frog) against planthoppers (Duration: 2016 to 2018)	To predict mechanisms underlying predator-prey behavior to improve the practical predictive potential of predator candidates for biological control. To evaluate effectiveness of predators against target pest.	200
3.4	Studies on entomogenous fungi to control BPH (Duration: 2016 to 2018)	To isolate the fungi from naturally infected insects. To identify the mechanism / pathogenicity of entomogenous fungi against BPH. To explore suitable media for mass production of the entomogenous fungi and its use in BPH management.	200
4.	Project : Crop Loss	To determine relationship between pest	

	Assessment	damage levels and yield losses.	
4.1	Relationship between gall midge damage and yield loss (Duration: 2014 to 2016)	To determine the yield loss potential of different rice varieties against gall midge damage.	200
4.2	Incidence of rice leaf folder and its damage effect on rice grain yield (Duration: 2016 to 2018)	To know the incidence of rice leaf folder and its effects on yield.	300
5.	**Project : Evaluation of chemicals and botanicals against rice insect pests**	To evaluate the effectiveness of different botanicals and determine efficacy of different insecticides against major rice insect pests.	
5.1	Test of different insecticides against major insect pests (Duration: 1972 - till to date)	To evaluate the effectiveness of commercial formulations of different insecticides against major insect pests of rice.	300
5.2	Effect of selected botanicals (neem and mahogany) on major rice pests (Duration: 2016 to 2018)	To identify effectiveness of eco-friendly plant materials (mahogany and neem) against major rice insect pests (SB, LF and BPH).	100
5.3	Evaluation of sex pheromone against major insect pest (yellow stem borer and leaffolder) (Duration: 2016 to 2018)	To know efficacy of sex pheromone To know the incidence of yellow stem borer and leaffolder	100
5.4	Fumigation action of botanical oils against stored grain insect pests (Duration: 2017 to 2019)	To evaluation botanical oils against stored grain insect pests	150
6.	Project: Integrated Pest Management	Study on the different aspects of management of rice insect pest.	
6.1	Management of BPH by configuration and geometry of rice planting	To manage BPH in field by planting method. To evaluate the efficacy of double nozzle sprayer in the field.	200

	(Duration: 2015 to 2016)		
7.	**Project: Host Plant Resistance**	Identification of resistant sources against rice insect pests.	
7.1	Screening of rice germplasm, advance line and F_2 materials against major insect pests (Duration: 1972- till to date)	To identify resistant rice germplasm against major insect pests.	400
7.2	Screening of rice germplasm advance lines and F_2 materials against rice gall midge (GM) (Duration: 2002 -till to date)	To identify resistance sources against gall midge	300
7.3	Pest reaction of BRRI released varieties against major insect pests (Duration: 2016 to 2017)	To evaluate level of resistance of different BRRI varieties against major insect pests.	100
7.4	Hybridization for the development of planthopper resistant rice variety (Duration: 2017-2022)	To develop BPH resistant rice variety	500
8.	**Project: Vertebrate Pest Management**	Management of rat in rice field.	
8.1	Study on the barn owl (*Tyto alba)* and their biology for sustainable rat management (Duration: 2016 - till to date)	To know the biology and feeding preferences of the barn owl(s). To develop and explore mass rearing technique of owl. To find out suitable nest and suitable height for preying. To understand food habit of the owl.	300

Rice Farming Systems Division

Proposed Research Programme 2017-2018

Sl. No.	Programme area: Rice Farming Systems	Major Objective	Annual budget Thousand Tk.

1	Evaluation of minimum tillage and crop residue retention in Wheat-Mungbean-T. Aman cropping system	To evaluate the productivity of Wheat-Mungbean-T. Aman cropping pattern in the context of conservation agriculture	1,00,000.00
2	Evaluation of establishment method of Mustard-Boro-T. Aman cropping pattern in medium highland ecosystem	To find out the effect of establishment method on rice, non-rice and soil properties	1,50,000.00
3	Long-term effect of three crop cropping patterns on the agro-economic productivity and soil health	To determine the long-term implications of Potato-Boro-T. Aman, Maize-Mungbean-T. Aman and Boro-T. Aus-T. Aman cropping patterns on: i) System productivity ii) Economic return and iii) Soil health	80,000.00
4	Determination of fertilizer dose for Mustard/Potato-Boro-T. Aman cropping patterns	To determine the fertilizer dose for Mustard/Potato-Boro-T. Aman cropping pattern through omission plot technique	1,20,000.00
5	Development of integrated vegetables, fish and fruit system for shallow mini pond	To develop farming system technology for diversifying and maximizing productivity using aquatic systems	50,000.00
6	Improvement of relay cropping of Aman with jute in Wheat-Jute-Relay Aman cropping pattern in shallow deep water rice ecosystem	To increase the total productivity of the Wheat-Jute/Aman (Relay) cropping pattern by adopting appropriate Aman (relay) variety and fertilizer management option	1,20,000.00
7	Evaluation of BRRI dhan48 as early Aus rice in Mustard-Boro-T. Aman cropping system	i) To find out the performance of BRRI dhan48 as early Aus rice ii) To find out appropriate seedling age of rice after mustard	1,20,000.00
8	Development and evaluation of four-crop cropping patterns and sustainability	i) To increase total productivity of unit area per year by increasing cropping intensity ii) To compare the sustainability of four-crop cropping patterns with that of three-crop cropping pattern in terms of soil heath and profit	2,00,000.00

9	Exploitation the potential of integrated Rice-Fish culture in the flood prone single Boro area	To increase the total productivity of the cropping pattern by optimum resource utilization of land and water by introducing rice-fish culture	2,00,000.00
10	Inclusion of summer vegetables after Boro rice in Mustard-Boro-T. Aman cropping pattern	To increase the productivity of the existing three crop system with the inclusion of summer vegetables	60,000.00
11	Identification of Rice variety in Boro-Fallow-T. Aman cropping system for sustainable productivity	i) To evaluate suitable T.Aman & Boro varieties for sustaining the productivity of Boro-Fallow-T. Aman cropping pattern ii) To evaluate the performance of short duration T.Aman variety with supplemental irrigation	80,000.00
12	Evaluation of non-rice crop establishment methods for sustainable crop production in saline areas	i)To find out suitable method of crop establishment techniques ii)To find out relative performance of selected crops	80,000.00
13	Mulching techniques for pit crops to reduce soil salinity	To find out suitable mulching materials and mulching method for crop intensification	60,000.00
14	Performance of exotic date palm (*Phoenix dactylifera*) in homestead and agro-forestry systems	i) To increase diversity in date palm ii) To increase existing agro-forestry system iii) To proper use of in- and around homestead area	5,00,000.00

Agricultural Economics Division

Proposed Research Program 2017-18

Sl. No.	Program area/Project with duration	Major Objectives	Annual budget (Tk.)
Sub-sub Program: I. Rural Institution & Economic Consequences			

3.1	Farm Level Adoption and Evaluation of Modern Rice Cultivation in Bangladesh Duration: July, 2017 - June, 2018 (Routine work)	✓ To determine the region-wise adoption rate of different MVs in Aus, T. Aman and Boro, seasons, ✓ To estimate the yield of different modern and local rice varieties in different seasons; and, ✓ To determine the socio-economic and varietal constraints to the adoption of MVs in different regions.	5,00,000.00
3.2	Farmers' Perceptions of and Adaptation Strategies to Climatic and Environment Changes in Drought Prone North-west Bangladesh Duration: July, 2017-June, 2019	✓ Delineate farmers' perception of and responses to climate and environment change; ✓ Understand farmers' observation of the impact of climate change on farming; ✓ Identify the factors facilitated and impeded the adaptation strategies and their suggestions; and ✓ Estimate economic viability of the dominant cropping pattern.	300,000.00
3.3	Returns to Investment on Development of BRRI Rice Varieties and Potentiality of the New Varieties to Achieve SDGs Duration: July, 2017-June, 2020	✓ To estimate the rate of return of post-1990 BRRI released modern rice varieties replacing the pre-1990 rice varieties (local and modern) ; ✓ To assess the prospects of BRRI newly developed climate resilient rice varieties using ex-ante analysis.	10,00,000.00
3.4	Financial Analysis of Different Categories of Rice Farms in Selected Areas of Bangladesh Duration: July, 2017-June, 2019	✓ To prepare and analyze the balance sheet of different categories of rice farms of the study area; ✓ To evaluate the income statement of the farms under study; and ✓ To examine the strengths and weakness of the farms by calculating different financial ratios.	3,00,000.00

3.5	Stochastic Impact of Climate on Rice Economy in Bangladesh: A Strategic Approach to Avoid Eccentric Consequence in the Future Duration: July, 2017-June, 2019	✓ To generate the message for policy planners in order to understand the consequence of climate change. ✓ To search for alternative food policies toward the reduction of weird result of climate change on market price and suitable adaptation options to achieve SDGs goal (No more Hunger) in the future. ✓ To estimate the adaptation cost for ensuring the food access to target people.	3,00,000.00
Sub-sub Program: II. Production Economics			
3.6	Estimation of Costs and Return of MV Rice Cultivation at the Farm Level Duration: July, 2017 - June, 2018 (Routine work)	✓ To determine the costs and returns of MV Aus, T. Aman and Boro rice cultivation in Bangladesh, ✓ To estimate the factor and income share of MV rice cultivation in different seasons; and, ✓ To evaluate the changes in costs and returns and inputs utilization pattern over the years.	5,00,000.00
3.7	Productivity and Resource Use Efficiency of Rice Production in Hilly Areas of Bangladesh Duration: July, 2017-June, 2018	✓ To examine the socio economic profile of rice growers in the hilly areas; ✓ To evaluate the contribution of key inputs and the profitability of paddy production in hilly areas; and ✓ To examine the resource use efficiency of rice production.	3,50,000.00
Sub-sub Program: III. Rice Marketing & Price Policy			
3.8	Value Chain Analysis of Aromatic Rice (*Kalizira, Katari bhog,* BRRI dhan34 and BRRI dhan50) in Bangladesh Duration: July 2017-June 2019	✓ To map the value chain networks of aromatic rice and the process of value additions along the chain; ✓ To determine cost, margin, price spread and efficiency of supply chain of aromatic rice; and ✓ To identify constraints and opportunities of value chain of aromatic rice and recommend policy measures.	5,00,000.00
Sub-sub Program: IV. Agricultural Policy & Development			

3.9	Farmers' Perception of Climate and Environment Change and their Adaptation Practices, Constraints and Suggestions of Cropping Systems Intensification in Coastal Bangladesh Duration: July, 2016 - June, 2018	✓ Delineate farmers' perception of and responses to environmental change; ✓ Estimate economic viability of the dominant cropping activities; and ✓ Outline farmers' perceived constraints and suggestions for cropping systems intensification.	2,20,000.00
3.10	Possible Adaptation Options and Sustainable Rice Cultivation: Responsiveness to Casual Flash Flood in the *Haor* Areas Duration: July, 2017- June, 2019	✓ To document the extent of magnitude of crop damage due to casual flash flood in the study areas; ✓ To search for the farmer's adaptation options toward rice cultivation and sustain the rice farming in the study areas; ✓ To conduct the multinomial logit model in order to assess adaptation options toward rice cultivation.	3,57,000.00

Agricultural Statistics Division

Proposed Research Programme_2017-2018

Sl.No.	Program area/ Project	Major Objective	Annual Budget (Thousand Tk)
	Program area: Socio-economic and Policy		
1.	Statistical methodology and computer programming	1. To determine the stability index of BRRI varieties 2. To maintain season, year and location wise database on BRRI varieties 3. To study G×E Analysis of BRRI Varieties 4. To **obtain Genetic Variability, Heritability and Genetic Advance** of BRRI Varieties	1400

Sl.No.	Program area/ Project	Major Objective	Annual Budget (Thousand Tk)
	1.1 Experiment/Study: Stability Analysis of BRRI Varieties *(In collaboration with Plant Breeding Div., Plant Phy. Div., ARD and All Regional Stations of BRRI)*	1. To determine the stability index of BRRI varieties 2. To maintain season, year and location wise database on BRRI varieties	350
	1.2 Experiment/Study: Genotype x Environment Interaction of BRRI varieties	1. To Identify BRRI released rice genotypes that have both high mean yield and stable yield performance across different environments for different ecosystem of Bangladesh.	300
	1.3 Experiment/Study: **Genetic Variability, Heritability and Genetic Advance for Yield and Yield Contributing Characters of BRRI Released Rice Varieties**	1. To assess the extent of genetic variability, heritability and genetic advance for yield and yield **contributing characters** of BRRI released rice genotypes 2. To investigate characters association among different traits and constructing selection criteria for high yielding genotypes under different ecosystem of Bangladesh	350
	1.4 Experiment/Study: Genetic Gain of BRRI Varieties in Bangladesh *(In collaboration with Plant Breeding Division)*	1. To determine the trend in the grain yield potential by BRRI released rice varieties in Aman and Boro season since 1970 2. To estimate the genetic gain made in grain yield potential by BRRI released rice varieties in Aman and Boro season during 1970 to 2016	400
2.	Multivariate Analysis of BRRI Varieties	1. To maintain up-to-date computerized information on rice and related crops	200
	2.1 Activity: Maintenance of rice and rice related variable database	1. To maintain up-to-date information on rice and related crops	200

3.	Agro Meteorology and Crop Modeling	1. To forecast and validation of agro micro climatological factors in rice crop seasons through experimentation for sustainable rice production. 2. To determine the genetic coefficient of rice varieties and simulate the impact of climate change on rice growth and yield and also forecast the yield of selected rice varieties at changing climatic conditions 3. To identify the location specific BRRI varieties and the factors affects on yield of BRRI varieties in Bangladesh	1700
	3.1 Experiment/Study: Minimizing Agro Micro climatological Risk Factors for Maximizing Sustainable Rice Production in Bangladesh *(In collaboration with Entom. Div., Plant Phy. Div., Soil Science, IWM Div., Plant Path. Div., and Agril. Econ. Div.)*	1. To forecast and validation of agro micro climatological factors in rice crop seasons through experimentation for sustainable rice production. 2. To avert management risk and capacity development by providing weather forecasting information and advisory services applying the tools of ICT in Agriculture.	1000
	3.2 Experiment/Study: Simulating of Climate Change Impact on Rice Growth and Yield in Bangladesh using DSSAT Model *(In collaboration with Entom. Div., Plant Phy. Div., Soil Science, IWM Div., Plant Path. Div., and Agril. Econ. Div.)*	1. To determine the genetic coefficient of rice varieties of Aus, Aman and Boro season. 2. To simulate the impact of climate change on rice growth and yield and also forecast the yield of selected rice varieties at changing climatic conditions. 3. To select suitable rice variety(s) as adaptation options at different climatic condition for regional rice farmers.	500
	3.3 Experiment/Study: Effects of Edaphic and Climatic Factors on Yield of BRRI Released Varieties in Bangladesh	1. To identify the location specific BRRI released rice varieties in Bangladesh 2. To assess the possible change in yield of BRRI released rice varieties due to different edaphic and climatic factors	200

4.	Utilization of Geographic Information System (GIS) in Rice Research	1. To construct suitability map of BRRI released rice varieties. 2. To produce various climatic maps of Bangladesh.	400
	4.1 Experiment/Study: Suitability Mapping of BRRI dhan50, BRRI dhan63, BRRI dhan66, BRRI dhan71 and BRRI dhan72 *(In collaboration with Plant Breeding Div., Soil Science Div. and ARD)*	1. To construct suitability map of BRRI rice varieties (BRRI dhan50, BRRI dhan63, BRRI dhan66, BRRI dhan71 and BRRI dhan72)	200
	4.2 Experiment/Study: Zoning of Rice varieties *(In collaboration with Plant Breeding Div., Soil Science Div., ARD and RFS Div.)*	1. To construct suitability map of newly released BRRI rice varieties. 2. To construct upazila wise zonal map of newly released BRRI rice varieties.	200
	4.3 Experiment/Study: Probability Mapping of Temperature (Maximum & Minimum) and Total Rainfall of Bangladesh	1. To determine the expected maximum, minimum temperature and rainfall in different region of Bangladesh 2. To determine the areas of critical maximum and minimum temperature and rainfall map of Bangladesh for rice during the period and 3. To estimate the return period of rainfall and high temperature above critical level at reproductive phase in rice growing areas.	200
	4.4 Experiment/Study: Identification of drought prone area in Bangladesh through Standardized Precipitation Index and Markov Chain Model *(In collaboration with IWM Div.)*	1. To explore yearly and seasonal variability of drought based on different threshold level of rainfall. 2. To estimate Standardized Precipitation Index (SPI), drought index (DI) for different threshold values of rainfall for all meteorological stations in Bangladesh. 3. To characterize the drought prone region of Bangladesh. 4. Construct different types of GIS Maps according to drought prone area in Bangladesh.	200

	Capacity Building Through Training	1. To train up BRRI scientists on experimental data analysis using different Statistical software. 2. To make BRRI scientists self-dependent on experimental data analysis. 3. To developed skills on research planning, program and report writing.	400
5.	*5.1 Activity:* Special Training program on experimental data analysis	1. To train up BRRI scientists on experimental data analysis using different special (statistical) software. 2. To make BRRI scientists self dependent on experimental data analysis. 3. To developed skills on research planning, program and report writing.	4.00
6.	Information and Communication Technology (ICT)	1. To manage and maintain ICT at Bangladesh Rice Research Institute 2. To digitize "LSMS" and other analog system of BRRI 3. To develop software and Apps for BRRI ICT	4800
	6.1.1 Activity: Digitalized Labour Salary Management System of BRRI *(In collaboration with Farm Management Division)*	1. To digitalized "Labour Salary Management System" (LSMS) of BRRI. 2. To manage and maintain LSMS through regular updating with labour management related various information	100
	6.1.2 Activity: Online Labour Wages Management System of BRRI *(In collaboration with Farm Management Division)*	1. To online "Labour wages Management System" (LWMS) of BRRI. 2. To manage and maintain LWMS through regular updating.	500
	6.2 Activity: Online Application System of BRRI *(In collaboration with Administration of BRRI and Teletalk Mobile Company Ltd.)*	1. To develop online application system of BRRI. 2. To host online application system at data center. 3. To manage and maintain online application system through regular updating of the information and documents.	200

	6.3 Activity: LAN and internet connectivity of BRRI regional station	1. To setup Local Area Network (LAN) for all regional station of BRRI. 2. To setup Internet connectivity for all regional station of BRRI. 3. To manage and maintain LAN & Internet connectivity of BRRI regional station.	600
	6.4 Activity: e-File Management System of BRRI *(In collaboration with Administration of BRRI)*	1. To setup "e-File (Nothi) Management System" for all division, R/S and section of BRRI for establishing e-Governance. 2. To setup e-File (Nothi) Management System for ensuring faster movement of files, hassle less and paperless office system. 3. To setup e-File (Nothi) Management System for increased transparency throughout the organization and increased accountability in governance.	
	6.5 Activity: Mobile Apps of "RKB" (Rice Knowledge Bank)	1. To develop the blank pages and modify the design of "RKB". 2. To manage and maintain "RKB" through regular updating of the information and documents.	200
	6.6 Activity: e-Tender system of BRRI *(In collaboration with Building and Construction and Administration)*	1. To introduce the online tendering system to facilitate the procurement process of BRRI. 2. To participate in the local and international tender/procurement of BRRI. 3. To ensure adequate infrastructures and enhance skills and awareness of both the procuring officials and the tenderers.	200
	6.7 Activity: BRKB Website Management *(In collaboration with Plant Breeding Div., Hybrid Div. and Training Div.)*	1. To develop the blank pages and modify the design of BRKB Website. 2. To manage and maintain BRKB Website through regular updating of the information and documents.	150
	6.8 Activity : Management Information System (MIS) of BRRI	1. To Manage and maintain MIS of BRRI 2. To get BACKUP of MIS (9 modules) every day.	100

	6.9 Activity: BRRI Web Portal Management	1. To develop the blank pages and modify the design of BRRI Web Portal. 2. To manage and maintain BRRI Web Portal through regular updating of the information and documents.	100
	6.10 Activity: Management of BRRI network and internet connectivity	1. To increase the bandwidth connectivity from 35 Mbps to 40 Mbps or more. 2. To manage and maintain ICT network of BRRI.	100
	6.11 Activity: Facebook Group "BRRI Networks" update, maintenance and extension	1. To increase and stimulate awareness to all visitors of facebook group through 'BRRI Networks'. 2. To extend, manage, update and maintain 'BRRI Networks' regularly. 3. To promote all activities, where only official interactions, various problems and theirs solutions can be post.	100
	6.12 Activity: Digital Signature Certificate of BRRI	1. To make digital service in BRRI for initiating e-File management 2. To develop proper integrity, accountability and confidentiality 3. To develop e-Administration using digital signature certificate	100
	6.13 Activity: Web mail and Group mail of BRRI	1. Develop Web mail and Group mail id with password as require for all scientists and officers of BRRI. 2. To manage, maintain and update regularly as routine work web mail and group mail of BRRI.	50
	6.14 Activity: Personal Data Sheet (PDS) of BRRI	1. To develop "Personal Data Sheet (PDS)" database for all scientists, officers and staffs of BRRI. 2. To develop PDS database using user name & password. 3. To get BACKUP of PDS database regularly.	150

	6.15 Activity: Video Conference System of BRRI	1. To develop "Video Conference System of BRRI" for administration, all divisional head and regional station head of BRRI. 2. To develop "Video conference system of BRRI" for research, administration works and innovative interactions.	2000
	6.16 Activity: Heritage of BRRI	1. To develop "Heritage" for all scientists, all officers and all staffs of BRRI. 2. To develop Heritage for research and administration works. 3. To create and stimulate awareness amongst the present employees of BRRI about ex. Scientists and officer's great activity.	50

Farm Management Division

Table 3: Proposed Research Program 2017-18

Sl. No.	Program area/Project (Duration)	Major Objectives	Annual Budget (Lak.TK)
	1. Program Area: Socioeconomic and Policy		
03	Farm Management Division		
	3.1.Project : Rice production management		
	• Expt.1. Effect of tillage operation on the productivity and profitability of rice cultivation	- To find out the suitable tillage operation for boro rice cultivation	0.25
	• Expt.2. Productivity and profitability of different short duration rice variety as affected by spacing	To find out the optimum spacing of different short duration rice variety in terms of maximum benefit.	0.25
	• Expt.3. Evaluation of Shamolbangla bio-fertilizer on the yield and pest incidence of rice	i) To reduce chemical fertilizers application, ii) To monitor incidence of insect-pest diseases. iii) To observe the effect of yield and yield components.	0.50

	• Expt.4. Effect of organic matter on soil properties and yield of rice	- To find out the effect of kitchen waste, bio-slurry and poultry litter on yield of rice. - To evaluate the better source of organic matter for improvement of rice soil health.	0.50
	3.2. Project: Survey and development of data base for labor management.		
	• Expt.1. Monitoring the laborers' wage rate for rice cultivation around different locations of Bangladesh.	-To document farmers' labor management practices for rice cultivation	1.00
	3.3. Project: Management and utilization of land and other resources. These include: • Seed production, management of land, labor, farm implements, flower garden, irrigation and drainage etc	-Better utilization of farm land and other resources for smooth running of research activities of BRRI	50.0
			Total= 52.50

Farm Machinery and Postharvest Technology Division
Proposed Research Programme 2017-2018

Sl. No	Programme area /Project with duration	Major Objective	**Annual budget Thousand Tk.**
01	Development of Agricultural Machines	• Development of farm machinery adaptable to rice eco-system • Reduction of human drudgery	**30,00,000.00**
	1.1: Evaluating and modifying of BRRI developed machines Duration : 1998-2017	• To verify the quality of BRRI machines • To identify the functional problems of farm machines • To improve the performance of farm machines	50000.00
	1.2: Design and development of a head feed power thresher Duration : 2013-2017	• To develop a head feed thresher	100000.00

Sl. No	Programme area /Project with duration	Major Objective	**Annual budget Thousand Tk.**
	1.3: Design and development of single row conical and double row weeder Duration : 2014-2017	• To design, fabricate and develop a single row and double row conical weeder suitable for weeding in lowland • To compare with other wet land weeders • To convert manual operating system to power operated weeder	150000.00
	1.4: Development of a inclined plate type seeder machine Duration : 2015-2017	• To design and fabricate a inclined plate seeder machine • To evaluate the performance of inclined plate type seeder machine.	50000.00
	1.5: Design and development of whole feed mini combine harvester Duration : 2014-2017	• To assess combine harvester field performance, general condition, durability, repair and maintenance requirements • To check the fuel consumption and hourly production of the combine harvester under different working conditions • To obtain operator views regarding suitability of combine harvester.	1500000.00
	1.6: Design and development of head feed mini combine harvester Duration : 2016-2019	• To design a head feed combine harvester • To manufacture the designed combine harvester prototype • To carryout field performance test of the developed combine harvester prototype	1500000.00
	1.7: Development of manual rice transplanter Duration : 2016-2017	• Design and fabrication of manual rice transplanter • Performance evaluation of manual rice transplanter	150000.00
	1.8: Development of manual seed sower machine for raising mat type seedling Duration : 2016-2017	• Improvement of manual seeds sower machine • Performance evaluation of seeds sower machine	100000.00

Sl. No	Programme area /Project with duration	Major Objective	**Annual budget Thousand Tk.**
	1.9: Performance evaluation of power operated seed sower machine *Duration: 2016-2017*	• To observe the performance of the seed sower machine • To calibrate the sower machine for different rice variety • To calibrate the sower machine at different days of sprouting	100000.00
	1.10: Test and modification of reaper binder Duration : 2017-2018	• To evaluate the performance of the binder • To identify the functional problems	300000.00
	1.11: Field evaluation of minimum tillage unpuddled mechanized rice transplanting Duration : 2016-2018	• To compare the agronomic performance • To identify the problem	200000.00
	1.12: Design and development of USG deep placement mechanism in the rice transplanter Duration : 2017-2021	• To incorporate the injector type USG deep placement mechanism in the existing walking type rice transplanter • To develop simple power transmission mechanism to transfer power from engine to the injector rotary shaft with the design of belt-pulley, worm gear, bevel gear and rotary shaft • To design three linkage mechanism for converting the circular motion to the linear motion • To test the field performance of the technology To save energy, cost and time of separately deep placement of fertilizer	500000.00

Sl. No	Programme area /Project with duration	Major Objective	**Annual budget Thousand Tk.**
	1.13: Incorporation of prilled urea deep placement mechanism in the rice transplanter Duration : 2017-2021	• To develop a technology for dispensing seedling and prilled urea simultaneously • To incorporate the impeller type (force mode) prilled urea deep placement mechanism in the walking type rice transplanter • To test the field performance of the technology • To save the fertilizer application time and cost	300000.00
	1.14: Field evaluation of BRRI Prilled urea applicator (BPUA) for long duration rice variety Duration : 2016-2017	• To calibrate the BRRI prilled urea applicator for long duration rice variety • To analyze the nitrogen use efficiency • To observe the yield and yield contributing characters	300000.00
	1.15: Development and validation of BRRI prilled urea applicator (BPUA) for mechanically transplanted rice Duration : 2017-2020	• To modify the BRRI prilled urea applicator for 30 cm line to line spacing of mechanically transplanted rice • To calibrate the fertilizer dose • To observe the yield and yield contributing parameters	100000.00
02	*Milling and Processing Technology*	• To reduce loss, improve quality and addition of value to the farm products	**1200000.00**
	2.1: Design and development of solar dryer Duration : 2014-2017	• To design, fabricate and develop solar dryer • To compare with traditional sun drying of paddy	100000.00
	2.2: Improvement of air blow type engelberg huller mill Duration : 2016-2017	• To test and evaluation of milling quality of un-parboiled rice process in the air blowing engelberg huller • To test and evaluation modified air blowing type rice mill	200000.00

Sl. No	Programme area /Project with duration	Major Objective	**Annual budget Thousand Tk.**
	2.3: Test, evaluation and modification rubber roll de-husker Duration : 2016-2018	• To test and evaluation of developed de-husker • To evaluate the milling performance of de-husked paddy process in friction type polisher	300000.00
	2.4: Study the milling recovery of long grain rice varieties in commercial mill Duration : 2016-2017	• To find out optimum moisture content for higher milling yield and head rice recovery	300000.00
	2.5: Effect of drying and tempering on milling recovery of BRRI Variety under different moisture content Duration : 2017-2019	• To find out optimum moisture content for maximum milling yield and head rice recovery	300000.00
03	Development of stores and storage technology	• **To increase shelf life of rice in store**	200000.00
	3.1: Effect of ageing on milling performance of premium quality rice Duration : 2018-2021	• To observe the milling performance of BRRI dhan50 at different aging	200000.00
04	**Renewable Energy Technology**	• Development of renewable energy extraction technologies from solar, agri-residues and waste products	700000.00
	4.1: Study the briquette production from rice byproduct Duration : 2016-2018	• To prepare briquettes from rice straw and husk • Characterization of different briquettes originated from agricultural residue • To measure the calorific value of the briquettes	100000.00
	4.2: Study on Solar Energy Utilization for BRRI Power Chopper Operation Duration : 2017-2020	• To design mechanism of solar energy utilization • To evaluate the performance of the developed machine	300000.00
	4.3: Design and development of solar powered light trap Duration : 2017-2018	• To develop solar system for light trap • To evaluate the efficacy of solar light trap	100000.00

Sl. No	Programme area /Project with duration	Major Objective	**Annual budget Thousand Tk.**
	4.4: Determination of mixing ratio of agricultural byproduct for biogas production Duration : 2017-2021	• To identify the potential biogas material from agricultural byproduct • To find out the best mixing ratio for maximum biogas production	200000.00
05	Popularization of BRRI developed farm machinery and Postharvest technology	• Awareness build up about the benefit of using BRRI machines among the farmers • Motivation of the local manufacturer to manufacture the BRRI agricultural machinery	1000000.00
	5.1:Industrial and farm level extension of BRRI machinery and Postharvest technology Duration : 1998-2017	• To create awareness and demonstrate the benefit of using BRRI machines among the farmers • To motivate the local entrepreneurs to manufacture BRRI developed machinery	1000000.00

Workshop Machinery and Maintenance

Proposed Research Programme 2017-18

Sl. No.	Prorgramme area: Farm Mechanization and Post-harvest Technology	Major Objectives	Annual budget Thousand Tk.
01	Development of Agricultural Machinery	• Development of cost and time effective machines to reduce human drudgery	
1.1	Design and development of power transmission system of a self-propelled power unit for multiple use	• To design a gearbox with mechanism of two forward and a backward speed • To design a chassis of a power unit	100.00
1.2	Design, development, and modification of self-propelled reaper	• To develop user friendly self-propelled reaper • To evaluate the performance of the reaper	200.00
1.3	Design and development of a power tiller operated grain cleaner	• To design and develop a power tiller operated grain cleaner • To incorporate safety measures with power tiller operated grain cleaner	25.00

1.4	Design and development of manually operated reaper	• To develop a manually operated reaper • To evaluate the performance of the manually operated reaper	200.00
02	Test and Evaluation of Agricultural Machineries	• Performance evaluation of different agricultural machinery	
2.1	Modification of reaper travelling wheel for wet-land condition	• To design the suitable wheel for wet-land condition • To evaluate the newly designed wheel at wet-land as well as dry-land condition	50.00
2.2	Determination of tilling efficiency of power tiller at selected areas of Bangladesh	• To determine the optimum tillage depth for maximum paddy yield • To identify the amount of fuel consumption according to tillage depth	100.00
2.3	Modification of hydro tiller for better maneuverability	• To detect the causes of frequent tearing of hydro tiller chain • To modify the power transmission system for increasing longevity of hydro tiller	50.00
03	Assessment of Agricultural Machineries and Workshop	• To determine the problems and prospects of agricultural machineries and workshops in Bangladesh	
3.1	Potentiality of engineering workshop for enhancing farm mechanization in selected areas of Bangladesh	• To investigate the capacity of engineering workshop in agricultural machinery manufacturing • To study the production and existing use level of agricultural machinery at different farm operations • To identify the limitations and prospects of engineering workshop at farm level	150.00
3.2	Survey on status and constraint of farm machinery used in farmer's field at selected areas	• To investigate the machinery used by the farmers • To identify the problems of theses machinery to use it • To find out the machinery demands of the farmers	150.00
04	Renewable Energy	• To study the suitability of renewable energy use in agricultural machinery	
4.1	Feasibility study of solar energy use in agricultural machinery	• To study the suitability of solar energy use in agricultural machinery	200.00

		• To evaluate the aptness of solar energy use in agricultural machinery	
4.2	Solar energy use in threshing operation	• To test the suitability of solar energy use in threshing operation • To evaluate the performance of solar energy use in threshing operation	200.00

Adaptive Research Division

Proposed Research Program: 2017-2018

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
1.	Varietal development	On-farm evaluation of advanced breeding lines.	6250
1.1	Advanced Lines Adaptive Research Trial (ALART)	i. To evaluate the yield potential and adaptability of advanced breeding lines at farmers' field in different agro-ecological zones of Bangladesh. ii. To get feedback information about the advantages and disadvantages of the advanced lines from farmers and DAE personnel.	
1.1.1	ALART, T. Aus 2017 Locations: BRRI Gazipur, Kapasia, Comilla (Chandina), Kushtia (Sadar), Rangpur (Pirganj), Habiganj (Sadar)	Do	210
1.1.2	ALART, B. Aman 2017 Locations: Sylhet (Goian-Ghat), Habigonj -2 trials (Baniachang, Baniachang-Near BRRI R/S), Tangail -5 Trials (Mirzapur-Dullamansur; Mirzapur-Ichail; Sadar-Dainnah; Nagorpur-Rahmatpur; Nagorpur-Rahmatpur), Gopalganj (Kashiani)	Do	260
1.1.3	ALART, GSR-Drought T. Aman 2017 Locations: BRRI HQ Gazipur, Rajshahi (Godagari, Tanore), Chapainawabgonj (Sadar, Nachol), Rangpur (Sadar), Naogaon	Do	310

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
	(Mohadebpur, Porsha), Dinajpur (Fulbari)		
1.1.4	ALART, GSR-Salinity T. Aman 2017 Locations: BRRI HQ Gazipur, Khulna (Batiaghata), Bagerhat (Rampal), Satkhira (Debhata, Kaliganj), Patuakhali (Kalapara), Noakhali (Companigonj)	Do	350
1.1.5	ALART, RLR-1 T. Aman 2017 Locations: BRRI HQ Gazipur, Mymensingh (Sadar), Feni (Dagonbhuiyan), Khulna (Dumuria), Chittagong (Hathazari), Sylhet (South Shurma), Rangpur (Sadar), Barisal (Sadar)	Do	210
1.1.6	ALART, RLR-2, T. Aman 2017 Locations: BRRI HQ Gazipur, Mymensingh (Sadar), Feni (Dagonbhuiyan), Khulna (Dumuria), Chittagong (Hathazari), Sylhet (South Shurma), Rangpur (Sadar), Barisal (Sadar)	Do	250
1.1.7	ALART, BBR T. Aman 2017 Locations: BRRI HQ Gazipur, Mymensingh (Sadar), Feni (Dagonbhuiyan), Khulna (Dumuria), Chittagong (Hathazari), Sylhet (South Shurma), Rangpur (Sadar), Barisal (Sadar)	Do	250
1.1.8	ALART, ZER T. Aman 2017 Locations: BRRI HQ Gazipur, Mymensingh (Sadar), Feni (Dagonbhuiyan), Khulna (Dumuria), Chittagong (Hathazari), Sylhet (South Shurma), Rangpur (Sadar), Barisal (Sadar)	Do	260
1.1.9	ALART, PQR, T. Aman 2017 Locations: BRRI HQ Gazipur, Rajshahi (Godagari), Dinajpur (Sadar), Sherpur (Nokla), Jessore (Jikorgacha), Rangpur (Sadar)	Do	250
1.1.10	ALART (Boro) 2018	Do	900

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
	Advanced lines/Checks will be supplied by Plant Breeding, Biotechnology and Hybrid Rice Divisions in coming November after Varietal Development Program area meeting.		
1.1.11	Adaptive Trials of modern rice varieties in different locations of Bangladesh under TRB project	➢ To evaluate the adaptability of modern rice varieties at farmers' field ➢ To investigate the performance of the newly released promising varieties compared with the old mega varieties. ➢ To select suitable variety for target environments.	3000
Project 2: Dissemination of Technologies PL: Dr. Md. Shafiqul Islam Mamin		Conducting on-farm trials for dissemination of newly released rice production technologies.	6330
2.1	Seed Production and Dissemination Program (SPDP) (Note: Other technologies such as USG, Rice blast disease management will be included with SPDP) under GoB	Rapid dissemination of BRRI varieties through quality seed production by the farmers' themselves.	
2.1.1	Seed Production and Dissemination Program (SPDP), T Aus, 2017 under GoB Locations: 14 upazilas of 8 districts (Sherpur, Meherpur, Gaibandha, Rangpur, Naogoan, Moulivibazar, Barguna & Patuaklhali)	➢ Rapid dissemination of newly released rice varieties to the farmers ➢ Motivate farmers to produce and preserve good quality seeds of modern rice varieties. ➢ Increase availability of quality seed at farm level ➢ Exchange seeds from farmers to farmers ➢ Collect feedback information from the farmers and DAE personnel about BRRI varieties and other technologies such as USG.	200

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
2.1.2	Seed Production and Dissemination Program (SPDP), B Aus, 2017 under GoB Locations: 8 upazilas of 4 districts (Sylhet, Magura, Narail & Rajbari)	Do	220
2.1.3	Rice Cultivation in Jhum of hilly areas in Aus 2017 under GOB Locations: 7 upazilas of 3 districts (Khagrachari, Rangamati & Bandarban)	Do	160
2.1.4	Rice Cultivation in Valley of hilly areas in Aus 2017 under GOB Locations: 7 upazilas of 3 districts (Khagrachari, Rangamati & Bandarban)	Do	400
2.1.5	SPDP T Aus 2017 under TRB Locations: 3 upazilas of 3 districts (Chittagong, Sylhet & Chuadanga)	Do	250
2.1.6	SPDP T Aman 2017 under GOB Locations: 36 upazilas of 18 districts (Sherpur, Netrakana, Mymensingh, Khulna, Chuadanga, Jhinaidah, Meherpur, Joypurhat, Kurigram, Thakurgaon, Pirojpur, Bhola, Sylhet, Chittagong, Cox's Bazar & Khagrachari, Rangamati & Bandarban)	Do	400
2.1.7	SPDP T Aman 2017 under SPIRA Locations: 10 upazilas of 5 districts (Gaibandha, Naogoan, Jessore, Bagerhat, & Patuakhali)	Do	600
2.1.8	SPDP T Aman 2017 under TRB Locations: 17 upazilas of 15 districts (Netrakana, Mymensingh, Khulna, Jessore, Chuadanga, Rajshahi, Chapai Nawabganj, Naogaon, Dinajpur, Sylhet, Moulovibazar, Comilla, Chittagong, Cox'sbazar & Bhola)	Do	1000

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
2.1.9	SPDP T. Aman 2017 under URSP Locations: Eight upazilas of four districts (Mymensingh, Comilla, Barisal and Jhalokathi)	Do	500
2.1.10	SPDP Boro 2018 under GOB Locations: 28 upazilas of 14 districts (Sherpur, Netrakana, Mymensingh, Khulna, Chuadanga, C. Nawabganj, Thakurgaon, Panchagarh, Pirojpur, Bhola, Sunamganj, Moulivibazar, Chittagong & Cox's Bazar)	Do	1200
2.1.11	SPDP Boro 2018 under SPIRA Locations: 10 upazilas of 5 districts (Gaibandha, Naogoan, Jessore, Bagerhat, & Patuakhali)	Do	300
2.1.12	SPDP Boro 2018 under TRB Locations: 16 upazilas of 15 districts (Netrakana, Mymensingh, Khulna, Jessore, Rajshahi, Naogaon, Bogra, Dinajpur, Sylhet, Comilla, Chittagong, Cox'sbazar & Bandarban)	Do	300
2.1.13	SPDP Boro 2018 under URSP Locations: Eight upazilas of four districts (Mymensingh, Netrokona, Kishoreganj and Comilla)	Do	500
2.2	Rice Blast Disease Management		
2.2.1	Demonstration of Rice Blast Disease Management Locations: 5 Upazilas of 5 districts Rangpur (Sadar), Jessore (Sadar), Rajshahi (Tanore), Sylhet (Golapgonj), Dinajpur (Chirir Bandor)	➢ To demonstrate the management practices of rice blast disease management to the farmers ➢ To make awareness among the farmers about the management of rice blast disease.	200
2.3	Seed Support Program		
2.3.1	Seed Support Program under TRB project.	➢ Enhance rapid dissemination of newly released BRRI	100

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
	Good quality seeds of newly released promising rice varieties will be supplied to farmers and different stakeholders (GO& NGO)	varieties ➢ Encourage farmers for production and storing of quality seeds at on-farm level. ➢ Strengthen dissemination process of promising rice varieties. ➢ Collect feedback information from the farmers and DAE personnel about BRRI varieties.	
Project 3: Promotional activities PL: Dr. Md. Shafiqul Islam Mamin		To update knowledge and skill of farmers on modern rice cultivation technology.	1600
3.1	Farmers' Trainings on modern rice production technologies under GoB and all other projects during 2017-18	i. To train the farmers on different aspects of modern rice production methods. ii.To improve the farmers' knowledge and skill on modern rice production technologies. ii. To create farmers' awareness about recently developed technologies.	1000
3.2	Field Days under GoB and all other projects during 2017-18.	1.To create awareness and interest among farmers, local leaders, elite persons, NGO workers and DAE personnel about BRRI varieties and technologies. 2.To promote dissemination and get feedback about BRRI technologies from farmers.	600
Project 4: Enrichment of own seed stock PL: Dr. Md. Shafiqul Islam Mamin		Production of BRRI varieties in different growing seasons.	150
4.1	Seed production of newly released and other popular BRRI varieties during 2017-18. Locations: BRRI farm (west byde)	To produce quality seeds of BRRI released promising and popular rice varieties for conducting adaptive research trials throughout the country during Aus, Aman	150

Sl. No	Proposed Research Program	Major Objectives	Annual Budget (Thousand Tk.)
		and Boro seasons.	

Training Division

Proposed Research Program for Training Division: 2017-18

Sl. No.	Program area	Major Objective	Annual budget (,000 TK)
	Program Area: Technology Transfer Program performing Unit: Training Division		
I	1. Training need assessment. PL: Dr. Md. Islam Uddin Mollah. PI: Dr. Md.Shahadat Hossain CI: Dr. Md. Fazlul Islam, Shahnaz Parveen	To determine the need of the participants for developing an effective training program	-
II	2. Capacity Building and Technology Transfer Through Training. PL: Dr. Md. Islam Uddin Mollah. PI: Dr. Md.Shahadat Hossain CI: Dr. Md. Fazlul Islam, Shahnaz Parveen	• To enrich the knowledge of the participants on rice production technologies • To disseminate BRRI developed technologies through extension personnel	-
	2.1 Rice production and communication training course for BRRI scientists PL: Dr. Md. Islam Uddin Mollah. PI: Dr. Md.Shahadat Hossain CI: Dr. Md. Fazlul Islam, Shahnaz Parveen	To acquire and enrich knowledge on • Modern rice production technologies • Identification of field problems of rice cultivation and its solutions • Research planning and execution • Data collection, analysis and interpretation • Reports/scientific article writing and presentation • Service rules and job descriptions and • Help extension personnel for quick dissemination of rice production technologies.	1500
	2.2 Training on modern rice production technologies	To train the extension agents so that they can • Able to use and disseminate	3600

		modern rice production technologies and • Identify and solve the field problems of rice cultivation and help the farmers to increase productivity.	
	2.3 Training on rice production and data collection	This course will enable participants to • Lean and recognize the basic concepts, principles and techniques of modern rice production • Identify and solve field problems of rice cultivation and • Collect data properly from the excremental plot	300
	2.4 Training on quality rice seed production and storage	• To increase the knowledge of the participants about quality seed production and • To increase the use of quality seeds in rice production.	750
	2.5 Training on rice pest management	• To increase knowledge of pest (weeds ,insect and diseases) management in rice ecosystem • To identify the pest in the field and • To increase ability to solve pest problems in rice field.	600
	2.6 Training on experimental design and data analysis	The train personnel will be able to • Recognized basic statistical concepts • Utilize different experimental design properly in the field • Use different statistical tools for data analysis and • Report/scientific article writing and presentation.	240
	2.7 Modern rice production training for the imam	To train the Imam of different mosques of Bangladesh so that they can • Acquire knowledge on modern rice production technologies and • Able to disseminate rice production technologies among the general farmers through their common lecture	750
	2.8 Farmers training on modern rice production technologies	To train the farmers so that they can • Apply the modern techniques	400

		of rice production and • Identify and solve the field problems of rice production	
	2.9 Special training on specific issues related to rice production	Objectives depends on the requested courses	-
III	Evaluation of Imparted Training Program. PL: Dr. Md. Islam Uddin Mollah. PI: Dr. Md.Shahadat Hossain CI: Dr. Md. Fazlul Islam, Shahnaz Parveen	• Evaluate the overall training program • Assess the trainees performances and • Assess the resource speaker performances.	-
IV	BRKB and its Improvement PL: Dr. Md. Islam Uddin Mollah. CI: Dr. Md.Shahadat Hossain, Dr. Md. Fazlul Islam, Dr. Md. Ismail Hossain and SM Mostafizur Rahman	• Add new training materials to BRKB compendium and • Develop fact sheets of different new technologies.	-

Regional Station

Regional Station, Barisal

Proposed Research Programme 2017-2018

Sl no	Programme area/Project with duration	Major Objective	Budget Thousand Tk
Programme area/Project with duration: Regional Station, 2017-2018			
1	Development of Multi-trait Advance Breeding Lines for Tidal Areas	- Tall seedling(60 cm) and intermediate plant type (120-150cm) - High yield	200
2	Introgression of dense and erect panicle gene in indica rice to improve plant architecture	-To transfer dense and erect panicle gene in indica genotype to improve plant architecture for higher yield	200
3	Collection and characterization T. Aman Local Rice varieties cultivated in Tidal Areas of Barisal region	-To characterize T. Aman Local Rice varieties for varietal development	100
4	Improvement of T. Aus Rice for Adapted to Barisal Region	-Collection of local germplasm and selection of potential parents for varietal development	200
5	Development of Varieties for Tidal Submergence of T. Aman Rice	-To develop tidal submergence tolerant varieties	200
6	Regional Yield Trial (RYT) for high yielding rice	-To test the yield potential and adaptability of advanced lines for Rainfed lowland Rice	200
7	Advanced Line Adaptive Research Trial (ALART)	-To evaluate the yield potential and adaptability of advanced breeding lines at	200

		farmers' field	
8	Proposed Variety Trial (PVT)	-To observe the performance of PVT materials under rainfed lowland condition	200
9	Research program under TRB	-Objectives of TRB	1000
10	Research program under Golden Rice	-Objectives of Golden rice	1000
11	Effect of planting time, nitrogen and chemical on the incidence of false smut disease	-To find out effective control measure options, understanding the epidemiology and effect of N on disease progress	50
12	Screening of rice germplasms and breeding for Ufra resistance	-To identify ufra resistant sources from germplasms and evaluation of resistant materials.	25
13	Identification of climatic factors responsible for disease and insect outbreak and their management in southern region of Barisal	-To identify the physical and climatic factors responsible for disease and insect outbreak and to develop effective and sustainable management packages for controlling those pests	1200
	Efficacy of new chemical against blast disease of rice	-To find out new chemicals effective against Blast	50
14	Introgression of dense-erect panicle and blast resistant gene in indica rice to improve plant architecture and blast resistance	-To transfer dense-erect panicle and blast resistant gene in indica genotype for higher yield	50
15	Effect of planting time and varietal character in the incidence of rice stem borer in Boro rice	To know the effect of planting time and variety in the abundance of stem borer e	100
16	Maximizing rice yield through the application of balanced fertilizer and organic amendment in Tidal flooded soil.	To determine the effect of combined application of organic and inorganic supplement on the growth and yield of MV rice in tidal wetland soils. To study the effect of different N management techniques on the yield of MV rice on in tidal flooded soils.	150
17	Yield Maximization of Boro Rice Through Appropriate Agronomic Management.	To maximize growth and yield of Boro varieties.	100
18	Screening of modern rice varieties for efficient zinc utilization in Tidal flooded soil	To determine the genotypic variation in zinc uptake and utilization by MV rice under different soil Zn levels in Tidal flooded soils.	50
19	Development of soil fertility maps of	To determine the quantity of	50

	experimental farms, Sagordi and Char Badna at BRRI R/S Barisal.	important plant nutrients in Sagardi and Char Badna farm soils, BRRI Barisal, To develop a fertility map of the soils of the study area.	
20	Long-term missing element trial to diagnose limiting nutrient in soil.	-To find out yield limiting nutrient in soil.	50
21	Monitoring of Tidal Water Quality at BRRI R/S Barisal Sagardi Farm.	To analyze the quality of tidal water and sediment throughout the Aman season.	50
22	Explore Potential Irrigation Water Source for Boro Cultivation in Barisal Region	- Quantify the availability of surface water for irrigation; Identify the key problems for utilizing suitable water in boro cultivation	50
23	Monitoring of river water salinity to explore the Availability irrigation water in tidal areas of Barisal region	-To measure the dynamics of surface water salinity. To delineate the trend of change of salinity in surface water and soil of coastal region of Barisal. To identify the saline water-sweet water interface	100
24	Stability analysis of BRRI released rice varieties	-To observed the yield performance of BRRI released rice varieties	150
25	Demonstration, seed production and scaling up of MV rice in Barisal region under PGB-IADP	-To demonstrate the yield performance and suitability of modern rice varieties in Barisal region -To popularize the BRRI released rice varieties and other technologies	300
26	Demonstration of BRRI dhan72 in Barisal region under HP Bangladesh project	-To demonstrate the yield performance and suitability of modern rice varieties in Barisal region -To popularize the BRRI released rice varieties and other technologies	150
27	Demonstration trial under SPIRA	-To demonstrate the yield performance and suitability of modern rice varieties in Barisal region	100
28	On farm Seed multiplication of latest BRRI released varieties for dissemination purpose in next cropping season	To multiply the modern rice varieties upon availability of seeds at BRRI Barisal farm	1000
29	Breeder seed production	-To produce breeder seed	1000
30	Hybrid seed production	-To disseminate BRRI released Hybrid varieties to	150

		farmers of Barisal region	
31	Hybrid rice trial provided by different companies	-To evaluate the best performing hybrid rice provided by different companies	150

BRRI R/S, Bhanga, Faridpur

Proposed Research Programme 2017-2018

SI. No.	Programme area/ Project with duration	Major Objectives	Annual budget Thousand Tk.
1.	Hybridization (Breeding for developing high yielding rice varieties for single Boro cropping pattern) (Boro, 2017-18)	To develop breeding population with higher yield potential, tall plant along with earliness and acceptable grain quality for single Boro cropping pattern of Faridpur region	150
2.	Hybridization (Breeding for shallow flooded Deep water rice) (Boro, 2017-18)	Generation of improved genotypes in combination with slow elongation and high yield for shallow flooded deep water sub-ecosystem (flood water depth 0.5-1.25)	100
3.	Advancement of generation through F RGA (Breeding for shallow flooded Deep water rice) (Boro, 2017-18)	Advancement of F_3 generation for getting improved genotypes in combination with slow elongation and high yield for shallow flooded deep water sub-ecosystem (flood water depth 0.5-1.25 m)	150
4.	Advancement of generation through F RGA (Breeding for developing high yielding rice varieties for single Boro cropping pattern) (T. Aman, 2017; Boro, 2017-18)	Advancement of F_3 & F_4 generation for getting breeding population with higher yield potential, tall plant along with earliness and acceptable grain quality for single Boro cropping pattern of Faridpur region	200
5.	Proposed Variety trial (PVT)-RLR (T. Aman, 2017)	On farm evaluation of proposed line by the NSB team for the recommendation of release as a new variety in T. Aman season	100
6.	RYT for Monibandobi genotype, a local low input variety of rice (T. Aman, 2017)	To evaluate specific and general adaptability of the genotypes under BRRI R/S Bhanga	100

7.	Stability analysis of BRRI released varieties (T. Aman, 2017)	Stability analysis of BRRI released modern rice varieties in Aman season at BRRI R/S, Bhanga, Faridpur	200
8.	Identification of potential rice variety in Wheat/Onion-Jute-Relay Aman cropping pattern under shallow deep water rice ecosystem (2017-18)	i. To identify the potential rice variety in Wheat-Jute-Relay Aman cropping pattern ii. To increase the total productivity of the Wheat-Jute-Relay Aman cropping pattern	200
9.	Proposed Variety trial (PVT)-Boro (Boro, 2017-18)	On farm evaluation of proposed line by the NSB team for the recommendation of release as a new variety in Boro season	100
10.	Regional Yield Trials in Boro, 2017-18	To evaluate specific and general adaptability of the genotypes under BRRI R/S Bhanga	1,000
11.	Stability analysis of BRRI released varieties (Boro, 2017-18)	Stability analysis of BRRI released modern rice varieties in Boro season at BRRI R/S, Bhanga, Faridpur	200
12.	Effect of nitrogen and potassium management on growth and yield of short duration T. Aman rice (T. Aman, 2017)	To find out the effect of nitrogen and potassium management for yield maximization	150
13.	Nitrogen management of BRRI Hybrid dhan5 by BRRI prilled urea applicator (Boro, 2017-18)	To find out how much urea fertilizer saved by BRRI prilled urea applicator over hand broadcasting and USG application in hybrid rice	150
14.	Dissemination of newly released BRRI varieties in T Aman and Boro seasons in greater Faridpur region (T. Aman, 2017; Boro, 2017-18)	To demonstrate the performance of newly released BRRI varieties in the farmers' fields	1,000
Total amount (Tk. Thirty eight lakhs only)			3,800

BRRI R/S, Comilla

Proposed Research Programme 2017-2018

Sl.	Experiment	Major Objectives	Annual

#			Budget ('000 Tk)
Program Area 01: Varietal Development Program (BRRI R/S Program) (Yield 4.5 t/ha T Aus, 5.5/ ha T Aus			
1	Advanced Yield Trial (AYT) Comilla 5 entries and 1 local check	Evaluation of advanced lines for adaptability and suitablility for Comilla.	20
2	Proposes Variety Trial (PVT) (Comilla Region) 2 genotype (Hills 1) and 1 check	Final evaluation of the trial by Field Evaluation Committee of National Seed Board (NSB) to find out potentiality and adaptability in farmers' field for development of variety suitable for Comilla region	30
Program Area 01: Varietal Development Program (BRRI R/S Program) (Yield 5.5 t/ha T Aus, 6.5/ ha T Aus			
3	Hybridization 33 parents will be used	To introgress genes from diverse genetic background for the improvement of standard varieties	30
4	F_1 confirmation 26 crosses	Confirmation of crosses with introgression of genes for earliness, colored grain, clustered grain, strong stem and long panicle	20
5	Growing of F_2 population 37 crosses	To select progenies with emphasis on earliness, plant type, grain type, no. of effective tiller and high yield potential than the standard varieties	20
6	Pedigree Nursery- Sixty five crosses consisted of 212, 287, 177, 262 & 10 progenies respectively in F_3, F_4, F_5 F6 & F7 progenies.	*To select progenies from the segregating populations with emphasis on plant type, earliness, grain type, grain colour, tolerance to lodging and good in phenotype over the standard varieties*	50
7	Observational trial (OT) 30 entries and 4 checks	To select genetically fixed lines with uniform plant height, heading, plant type, and grain type along with high yield potential.	20
8	Preliminary Yield Trial (PYT) Comilla (selected from TRB trial)	Initial yield evaluation and selection of desirable lines compared to standard checks	20

	14 entries and 2 checks		
9	Preliminary Yield Trial (PYT) Comilla (selected from OT com) 11 entries and 2 checks	Initial yield evaluation and selection of desirable lines compared to standard checks	20
10	Secondary Yield Trial (SYT) Comilla (selected from TRB trial) 12 entris and 4 checks	Confirmation of yield evaluation in a replicated trial and selection of desirable lines compared with standard check	20
11	Secondary Yield Trial (SYT)#1(selected from PYTcom and SYTcom) 3 entries and 4 checks	Confirmation of yield evaluation in a replicated trial and selection of desirable lines compared with standard check	20
12	Advanced Yield Trial (AYT-) Comilla (selected from HQ Trial) 4 entries and 1 check	Evaluation of advanced lines for adaptability and suitablility for Comilla.	20
13	Advanced Yield Trial (AYT) Comilla 5entries and 1 local check	Evaluation of advanced lines for adaptability and suitablility for Comilla.	20
14	Advanced Yield Trial#1com RLR(AYT # 1 Com) 6 entries and 3 check (repeat)	Evaluation of advanced breeding lines for development of variety suitable for Comilla region.	20
15	Advanced Yield Trial #2 AYT #2 (RLR) 4 entries and 1 check	Evaluation of advanced breeding lines for development of variety suitable for Comilla region.	20

	(AYT#2RLR , AYT#3 PQR, AYT RLR Farmers field respectively 2,1,1		
16	Advanced Yield Trial#3comPQR (AYT # 3 Com) 4 entries and 1 check (repeat)	Evaluation of advanced breeding lines for development of variety suitable for Comilla region.	20
17	Advanced Yield Trial (AYT) AYT #6 (Stagnant water) 6 genotypes along with 1 check	Evaluation of advanced breeding lines for development of variety suitable for Comilla region.	20
18	Evaluation of GSR-MST 15 genotypes along with 01 check	Evaluation of the lines	30
19	Evaluation of GSR - Super Yield 31 genotypes along with 01 check	Evaluation of the lines	20
20	Magic Trial 120 entries and 2 checks	Confirmation of yield evaluation in a replicated trial and selection of desirable lines compared with standard check	20
21	Breeder seed and TLS production BR22, BRRI dham32, BRRI dham48, BRRI dhan49,BRRI dham62 & BRRI dhan75	To increase of breeder seeds and TLS of T.Aman varieties in season with target amount.	20
22	Display of T. Aman varieties Varieties 36	Demonstration of farmer & visitors	20
Programmme Area 02: Crop Soil Water Management (BRRI R/S Comilla owm Prog)			
23	Effect of N P Nad	1.To quantify rice yield responses to fertilizer	80

	K and ZN and S and their omission on grain yield of BRRI released varieties Variety BRRI dhan62 and BRRI dhan75	application 2.To determine the optimum doses of N,P,K,S and Zn and effect of missing element	
24	Effect of N rates on the grain and straw yield of newly released variety BRRI dhan75	1. Determine nutrient deficiency problems in soil through missing elements techniques. 2. To see long-term yield trend of rice under different nutrients managements 3. To evaluate the effect the changes in soil physical, chemical and biological properties under long-term fertilization	60
25	Soil fertility scenario of BRRI Comilla farm	To know soil fertility status of BRRI farm and possible recommendation	60
Programmme Area 04: Pest Management (BRRI R/S Comilla-own prog.)			
26	Survey and monitoring of rice diseases in Comilla region	To investigate preent status of different rice diseases in different climatic environment	50
27	Integrated rice false smut disease management	To find out effective control measure option of the disease To understand the epidemiology of the disease To know the effect of N on disease progress.	50
28	Evaluation of advanced breeding lines against Tungro disease in BRRI farm at Comilla	To check the resistance to tungro disease in Bangladesh condition and to evaluate the yield potential	30
Programmme Area 05: Technology Transfer (BRRI R/S own prog)			
29	Variety demonstration and training (BRRI dhan75, BRRI dhan 70, BR62, BRRI BRRI dhan72)	To increase quality seed and demonstrate newly released varieties	250
30	Variety dissemination (BRRI dhan75) Only seed help	To increase quality seed and demonstrate newly released varieties	50

Program Area 01: Varietal Development Program (HQ) T. Aus			
31	Observational trial-BB (OT-BB) 16 entries and 2 check TRB	To select genetically fixed lines with uniform plant height, heading, plant type, and grain type along with high yield potential	20
32	Preliminary Yield Trial-BB (PYT-BB) 16 entries and 2 checks TRB	Initial yield evaluation and selection of desirable lines compared to standard checks	30
33	Regional Yield Trial-1BB (RYT-1BB) 14 entries and 2check TRB	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
34	Regional Yield Trial-2BB (RYT-2BB) 9 entries and 2 check TRB	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
35	Regional Yield Trial-Biotech 7 entries and 1 check	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
Program Area 01: Varietal Development Program (HQ) T. Aman			
36	Observational trial (OT)-BB 20 genotypes along with 2 checks TRB	To select genetically fixed lines with uniform plant height, heading, plant type, and grain type along with high yield potential.	20
37	Preliminary Yield Trial (PYT)BB 5 genotypes with 3checks TRB	Initial yield evaluation and selection of desirable lines compared to standard checks	30
38	Preliminary Yield Trial (PYT)-Favorable	Initial yield evaluation and selection of desirable lines compared to standard checks	30

	16 genotypes with 2 checks TB		
39	Preliminary Yield Trial (PYT)-Drought 14 genotypes with 3 checks TRB	Initial yield evaluation and selection of desirable lines compared to standard checks	30
40	Regional Yield Trial (RYT)-1 Favourable 10 genotypes with 2 checks TRB	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
41	Regional Yield Trial (RYT)-2 Favourable 6 genotypes with 2 checks TRB	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
42	Regional Yield Trial (RYT) Drought 6 genotypes with 2 checks TRB	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
43	Regional Yield Trial (RYT) BB 9 genotypes with 3 checks TRB	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
44	Regional Yield Trial (RYT-RLR-1) 11 genotypes with 2 checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
45	Regional Yield Trial (RYT-RLR-2) 7 genotypes with 2 checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
46	Regional Yield	Evaluation of the breeding lines for yield potential	30

	Trial (RYT-ZN) 6 genotypes with 4 checks	and adaptability test under different agro-climatic conditions of Bangladesh	
47	Regional Yield Trial (RYT-Insects) 6 genotypes with 2checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
48	Regional Yield Trial (RYT-Disease) 9 genotypes with 3checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
49	Regional Yield Trial (RYT-PQR-1) 7 genotypes with 2 checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
50	Regional Yield Trial (RYT-PQR-2) 10 genotypes with 1checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
51	Regional Yield Trial (RYT-GSR) 3 genotypes with 1 checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
52	Secondary Yield Trial (SYT-GSR) 7 genotypes with 2checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
53	Regional Yield Trial (RYT-High Yield) 3 genotypes with 4 checks	Evaluation of the breeding lines for yield potential and adaptability test under different agro-climatic conditions of Bangladesh	30
54	Proposed Variety Trial (PVT) RLR 2 genotypes with 2 checks	Evaluation of promising genotypes by field evaluation of NSB team for releasing as a new variety	40
55	Proposed Variety Trial (PVT) Biotech	Evaluation of promising genotypes by field evaluation of NSB team for releasing as a new	40

	1 genotypes with 1 checks	variety	
Programmme Area 05: Socil-Economic and policy (HQ)			
56	Stability Analysis of BRRI Varieties in Aman Season	Evaluation of BRRI developed T. aman varieties to determine the stabiliComilla)ty index.	30

BRRI R/S, Habiganj

Proposed Research programme 2017-2018

Sl. No.	Programme area/ project with duration	Major objectives	Annual budget (Thousand Tk)
Varietal Development			
Deepwater rice improvement, Deepwater Aman 2017			
01	Preliminary Yield Trial	To evaluate yield and ancillary characters of advanced lines in shallow flooded condition	100.00
02	Secondary Yield Trial	To evaluate promising genotypes in natural shallow flooded condition	100.00
03	Advanced Yield Trial	On-farm verification of yield and other agronomic characters of advanced lines	100.00
T. Aman rice improvement programme			
05	Hybridization	Introgression of submergence tolerant genes into modern genetic backgrounds along with short growth duration, cold tolerant at flowering stage and acceptable grain quality.	100.00
Improvement of aerobic Aus rice			
06	Growing F_4 Population	F_5 population will be selected for developing high yield potential T Aus lines	100.00
2.Crop-Soil-Water Management Program			
01	Phosphorus availability in upland and lowland acid piedmont rice soil	To assess the phosphorus dynamic, balance, critical P value and the crop yield response in acid piedmont soil.	50.00
02	Long-term missing element trial for diagnosing the limiting nutrient in soil.	To identify the yield limiting nutrient if any in the soils of BRRI Habiganj farm.	60.00
03	Survey and diagnosis of nutrient deficiencies and toxicities in rice soils at Sylhet region.	To identify the nutrient deficiencies or toxicities in rice soils at farmers level and to mitigate the soil problem for increasing rice yield.	120.00
04	Fertilizer management for promising deep water	To select better fertilizer management option for deep water rice	40.00

	lines.		
05	Effect of different planting dates on yield and yield components of BRRI dhan62.	To determine the best planting date on yield and yield components of BRRI dhan62	40.00
06	Yield maximization through INM practices in T. Aman season.	To increase rice yield in double rice area through INM and to maintain soil fertility	80.00
07	Demonstration of Wet-Direct seeding crop establishment technique	To reduce irrigation and labour cost To overcome the labour shortage problem during transplanting time To reduce growth duration for escaping early flashflood	50.00
08	Demonstration of Dry-direct seeding crop establishment technique	To overcome the early flashflood pressure to the newly transplanting seedling	50.00
3. Pest Management Programme			
Survey and Monitoring Rice Insect pests			
01	Insect pests monitoring at BRRI Farm, Habiganj	To study the insects and their natural enemy incidence at BRRI Farm and to create a database to develop forecasting system	100.00
02	Incidence of insect pests and natural enemies in light traps	To study the insect pest and their natural enemy incidence at BRRI farm Habiganj and to create a database to develop a forecasting system	50.00
03	Survey of rice insect pests in Sylhet Region	To find the incidence pattern of major rice insects in Sylhet region and to examine relationship between biotic and abiotic factors on their abundance	100.00
Biological control of rice insect pests			
04	Conservation of natural enemies through ecological engineering approaches	To conserve natural enemies through different ecological engineering approaches	200.00
05	Perching as tools for insect management	To know the effects of perching on insect pests and it's natural enemies	100.00
4. Rice Farming System			
01	Validation of rice fish culture in low-land areas for increasing farm productivity.	To increase total farm productivity and to compare the yield of fish cultured rice with mono cultured rice.	150.00
02	Productivity increase through improved Aroids –T. Aman cropping pattern.	To increase crop production in the cropping pattern and to increase farmer's income.	80.00

5. Technology Transfer			
01	Demonstration of newly released Aus, T.Aman and Boro varieties	To demonstrate the performance of newly BRRI released Aus, T. Aman and Boro rice varieties to the farmers field	300.00
02	Farmers' training and Field days for Aus, T. Aman and Boro	To deliver the knowledge about the modern rice cultivation techniques to the farmers	300.00

BRRI R/S, Station, Kushtia
Proposed Research Program 2017-2018

Sl. No.	Program area/Project with duration	Major Objectives	Annual Budget Thousand Tk.
1	Study on the performance evaluation of Ganges-Kobadak (G-K) irrigation project after six decades of its initialization	i) To investigate the present actual irrigation coverage ii) To identify constraints of the project and iii) To make some recommendations for better performance based on constraints analysis	100
2	Optimization of irrigation water for maximum year round production (new)	i) To determine water requirement for different cropping pattern ii) To find out suitable cropping patterns based on Boro and Braus iii) To compare the cost-benefit ratio for different patterns	200
3	Demonstrations of newly released BRRI varieties (GOB and SPIRA Project)	To disseminate and popularize the varieties among the farmers at Kushtia region	100

BRRI R/S, Rajshahi
Research Program for 2017-18

Sl. No.	Program area/Project with duration	Major Objectives	Annual Budget Thousand Tk.
1	Soil fertility assessment at BRRI Rajshahi farm soil	To quantify the fertility level at BRRI Rajshahi farm soil	100

2	Nutrient management for growing three crops in a year	-To increase crop production, -To maintain soil fertility and improve nutrient	200
3	Nitrogen Management in drought tolerant rice varieties at drought prone area	To observe the effect of USG on grain yield in drought prone area	100
4	Validation of BRRI released drought resistant varieties under drought ecosystem	Evaluation of BRRI released drought resistant varieties for testing their yield adaptability under drought ecosystem	125
5	Performance of drought tolerant rice varieties under different establishment methods and moisture conservation techniques	To observe the efficacy of Pusa Hydrogel on growth and yield of drought tolerant rice variety in drought-prone ecosystem	150
6	Response of different inorganic and organic chemical foliar application and seed priming to rice variety on their tolerance to drought	To observe the effect of different inorganic and organic chemical foliar application and seed priming to rice varieties on their tolerance to drought	80
8	F_1 Confirmation, T. Aman 2017	To confirm F_1 s as true crosses	50
9	Growing of F_3 generation during T. Aman 2017	Selection of desirable segregates with emphasis on earliness, strong culm, high yield potential and disease & insect resistance at field condition	50
10	Advanced Yield Trial-AYT#1 water saving materials, T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability under low water condition and grain yield potentials	90
11	Advanced Yield Trial-AYT#2 (IIRON) materials, T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability and grain yield potentials	100
12	Advanced Yield Trial-AYT#3 (IRLON) materials, T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability and grain yield potentials	120
13	Advanced Yield Trial-AYT#1 (STRASA) materials T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability under drought condition, acceptable grain quality and grain yield potentials	130
14	Advanced Yield Trial-AYT#2 (STRASA) materials T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability under drought condition, acceptable grain quality and grain yield potentials	125

15	Advanced Yield Trial-AYT#3 (STRASA) materials T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability under drought condition, acceptable grain quality and grain yield potentials	130
16	Advanced Yield Trial-AYT#4 (STRASA) materials T. Aman 2017	Advanced evaluation of promising breeding lines for their phenotypic acceptability, adaptability under drought condition, acceptable grain quality and grain yield potentials	90
18	Survey and monitoring of rice disease in Rajshahi District	To investigate the present status of different rice diseases in different areas of Rajshahi district	125
20	Management of grain spotting in rice	To find out effective management practice for controlling grain spot disease	130
21	Effects of conservation agriculture based options and crop establishment methods under Aman rice-wheat-mungbean-cropping system	To determine the effect of conservation tillage and residue management options on productivity and profitability of Aman rice-wheat-mungbean cropping pattern	140
22	Effect of Crop Establishment Methods and Conservation tillage under Wheat-Jute-Aman and Onion-Jute-Aman rice System	To identify the extent of resource conservation and soil health due to strip/zero tillage system under wheat-jute+ relay Aman and onion-jute-relay Aman rice cropping pattern	110
23	Evaluation of Jute- T. Aman relay cropping pattern in Rajshahi in district	To observe the yield performance of T. Aman (BRRI dhan39) in Jute-T. Aman pattern at Rajshahi district	100
24	Seed Production and Dissemination Program	To disseminate our varieties	160
25	Farmers' training/ Field day	To train up farmers on updated modern rice cultivation technologies and to encourage them to adopt modern rice varieties	100

BRRI R/S, Satkhira

Proposed Research Program 2017-2018

Sl. No.	Program area/Project with duration	Major Objective	Annual Budget (Thousand Tk.)
01.	Effect of missing nutrient on Boro rice yield in saline and	To find out nutrient effect on Boro rice yield for saline and non saline	100

	non saline gher system	gher environment	
02.	Demonstration of Boro rice varieties for non saline gher	To disseminate suitable HYV Boro variety for non saline gher	100
03.	Demonstration of BRRI dhan67 for saline affected areas	To disseminate saline tolerant rice to the farmers' of saline affected areas in south-western coastal region	100
04.	Improvement the productivity of gher system	i) To increase total productivity and farm income ii) To diversify production system iii) To maximize the resource use efficiency	200
05.	Seed production and dissemination program (SPDP)	To disseminate BRRI varieties among the farmers of this region.	100
06	Stability Analysis of BRRI Varieties in Aus, Aman and Boro season	To explore the suitability of rice varieties in respective season	120
07.	Breeder seed production	To produce Breeder seeds of BRRI released promising varieties and supply to GRS Division, BRRI Gazipur	80
08.	Truthfully labeled seed production	To produce truthfully labeled seed as per regional and national demand	200
09.	Field days and farmers' training	To disseminate and popularize BRRI varieties and rice production technologies	400
10.	Yield maximization of Boro rice in saline coastal area through nutrient management	To find out suitable potassium and nitrogen dose for saline affected area	100
11.	Evaluation of different cropping patterns in south-western coastal saline region	i) To identify suitable cropping pattern ii) To diversify production system iii) To intensify crop production and farm income	100
12.	Validation of T. Aman rice varieties for stagnant water ecosystem	To identify suitable T. Aman rice varieties for stagnant water ecosystem.	100
13.	Validation of T. Aman rice varieties for integrated rice-fish system	To identify suitable T. Aman rice varieties and intensify the total production	100
14.	Validation of short duration T. Aman rice varieties for intensive agriculture	To identify suitable T. Aman rice varieties for high cropping intensive area	100
15.	Development and evaluation of four-crop cropping pattern and sustainability	i) To increase total productivity of unit area per year by increasing cropping intensity ii) To compare the sustainability of four-crop cropping pattern with that of three-	200

		crop cropping pattern in terms of soil health and profit	

BRRI R/S, Sonagazi

Proposed Research Program 2017-18

Sl. No	Programme area/Project with duration	Major Objective	Annual Budget (Thousand Tk)
1.Varietal Development			
1.1	Regional Yield Trial (RYT) during Aus 2017, T. Aman 2017 & Boro, 2017-18	To evaluate the specific and general adaptability of selected genotypes under on-station condition.	1500
1.2	Proposed Variety Trial (PVT) during Aus 2017, T.Aman 2017 & Boro 2017-18	Evaluation of promising genotypes by field inspection of NSB team for releasing as new variety.	128
1.3	Germplasm collection during Aus, Aman and Boro seasons.	Enrichment of gene bank.	150
1.4	Production of Breeder seed during T.Aman, 2017 & Boro,2017-18.	To produce breeder seeds with a target amount by field inspection of SCA accroding to the requisition of GRS division.	840
2. Crop-Soil-Water management			
2.1.	Development of low cost production package for Boro rice in south-east coastal region.	i) To study the yield performance of BRRI dhan28 in different low cost production techniques. ii) To study the over head cost of production in different production techniques. iii) To suggest a location specific low cost production package for south east coastal region.	50
2.2.	Selection of profitable crop after T. Aman harvest for Laxmipur, Noakhali and Feni districts.	i) To study the production cost of different possible and easily cultivated crops after T. Aman harvest. ii) To suggest the farmers a best crop combination considering the existing practice.	50

Sl. No	Programme area/Project with duration	Major Objective	Annual Budget (Thousand Tk)
3. Pest Management			
3.1.	Studies on the efficacy of different fungicides for controlling false smut disease	To determine the efficacy of different fungicides on the management of false smut disease available in the market.	40
3.2.	Survey and monitoring of rice diseases in Chittagong Hill Tracts Regions.	To find out the distribution, incidence and severity of major rice diseases in Hilly rice eco-system.	140
3.3.	Incidence of insect pests and natural enemies in light trap.	To study the pest and their natural enemy incidence patterns in rice fields and to create a database	10
3.4.	Effect of new fungicides on the management of neck blast disease	To determine the efficacy of different fungicides on the management of rice blast disease	30
4. Technology Transfer			
4.1.	Seed Production and Dissemination Program (SPDP) in different seasons.	i. To enhance adoption and dissemination of BRRI released varieties. ii. To get feedback information from the farmers' and DAE personnel about the demonstrated varieties.	500
4.2.	Farmers' training on modern rice production technology (Rice School)	i. To train the farmers on different aspects of modern rice production methods. ii.To improve the farmers' knowledge and skill on modern rice production technologies. ii. To create farmers' awareness about recently developed technologies.	340
4.3.	Field day	i. To create awareness and interest among farmers, local leaders, elite persons, NGO workers and DAE personnel about BRRI varieties and technologies. ii. To promote dissemination and get feedback about BRRI	450

		technologies from farmers.	
4.4.	Agricultural fairs/exhibition.	i. To share knowledge with other agricultural organizations regarding rice production techniques. ii. To strengthen Research-Extension linkage.	100
4.5.	Production and on payment distribution of Truthfully Labeled Seed (TLS)	Enrichment of own seed stock and to contribute for rapid dissemination of BRRI released rice varieties.	300

Regional Station, Rangpur

Proposed Research Programme 2017-2018

SL#	Name of the experiment	Objectives	Budget & Source (Lac Taka)
	T. Aman 2017		
1.	**Breeding for submergence and water stagnation tolerance**		
	i)Growing and Screening of pedigree population	i)Selection of submergence and medium stagnant water tolerant progenies with improved plant type under controlled stressed condition	STRASA, BMGF
	ii) Participatory Variety Selection (PVS) - Mother trial under rainfed and control conditions	ii) Evaluation of genotypes in the rainfed and control environment with the participation of farmers under the management practices of researchers	STRASA, BMGF
	iii) Advanced Yield Trial (AYT), Submergence and water stagnation tolerance	iii) Advanced evaluation of promising breeding lines in replicated trial under flash and water stagnation prone farmers' field condition	STRASA, BMGF
2.			
	i)Hybridization	i) To introgress genes from diverse genetic background for earliness, tolerance to submergence, drought with acceptable grain quality and high yield	0.2, GOB
	ii) F_1 Confirmation	ii) Confirmation of crosses as true F_1	0.2, GOB
3.	Observational Trial (OT) of BRRI dhan49 NILs and NPT	Selection of homogeneous breeding lines with uniform plant height, heading,	0.2, GOB

		acceptable grain quality having high yield potential with good plant type and free from false smut infestation	
4.	Preliminary Yield Trial (PYT) of BRRI dhan49 NILs # 1, 2 and 3	Initial yield evaluation of advanced lines in a replicated trial under rainfed condition	0.5, GOB
5.	Preliminary Yield Trial (PYT) of NPT	Initial yield evaluation of advanced lines in a replicated trial under rainfed condition	0.1, GOB
6.	Regional Yield Trial (RYT) for high yielding rice (From HQ)	To test the yield potential and adaptability of advanced lines for Rainfed lowland Rice in T. Aman season	1.0, GOB
Crop Soil Water management, RFS and others:			
7	Effect of Crop Establishment Methods and Nutrient Management on the Performance of BRRI Newly develop Boro, T Aus and T. Aman varieties at Rangpur region.	1. To study the effect of crop establishment Methods on yield and yield contributing factors of BRRI dhan63, BRRI dhan48 and BRRI dhan 71 in Boro, T Aus and T. Aman season respectively. 2. To study the effect of nutrient management on yield and yield contributing factors of BRRI dhan63, BRRI dhan48 and BRRI dhan 71.	0.2
8	Productivity improvement of Rice under different cropping pattern through improve Agronomic management	To find out and recommend the appropriate crop management of different cropping pattern for obtaining potential yield for Rangpur region	0.2
9	Evaluation of BRRI dhan48 as Early Aus rice in Potato - Boro - T.Aman cropping system in medium highland irrigated ecosystem	1. To find out suitability of BRRI dhan48 as early aus season 2. To find out appropriate seedling age of rice after potato	0.2
10	Long-term missing element trial at BRRI regional station farm in Rangpur Long-term missing element trial at BRRI regional station farm in Rangpur	To study the effect of long term nutrient omission on rice yield and soil nutrient status	0.2
11	Effect of Organic (Vermi compost) and Inorganic fertilizer on fine rice yield and quality at Rangpur region in T. Aman season	1. To study the effect of varmi compost for the improvement of yield and quality of fine rice during Boro season 2. To find out and	0.2

		recommended fertilizer management for quality fine rice production for Rangpur region.	
12	Effect of time of submergence on survival, recovery and yield of submergence tolerance genotypes. Effect of time of submergence on survival, recovery and yield of submergence tolerance genotypes.	To observe the effect of time of submergence in early growth stage (seedling establishment stage) on the performance crop.	STRASA
13	Advancement of T Aman promising line for Rangpur region through extrapolating the yield potentiality by superior Agronomic management	To find out better performing T Aman line for Rangpur region	.15
	Boro 2017-18		
14.			
	i)Hybridization	i) To develop high yielding genotypes with earliness, tolerant to cold, disease & insect and acceptable grain quality	0.2, GOB
	ii) F_1 Confirmation	ii) Confirmation of crosses as true F_1	0.2, GOB
15	Regional Yield Trial (RYT) for high yielding rice (From HQ)	To test the yield potential and adaptability of advanced lines for Boro season	1.0, GOB
16	Research program under TRB, Aus, Aman and Boro	Objectives of TRB project	TRB