

Research Planning Meeting of LSTD Project

Organized by LSTD Project, BRRI, Gazipur
 Venue: BRRI Training Complex, BRRI, Gazipur
 Date: 27 November 2023

Proposed Research Program(s) for LSTD Project

SI No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
1.1	Agronomy	MKA Bhuiyan; CI: Z I Baki, R. Shultana. Tahmina Akter	Rice growth stage-based agronomic management for raising productivity in salt-affected area	To increase rice yield with rice growth stage-wise agronomic management	5	Rice growth stage based Appropriate agronomic management will be find out in different places and ecosystems of saline area	Patuakhali and Khulna (In each district 2 upazilla)	106.5 (for 14 expt)
1.2		M.K.A. Bhuiyan, ZI Baki , MM Rana and Tahmina Akter	Effect of seed and seedling priming with zinc on seedling establishment growth and yield of rice in saline soil	To determine the effect of primed seed and seedling to rice establishment and yield.	5	Seed and seedling priming will increase rice establishment and will increase grain yield of rice in saline condition		
1.3		M.K.A. Bhuiyan, ZI Baki , MM Rana and Tahmina Akter	Eco-friendly fertilizer management for salt affected area for raising productivity of rice	i) To identify suitable amendment for saline soil in Aman and Boro season ii) To reduce salinity in the field iii) To increase land productivity	5	Eco friendly fertilizer management with organic and inorganic sources will improve soil salinity condition	Patuakhali, and Khulna	

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1.4		M.K.A. Bhuiyan, CI: ZI Baki , MM Rana and Tahmina Akter	Productivity of rice varieties under different nitrogen management practices in the salinity-prone area	1. To find out varietal performance under different nitrogen management practices. 2. To find out efficient nitrogen management practices for saline area	5	Appropriate N management for saline soil will be find out in different places and ecosystems of saline area to avoid N losses	Patuakhali and Khulna	
1.5		PI: MKA Bhuiyan; CI: Z I Baki, R. Shultana and M M Rana	Yield Performance of BRRI hybrid dhan under researcher management and farmer's management in saline-prone area	To find out the best agronomic and fertilizer management for hybrid rice in saline area and to increase the productivity of hybrid rice	5	Appropriate management of hybrid rice for saline soil will be find out in different places and ecosystems of saline areas to maximize hybrid yield	Patuakhali and Khulna	
1.6		MKA Bhuiyan; CI: Rumana Akter, ZI Baki,	Effect of seedling age and transplanting date for improving grain yield in nonsaline tidal flooded ecosystem in Bangladesh	1.To optimize seedling age of local and HYVS rice for higher grain yield 2.To improve grain yield of local and HYVs in tidal floodplain ecosystem Methodology	5	Optimum seedling age and transplanting will increase grain yield of rice in tidal floodprone ecosystem.	Patuakhali	
1.7		MKA Bhuiyan; CI: Rumana Akter, ZI Baki,	Growth and yield of Tidal Aman rice as influenced by improved agronomic management	Increasing grain yield and farm income during aman season in the tidal flooded ecosystem.	5	Improve agronomic management will increase grain yield of rice in tidal flood-prone ecosystem.	Barishal, Borguna, Jhalokati, Bhola, Patuakhali, and Pirojpur	

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1.8		MKA Bhuiyan	Theme-2: Cost effective and sustainable integrated weed management in rice in the farmers field	To determine cost - effective weed management techniques in the farmers' field	5	Cost effective and site-specific weed management will be findout in different season	Patuakhali and Khulna	
1.9		MKA Bhuiyan	Cost effective and sustainable integrated weed management in rice by late post emergence herbicide in the farmers field	1.To determine cost - effective weed management techniques in the farmers' field 2.To evaluate efficacy of new molecule herbicide which is less toxic	5	Cost effective and site-specific weed management will be find out in different season	Patuakhali and Khulna	
1.10		MKA Bhuiyan	Sustainable and cost-effective weed management in direct seeded Aus rice	i. To determine cost - effective weed management techniques in the farmers' field in direct seeded aus rice ii. To evaluate the efficacy of new molecule herbicide which is less toxic in Aus season.	5	Cost effective and site-specific weed management will be find out in direct seeded Aus rice	Patuakhali and Khulna	
1.11		MKA Bhuiyan	Field survey on weed diversity in coastal regions of Bangladesh	1. To know the weed management option and to formulate recommendation of standard herbicides with appropriate doses in different ecosystem.	5	Weed dominance ranking will be find out in climate change situation.		

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				<p>2. To formulate a weed database with major or minor weeds in rice ecosystem.</p> <p>3. To investigate the distribution and severity of weed flora prevailing in different agricultural rejoins</p> <p>4. Identify emerging weed problems and directions for further research and development for improved weed management in upland and lowland rice.</p>				
1.12		MKA Bhuiyan	Exp.5. Assessment of potential and actual yield loss in rice due to weed infestation rice field of coastal region	<p>1.To find out the actual yield loss in farmers level of Bangladesh due to improper weeding.</p> <p>2.To find out the potential yield loss in different locations of Bangladesh</p>	5	Actual scenario of yield loss by weeds in rice field will be find out		
1.13		MKA Bhuiyan	Demonstration of BRRI modern rice	To motivate farmers to cultivate BRRI's high-yielding varieties with	5		Patuakhali and Khulna	

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			varieties in farmers' field	optimum agronomic and fertilizer management				
1.14		PI : Dr. Md Zakaria Ibne Baki CI: Shah Ashadul Isam, Dr Habibul Bari Shozib	Molecular genetic characterization of soil microbial community and activity caused by the application of pre-emergence and post-emergence herbicide by next-generation sequencing (NGS)	<ul style="list-style-type: none"> ➤ To evaluate the changes in the microbial community and activity after the application of herbicide ➤ To investigate the microbial population shifting during the rice growth period ➤ To find out their relationship with the soil and environmental factors. 		<ul style="list-style-type: none"> ❖ The community composition and diversity of the microbial communities will be identified ❖ The total number of soil microbial population would be counted ❖ Genus and Species levels of the microbial communities will be identified ❖ Microbial shifting during the rice growth period will be analyzed 		67.5
1.15		Dr. Md. Zakaria Ibne Baki, Senior Scientific Officer, Agronomy Division, BRRI, Gazipur-1701 CI: Dr. Md Khairul Alam	Expt.1: Development of coastal rice production package through sustainable agronomic management practices	<ol style="list-style-type: none"> 1. To increase rice production through sustainable agronomic management practices in coastal areas 2. To improve the soil health of coastal rice fields with modern agronomic management practices 	5	<ol style="list-style-type: none"> i. Eco-friendly and cost-effective sustainable rice production packages for coastal areas. ii. Appropriate fertilizer management practices for rice growth and yield iii. Improvement of soil health through sustainable Agronomic management practices 	Cox's Bazar and Khulna District	66 (For 4 expt)

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		Bhuiyan, Mostofa Mahbub		3. To develop coastal rice production packages				
1.16			Expt.2: Evaluation of new molecule-released herbicides for the yield maximization of coastal rice	To find out the efficacy of newly released herbicides in the coastal ecosystem	5	do	Cox's Bazar and Khulna District	
1.17			Expt.3: Determination of optimum planting time of BRRI developed modern rice varieties in coastal areas.	1. To determine the season-based optimum planting time of coastal rice growing area 2.To validate the BRRI developed modern rice varieties with the planting time		do	Cox's Bazar and Khulna District	
1.18			Expt.: Demonstration of BRRI modern rice varieties in farmers' field	To motivate farmers to cultivate BRRI's high-yielding varieties		?	Cox's Bazar and Khulna District	
1.19		PI: Zakaria Ibne Baki CI: KA Bhuiyan, Mostofa Mahbub	Hill experiments: Development of hill rice production package through sustainable agronomic management practices	1.To increase rice production through sustainable agronomic management practices in hilly areas 2.To improve the soil health of hill rice fields	5	i. Eco-friendly and cost-effective sustainable rice production packages for hilly areas. ii. Appropriate fertilizer management practices for rice growth and yield iii. Improvement of soil health through sustainable	Chattogram and Khagrachor i district	66

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				with modern agronomic management practices 3.To develop hilly rice production packages		Agronomic management practices		
1.20	Agronomy	PI: Amena sultana CI: N Akter	Fertilizer management for yield maximization of newly developed BRRI varieties in farmers field	1) To assess the soil nutrients status in variable lands of the study area 2) To assess the changes in soil nutrient contents with different fertilizer management 3) To find out the appropriate fertilizer management and area specific variety for yield maximization of rice in the farmer's field		1. Appropriate fertilizer management will be identified for yield maximization of rice in the farmer's field 2. Area specific variety for yield maximization of rice in the farmer's field	Tangail District	11.94
1.21		PI: MM Mahbub CI: MSh Islam	Exp.1. Cost effective weed management in farmer's field	To determine effective weed management technique in the farmers' field		?	Dekhar haor and Khorchar haor of Shantiganj, sunamganj	5.41 (for 5 Expt.)
1.22		PI: MM Mahbub CI: MSh Islam	Exp.2. Sustainable fertilizer management in farmers field for	To evaluate fertilizer management technique in the farmers' field for		?		

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			maximization of rice yield	maximizing rice production.				
1.23		PI: MM Mahbub CI: MSh Islam	Exp.3. Enhancing grain yield by optimizing time of planting in Hoar area for Boro varieties	1. To determine the effect of variable planting time on the phenology, growth and yield of rice varieties 2. To find out optimum time of planting for BRRI varieties in the upper and lower basin of a haor		?		
1.24		PI: MM Mahbub CI: MSh Islam	Exp.4. Yield loss assessment through seedling age for Haor area	To determine yield loss due to seedling age in the farmers' field		?		
1.25			Exp. 5. Demonstration of BRRI modern rice varieties in farmers' field	To grow interest in farmers to cultivate BRRI's high yielding varieties		?		
2.1	Agril. Economic Division	Dr. Mohammad	Assessing the impact of AWD demonstration on rice cultivation in	. I.To assess the water consumption patterns and	3	•	Dinajpur	

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		Chhiddikur Rahman	Bangladesh: Application of a randomized controlled trial (RCT) approach	<p>water use efficiency in rice cultivation through AWD compared to traditional continuous flooding in Bangladeshi agricultural settings.</p> <p>II.To investigate the socio-economic implications of adopting AWD techniques on rice farming households in Bangladesh, including changes in income, labor requirements, and overall livelihoods.</p> <p>III.To compare the cost-effectiveness of AWD adoption with traditional continuous flooding in rice cultivation in Bangladesh.</p> <p>IV.To understand the factors influencing the adoption and scaling-up of AWD practices among rice farmers in Bangladesh, including social, economic, and technological factors</p>				

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				<p>V.To explore the challenges and barriers faced by rice farmers when transitioning from traditional irrigation practices to AWD, and to identify potential solutions to overcome these obstacles.</p> <p>vi) To provide evidence-based recommendations for policymakers, agricultural extension services, and stakeholders on the widespread adoption of AWD techniques in rice cultivation, with a focus on Bangladesh</p>				
2.2		<p>Dr. Mohammad Chhiddikur Rahman Co-PIs: Md. Shajedur Rahaman, Dr. Mohammad Ariful Islam, and Md. Saiful Islam</p>	<p>Impacts of agricultural technologies adoption on household food and nutrition security: Evidence from rural Bangladesh</p>	<p>The specific objectives of the study are:</p> <p>I. To estimate the nutrition density and food security status of the average diet in rural Bangladesh.</p> <p>II. To assess the attitude, knowledge, perception, and preference of modern technology</p>	4	<p>1. Expected outcomes:</p> <p>a) Food and nutrition security status of rural households be identified.</p> <p>b) Factors of adopting modern agricultural technologies will be determined.</p> <p>c) Impact of modern agricultural technology adoption be measured.</p>		

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				<p>adoption by the rural household.</p> <p>III. To assess the impact of technology adoption on productivity, income, and food security.</p> <p>IV. To find out the impact of intensifying mustard on rice-based cropping system.</p> <p>V. To measure the marketable and marketed surplus of rice by the farm households.</p> <p>VI. Propose cost-effective interventions to popularize modern agricultural technologies at the farm level.</p>		<p>d) Impact of mustard intensification in the rice-based cropping system will be figured out.</p> <p>e) The marketable and marketed surplus of rice by the farm households be estimated.</p> <p>f) A cost-effective way of popularizing modern agricultural technology will be proposed.</p>		
2.3		Md. Shajedur Rahaman Co-PIs: Dr. Mohammad Ariful Islam, Dr. Mohammad Chhiddikur Rahman, and Md. Saiful Islam	Impact assessment of adopting solar-powered irrigation for rice production in Bangladesh	<p>a) To depict the socio-economic profile of solar irrigation adopters and non-adopters among Bangladeshi rice farmers.</p> <p>b) To assess the profitability of rice production on adapting and non-adapting farms.</p> <p>c) To compare the carbon dioxide emissions of solar-powered and diesel-</p>	3	<p>The following outcomes will be generated through the proposed program:</p> <p>✓ The socio-economic standing of Bangladeshi rice farm families with and without adopters of solar irrigation will be revealed.</p> <p>✓ The profitability and risk of solar irrigation systems for adopters and non-adopters will be assessed.</p>	Panchagarh , Dinajpur, Chapai Nawabganj, Gopalganj, Khulna, Tangail, Sylhet, Mymensing h, Nerokona, Chattogram	

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				<p>powered irrigation systems.</p> <p>d) To assess the economic and resource efficiency of adopted vs. non-adopted rice farms.</p> <p>e) To finds out farmers' production behavior and investigate the effect of solar-powered irrigation system on the cost of production,</p> <p>f) To assess the impact of the adoption of solar-powered irrigation</p> <p>g) Determine the factors influencing farmers' adoption and non-adoption behavior.</p> <p>h) To identify the constraints and opportunities of the adoption of solar-powered irrigation.</p>		<p>✓ A comparison of Carbon dioxide emissions from solar-powered and diesel-powered irrigation systems will be evaluated.</p> <p>✓ The economic and resource efficiency of adopted vs. non-adopted rice farms will be estimated.</p> <p>✓ The effect of adoption or non-adoption on irrigation costs and production costs will be determined.</p> <p>✓ The effect of solar-powered irrigation systems on the cost of production and factors that impact the demand for irrigation will be identified.</p> <p>✓ The impact of the adoption of solar-powered irrigation will be determined</p> <p>✓ Determinants of adoption and non-adoption will be identified.</p> <p>✓ Causes of dis-adoption or lag adoption of solar irrigation systems will be figured out.</p>	, Habiganj and Sirajganj	
2.4		Limon Deb	Livelihood Vulnerability and Food Security in the Haor Districts of Bangladesh	<ul style="list-style-type: none"> to assess the livelihood status of the haor farmers; to analyze the livelihood vulnerability of the haor farmers; 	4	Comprehensive Understanding of Haor Farmers' Livelihood Status: The study is anticipated to provide a detailed assessment of the livelihood status of haor farmers in	Sunamganj, Habiganj, Sylhet, Moulvibazar,	18.07

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				<ul style="list-style-type: none"> to study the calorie intake level of the sample households to assess food security status; to estimate food poverty index of the haor farmers and to direct the policy options toward a sustainable food security in the haor of Bangladesh 		<p>the selected districts. This will include insights into their income sources, expenditure patterns, and livelihood diversification.</p> <p>Identification of Livelihood Vulnerabilities: By utilizing the Livelihood Vulnerability Index (LVI), the research aims to identify the factors and conditions that render haor farmers vulnerable to various livelihood risks. This information will be invaluable in designing targeted interventions.</p> <p>Assessment of Food Security Status: Through the Food Consumption Score (FCS) and calorie intake measurements, the study will assess the food security status of the sampled households. This will help in understanding the prevalence of food insecurity in the Haor Basin.</p> <p>Estimation of Food Poverty Index: The application of the Foster-Greer-Thorbecke (FGT) index will enable the estimation of the food poverty index among haor farmers. This index will offer a</p>	Netrokona, Kishoreganj, and Brahmanbaria	

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						<p>deeper insight into the severity of food poverty in the study area.</p> <p>Policy Recommendations: The research is expected to yield policy options aimed at achieving sustainable food security in the Haor Basin. These recommendations will be based on the identified challenges and vulnerabilities, and they will provide guidance for relevant stakeholders, including government agencies and NGOs.</p> <p>Enhanced Knowledge of the Haor Basin: The study will contribute to bridging the information gap concerning the Haor Basin by offering a comprehensive overview of the livelihoods, food security, and vulnerabilities of the people in the region. This knowledge can serve as a foundation for further research and policy development.</p> <p>Informed Decision-Making: The findings of this study will empower policymakers, development organizations, and local authorities with data-driven insights to make informed</p>		

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						<p>decisions and allocate resources effectively to improve the livelihoods and food security of haor communities.</p> <p>Potential for Targeted Interventions: The research outcomes may highlight specific districts or areas within the Haor Basin that require more focused interventions, whether related to livelihood development, food assistance, or infrastructure improvements.</p> <p>Contribution to Sustainable Development Goals (SDGs): By addressing the issues of food security and livelihood development, this study aligns with the SDGs, particularly Goal 2 (Zero Hunger) and Goal 1 (No Poverty), and it has the potential to contribute to progress in these areas.</p> <p>Overall, the expected outcomes of this study will not only enhance our understanding of the challenges faced by haor farmers but also provide actionable insights to enhance food security</p>		

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						and livelihoods in this critical region.		
2.5		JUI	Adoption and Impact of Climate Resilient Rice Innovations on the Livelihood of Value Chain Actors	<ul style="list-style-type: none"> • to identify the key drivers of: (i) farmers adoption decisions, and (ii) the intensity of adoption of climate resilient rice innovations in Bangladesh • to map existing processes, benefits and constraints within the rice value chain and the additional vulnerabilities posed by climate change. • to sheds light on farmers' attitudes and motivations and on social pressure on their decision to continue or discontinue the practices. • to identify opportunities and obstacles of value chain actors for livelihood improvements • to suggest informed measures to build the resilience of the crop and its farmers to the impending impacts of climate change. 	4	Factors influencing adoption and intensity of adoption of climate resilient rice innovations will be identified. The constrains and obstacles faced by value chain actors due to climate change will be assessed. The impact of climate resilient rice technologies on the livelihood of value chain actors will be explored.	Khulna, Rajshahi, Rangpur and Mymensingh	

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3.1	ARD	ড. মো: হুমায়ুন কবীর ড. মো: রফিকুল ইসলাম, ড. মো: হুমায়ুন কবীর জনাব মুহাম্মদ হাবিবুর রহমান মুকুল ড. শামছুন্নাহার ড. আফরোজ জাহা জনাব খন্দকার খালিদ আহমেদ	Seed Production and Dissemination Program (SPDP)	১. মাঠ পর্যায়ে ব্রি উদ্ভাবিত আধুনিক ধানের জাতগুলোর আবাদ ও উৎপাদন বৃদ্ধি করা ২. উন্নত মানের বীজ উৎপাদন, সংরক্ষণ ও বিনিময়ের জন্য কৃষকদের উদ্ভুদ্ধ করা ৩. এলাকায় বীজ বিতরণের মাধ্যমে কৃষকদের পছন্দনীয় জাতগুলো সম্প্রসারণ করা ৪. আবাদকৃত ব্রি ধান সম্পর্কে কৃষকের মতামত গ্রহণ এবং পরবর্তী প্রয়োজনীয় ব্যবস্থা গ্রহণ	2	-	Tangail Mymensing g Netrokona Joypurhat	
4.1	Biotechnol ogy division	PI: Ripon Kumar Roy, CI: SM Hisam Al Rabbi, Nilufar Yasmin Shaikh, Md. Arafat	Development of Aus rice variety through anther culture	To develop Aus varieties adaptable across the country.	4	High-yielding Aus rice variety and advanced lines		

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		Hossain, Shampa Das Joya, Md. Sentu Rahman						
4.2		PI: Ripon Kumar Roy, CI: SM Hisam Al Rabbi, Nilufar Yasmin Shaikh, Md. Arafat Hossain, Shampa Das Joya, Md. Sentu Rahman	Development of Aman Rice for the favorable ecosystem through anther culture techniques	To develop Aman varieties for the favorable ecosystem	4	High-yielding Aman rice variety and advanced lines	Tangail, Dinajpur, Mymensingh, Kumilla, Feni, Farid, Gopalganj, Rajshahi, Khulna, Rangpur	
4.3		PI: Ripon Kumar Roy, CI: SM Hisam Al Rabbi, Nilufar Yasmin Shaikh, Md. Arafat Hossain, Shampa Das Joya, Md. Sentu Rahman	Development of Photosensitive Rice Through Anther Culture	i. To develop photosensitive rice having taller seedling capability suitable for the southern part of Bangladesh, especially the Barishal region ii. To develop photosensitive rice having the standard seedling capability suitable for the northern part of Bangladesh, especially the Rangpur region	4	At least one variety will be released		

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4.4		PI: Ripon Kumar Roy, CI: SM Hisam Al Rabbi, Nilufar Yasmin Shaikh, Md. Arafat Hossain, Shampa Das Joya, Md. Sentu Rahman	Development of Boro Rice for the favorable ecosystem using anther culture techniques	To develop high-yielding short-duration variety (140-145 days) having 8-8.50 t/ha yield suitable for across the country ii. To develop high-yielding Long-duration variety (155-160 days) having 9.00-10.00 t/ha yield suitable for across the country	4	At least two varieties will be released		
4.5		PI: Jannatul Ferdous CI's: Shahanaz Sultana, Md. Sentu Rahman, Umme Aminun Naheer and Nusrat Jahan	Development of high-yielding colored and low-amylose content rice for hill ecosystem	1. To evaluate specific and general adaptability of the colored doubled haploid line in different location of hilly area 2. To evaluate specific and general adaptability of the low amylose content doubled haploid lines in different location of hilly area 3. To determine nutrient uptake and fertilizer management of doubled haploid lines in hill ecosystem	4	High-yielding colored and low-amylose content rice variety/lines will be developed/improved Nutrient uptake ability and fertilizer requirements of newly developed doubled haploid lines of colored and low-amylose content rice will be determine		

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5.1	Entomology division		Rice insect pests management through climate smart integrated pest management (IPM) approach	To manage changing insect pest threats more effectively through BIRRI recommended practices and achieve more efficient, safe and resilient food production systems.	4 (2024-25 to 2026-27)	at least one transferable technology		43
5.2			Survey and monitoring of insect pests and natural enemies at different rice ecosystem.	To determine incidence and abundance patterns of insect pests and their natural enemies and create a data base of insect pests and natural enemies in the specific location.	4 (2024-25 to 2026-27)	at least one transferable technology) and outcome Insect pest and their natural enemy status will be known in specific location/region and that will help to plan IPM strategy for safe and healthy rice ecosystem		26.80
5.3			Screening of rice germplasm against major insect pests.	To identify resistant sources materials against major rice insect pests and help development of resistant varieties	4 (2024-25 to 2026-27)	at least one transferable technology) and outcome: Resistant germplasm materials will be identified that will help to characterize it for future resistant variety development.		29.50
6.1	WMM	PI: Dr. Mohammad Afzal Hossain; CI: Dr. MD Huda, Dr. MA Hossen	Design and development of a dryer for small farm holders	to design and develop a portable dryer for small farm holders • to evaluate the performance of the developed dryer	5	A portable dryer will be developed for small farm holder		60
7.1	GQN Division	PI: Md. Rubel Akanda	Formulation of rice-based weaning food	1. Baseline dietary survey (6 months to 2 years child)	5	1. Modification/diversification of rice-based weaning formula		69.0

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		CI: Shakir Hosen, Habibul Bari Shozib, Tapash Kumar Sarkar, Nilufa Ferdous, Sharifa Sultana Dipti and Md. Anwarul Haque	from released BRRI High Yielding Varieties (HYVs)	<p>of middle and low-income families in rural and urban populations for nutrient intake and weaning practices in Bangladesh.</p> <p>2. Method development and validation of prebiotics production from Bangladeshi indica rice.</p> <p>3. Product development and appropriate formulation for weaning food of Bangladeshi children.</p> <p>4. Nutrient analysis of BRRI-developed weaning food.</p> <p>5. In vivo animal experiment for toxicity and allergic analysis of BRRI-developed weaning food.</p> <p>6. Product validation of BRRI-developed weaning foods through sensory evaluation in the association of INFS, University of Dhaka, BNNC, ICDDR, IPH, BMRC.</p> <p>7. Impact study of BRRI-developed weaning food by Next-generation</p>		<p>containing other nutrient-dense food sources</p> <p>2. Make rice based weaning food financially available to the middle and low-income families</p> <p>3. Incorporation of functional food sources into the baby food formula to boost their immunity.</p>		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
				sequencing (NGS) analysis of the rat gut microbiome				
8.1	GRS Division	PI: PS Biswas	Exploration, collection and conservation of rice landraces in Bangladesh	<ul style="list-style-type: none"> To collect cultivated rice germplasm from unexplored areas, especially from hilly, coastal and haor areas of Bangladesh. To document the collected rice germplasm through passport data. To conserve the collected germplasm in the genebank 	5 (Nov 2023 to 2028)	<ul style="list-style-type: none"> Grid map for germplasm collection hotspot developed Approximately 300 new rice accessions are collected and conserved. Exploration approaches and collected samples' passport data are documented. 		60
8.2		PI: PS Biswas	Characterization and evaluation of rice landraces in Bangladesh	<ul style="list-style-type: none"> ➤ Morphological characterization of rice landraces. ➤ Evaluation and molecular characterization of germplasm for location specific adaptability and yield related traits. 	5	<ul style="list-style-type: none"> A core set germplasm developed for further advanced studies. Rice landraces are characterized and evaluated morphologically and at molecular level. Rice landraces including wild rice samples with new gene and molecular marker sources are identified for utilizing in modern variety development. 		55
8.3		PI: PS Biswas	Trait Discovery and validation of landrace varieties for specific adaptability	<ul style="list-style-type: none"> To explore trait marker association for identifying genomic regions/QTLs/genes 	5	<ul style="list-style-type: none"> Genetically diverged 300 sequenced germplasm accessions of specific adaptability available. 		115

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
				<ul style="list-style-type: none"> Functional makers developed and validated for specific traits required for climate resilience. 		Trait specific genomic regions/QTLs/genes identified and validated		
9.1	Agri Statistics	PI: Md. Abdul Aziz, CI: Md. Abdul Al-Mamun	Boro rice yield forecasting by remote sensing in Sunamganj district of Bangladesh	<ol style="list-style-type: none"> Provide yield forecasts well in advance of the harvest season in Sunamganj district. Develop models to accurately estimate rice yields for the study area, using remote sensing, and field surveys to make precise predictions. Create a boro rice yield map in a GIS context by applying a crop simulation model. 	5	<ol style="list-style-type: none"> Timely and advanced yield forecasts for Boro rice in Sunamganj district, providing stakeholders with valuable information well before the harvest season, enabling them to plan effectively. Early warnings and strategies for mitigating potential risks to rice production, including adverse weather conditions. Development of accurate and precise models for estimating Boro rice yields in the study area. A geospatial Boro rice yield. This map will represent the spatial distribution of Boro rice yields across the Sunamganj district, allowing for localized decision-making and resource allocation 	Sunamganj Sylhet	
9.2		PI: Md. Abdul Aziz, CI: Md. Abdul Al-Mamun	Abiotic stress area mapping for rice in Bangladesh	<ol style="list-style-type: none"> Prepare maps for various abiotic stress area for rice in Bangladesh. 	5	<ol style="list-style-type: none"> It will demonstrate to find out location specific environmental problem for rice cultivation 	Dinajpur, Tangail, Sunamganj, Netrokona,	

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
				2. Calculation of Mouza-wise various abiotic stress area (in hector) for rice in Bangladesh		2.A database of problematic environmental areas broken into levels of mouza (in hectors) for rice farming.	Cosxbazar and khagrachari .	
10.1	ICT Cell	PI: SM Mostafizur Rahman, CI: Md. Asadullah	Incorporation of 4IR technology in RKB Mobile apps to disseminate information of modern rice technology and its management at the door step of farmer	1. To incorporate of 4IR technology in RKB mobile apps. 2. To disseminate RKB at all regional stations & satellite stations. 3. To develop push notification system. 4. To manage and maintain RKB through regular updating of the information and documents.	5 (July, 2023-june, 2028)	1.Disseminate RKB at all regional stations & satellite stations of BRRI as well as in almost all corners of Bangladesh. 2.Adopt precision agriculture and rice yield gaps will be decreased. 3.Extend and update regularly as routine work.		18
10.2		PI: SM Mostafizur Rahman, CI: Md. Asadullah	Develop an artificial intelligence (AI) based interactive e-Agriculture software & databank for research data	1.To develop AI based interactive e Agriculture software for research data of BRRI. 2.To develop AI based dashboard monitoring system. 3.To develop a big data databank using 4IR technology. 4.To host AI based e-Agriculture software at national data center.	5 (July, 2023-june, 2028)	<ul style="list-style-type: none"> • AI based interactive e-Agriculture software for research data of BRRI. • AI based dashboard monitoring system for BRRI. • Databank will be developed. • Adopt precision agriculture and rice yield gaps will be decreased. • Manage and maintain AI based e-Agriculture software. • Manage and maintain the databank. 		95.40

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
				5. To manage and maintain the e-Agriculture software. 6. To host the databank at national data center. 7. To manage and maintain the databank.				
11	Hybrid division	PI. Md. Ruhul Quddus CI. Dr. Afsana Ansari	Salinity tolerant hybrid rice development	i) To develop salinity tolerant parental lines of hybrid rice ii) To Develop salinity tolerant hybrid rice variety	Nov, 2023 to June, 2028			190
11.1		Dr. Md. Jamil Hasan Dr. Md. Shafiqul Islam	Sub-expt.1: Source Nursery for salinity tolerant hybrid rice development	Identification of prospective maintainers and restorers of diversified origin for making experimental rice hybrids.	5	400 genotypes will be screened in the 2 nd , 3 rd and 4 th year to find out tolerant parental lines and hybrids. Maximum number of crosses with diverse genetic origin will be initiated.		
11.2			Sub-expt.2: Testcross Nursery for salinity tolerant hybrid rice development	Confirmation of maintainers and restorers from the crossed entries, selection of heterotic rice hybrids and conversion of prospective maintainers into new CMS lines.	5	Prospective maintainer and restorer lines will be identified		
11.3			Sub-expt.3: Development of parental lines (salinity tolerant) for hybrid	Developing CMS lines from identified maintainer by back crossing.	5	New promising and adaptable CMS lines having high outcrossing & high-amylose will be developed		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
			rice through backcross breeding.					
11.4			Sub-expt.4: CMS Maintenance and Evaluation Nursery for salinity tolerant hybrid rice development	Evaluation of locally developed and exotic CMS lines and their maintainer lines.	5	Genetic purity of CMS lines will be maintained by hand crossing.		
11.5			Sub-expt.5: Improvement of parental lines by (B x B), (A x R), (B x R) and (R x R) crosses for salinity tolerant hybrid rice	To broaden the genetic base of parental lines.	5	Prospective maintainer and restorer lines will be developed with diverse genetic origin will be initiated		
11.6			Sub-expt.6: Breeding for outcrossing potentials in CMS lines	To know the outcrossing rate for enhancing the pure and good quality seed.	5	High seed yield potential hybrid combinations will be identified		
11.7			Sub-expt.7: Combining ability of A, B & R lines.	To select the best combiner in respect of grain yield & yield components	5	Specific and general combiner parental lines and magnitude of heterosis will be identified.		
11.8			Sub-expt.8: Multiplication of promising CMS lines	Production of sufficient quantity quality seeds of CMS lines for subsequent use.	5	Sufficient CMS line seeds of BRR1 released hybrids will be produced for subsequent use.		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
11.9			Sub-expt.9: Genotyping of source population using SSR and/or SNP and diagnostic trait markers	Important trait confirmation, genetic relatedness analysis and marker assisted breeding	5	Target based and efficient molecular breeding will produce demand-based hybrid rice parental lines and hybrids.		
11.10			Sub-expt.10: F1 seed production of experimental hybrids.	To make hybrid seed available for trials	5	Sufficient CMS line seeds of BRRI released hybrids will be produced for subsequent use.		
11.11			Sub-expt.11: Evaluation of experimental hybrids (Observation Yield Trial)	Selection of promising hybrids	5	Promising hybrids will be selected		
11.12			Sub-expt.12: Evaluation of experimental hybrids in Preliminary Yield Trial (PYT)	Selection of promising hybrids	5	Promising hybrids will be selected		
11.13			Sub-expt.13: Evaluation of experimental hybrids in salinity affected hotspot locations (MLT)	Selection of promising hybrids	5	Promising hybrids will be selected		
11.14			Sub-expt.14: National Hybrid Rice Yield Trial (NHRYT)	Evaluation of proposed hybrids in 10 locations by SCA for variety release	5	At least one hybrid rice variety will be released		
11.15			Sub-expt.15: Demonstration trials of	To evaluate the performances of released	5	Salinity tolerant parental lines and hybrid rice variety with high yield		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
			released hybrids along with promising hybrids and checks	hybrids with promising ones		and acceptable grain quality will be released for general or location specific cultivation		
11.16		Afsana Ansari	Expt.1: Evaluation of promising hybrid rice at haor area	To conduct a trial of promising rice hybrids selected for Boro season for their adaptability and yield performance for subsequent selection at hoar region.	Nov2023 to Apr 2024	At least one hybrid rice variety will be selected for release	Nikli haor	1.30
12.1	IWM Division	Dr. Debojit	Location specific integrated minor irrigation system development and dissemination for efficient water management of Boro rice cultivation in Bangladesh	<ol style="list-style-type: none"> 1. Optimizing irrigation water application and increasing water use efficiency by adopting on-farm water saving technologies through integrated minor irrigation system 2. Expansion of Boro rice cultivation in fallow lands of selected locations utilizing available water resources through integrated minor irrigation system. 3. Land productivity improvement by developing and adopting region- 	5	<ol style="list-style-type: none"> 1. About 250 bigha or 80 acres unproductive or less productive fallow agricultural lands will be under cultivation due to the program activity. 2. Locally available water resources will become a potential source for satisfying crop irrigation water requirements. 3. Integrated approach of water diversion from source, modern distribution system and efficient on-farm water management in a minor irrigation system will remove the constrains for 	Habiganj Sunamganj Moulvibazar Lakshmipur Rangamati Khagrachari	29.21

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)	
				specific, integrated, and sustainable approach to water management.		4. irrigation water availability. Water and land productivity will be escalated by introducing BRRRI developed high yielding rice varieties after ensuring enough surface water for crop irrigation.			
13.1	Plant Breeding Division	Dr Mamuda Khatun, CI. Sanjoy Kumer Debsharma	Development of Transplant Aus (T. Aus) Rice	To develop short duration high yield potential genotypes having tolerance to lodging, high temperature at reproductive phase and pre-harvest sprouting tolerance including good grain quality.	5	<ul style="list-style-type: none"> ➤ At least one T. Aus rice variety with better grain quality and high yield potential will be developed within the project period. ➤ Around 40 elite lines with better grain quality and high yield potential will be developed each year. 		60	
			Hybridization	Introgression of earliness, pre-harvest sprouting tolerance and quality grains into high-yielding genotypes.				Gazipur	
			Confirmation of F ₁	To confirm the crosses as true F ₁ s through hybridity test and use of the selected F ₁ s to produce F ₂ progenies and register in the BRRRI cross list				Gazipur	

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
			FRGA	Rapid advancement of segregating population for shortening breeding cycle.				
			Line Stage Testing (LST)	To select uniform genotypes on the basis of plant height and days to flowering with key target traits.				
			Observational Yield Trial (OYT)	Selection of genetically fixed breeding lines with lodging tolerance, earliness having good plant type and relevant disease resistance with high yield			Gazipur, Cumilla, Rajshahi and Rangpur	
			Advanced Yield Trial (AYT)	To evaluate yield and adaptability of the advance breeding lines as compared with standard checks at multi-locations trials			Gazipur, Cumilla, Rajshahi, Sonagazi and Rangpur	
			Regional Yield Trial (RYT)	To evaluate specific and general adaptability of the advance breeding lines as compared with standard checks in on-station condition.			Gazipur, BRRI Sonagazi, Feni, Rajshahi, Habiganj, Shirajganj, Kushtia, Rangpur and Cumilla	

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
			Proposed Variety Trial (PVT)	Evaluation of relevant disease advanced genotypes in the farmers' field (on-farm) and on-station conditions for recommending to release as new variety by technical committee of National Seed Board.			Ten locations of Bangladesh	
			Maintenance and seed increase of key parents	To maintain the genetic purity of parent materials with seed production			Gazipur	
14.1	Plant Breeding Division	PI:Sheikh CI. Khandakar Md Iftekharuddaula	Development of Premium Quality Rice (T. Aman)	<ul style="list-style-type: none"> • Development of aromatic and non-aromatic fine grain quality rice with international and national standard (Kalizira/Chinigura/Kat aribhog /BRRI dhan34 type) in T. Aman season. • Combining blast and drought tolerances 	5	At least one national grade premium quality rice variety with or with-out aroma will be developed for T Aman season. Around 25 advanced lines with premium quality and higher yield potential will be developed.		67

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
14.2		Sheikh Maniruzzaman Khandakar Md Iftakharuddaula	Development of Salt-Tolerant Rice (Str) Varieties for Coastal Saline Zone	To design and develop high yielding rice breeding lines tolerant to salt-stress for: 1) T. Aman with growth duration 140-155 days, yield: 5.5-6.5 t/ha, salt tolerance at Seedling stage and Reproductive stage, Strong culm 2) Boro: Growth Duration 135-145 days, yield 4.5-5.5 t/ha (under salt-stress) and > 8.0 t/ha (non-stress condition), salt tolerance at Seedling stage (>12.0 dS/m) and reproductive stage (8.0 - 10.0 dS/m)	5	100 high-yielding elite lines and high yielding salt-tolerant rice variety adaptable to Cox,s Bazar and other saline zones will be developed in T. Aman and Boro season		27.5
14.3		Sheikh Maniruzzaman Khandakar Md Iftakharuddaula	Development of rice breeding lines/varieties suitable for favorable boro environments	1) Identification/selection of high value parental pools for yield and other traits 2) Making high value crosses 3) Shortening line fixation time 4) Isolation of superior breeding lines through yield testing in multiple environments	5 (Nov 2023 to 2028)	<ul style="list-style-type: none"> One variety will be developed and released. More than 1000 breeding lines suitable for favorable boro ecosystem will be developed 		65.0

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
				5) Recycling of elite lines in breeding crosses and/or subject to product development pipeline and release for commercial cultivation				
14.4		Sheikh Maniruzzaman Khandakar Md Iftekharuddaula	Development of rice breeding lines/varieties suitable for Rainfed lowland ecosystem	1) Identification/selection of high yield varieties with specific traits 2) Shortening line fixation time 3) Isolation of superior breeding lines through yield testing in multiple environments	5 (Nov 2023 to 2028)	<ul style="list-style-type: none"> One variety will be developed and released. More than 1000 breeding lines suitable for rainfed ecosystem will be developed 		65
14.5		Sheikh Maniruzzaman Khandakar Md Iftekharuddaula	Development of Rice Variety for Hilly Areas (Aus Season) of Bangladesh	To develop rice variety for hilly areas (<i>Jhum</i>) with a specific focus on high yield, drought tolerance and acceptable grain quality for ethnic people. Yield Target: 2.5-3.0 t/ha (<i>Jhum</i> area).	5 (Nov 2023 to 2028)	100 high-yielding elite lines and at least one HYV <i>Jhum</i> rice variety for hilly areas (Rangamati, Khagrachari, Bandarban) of Bangladesh with acceptable grain quality and high yield potential will be developed within the project period.	Rangamati, Khagrachari, Bandarban	27.5
15		PI: Mahmuda Khatun CI: Sanjoy Kumer Debsharma	Development of Transplant Aus (T. Aus) Rice	To develop short duration high yield potential genotypes having tolerance to lodging, high temperature at reproductive phase and pre-harvest	5	At least one T. Aus rice variety with better grain quality and high yield potential will be developed within the project period. Around 40 elite lines with better grain quality and high yield		60

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
				sprouting tolerance including good grain quality.		potential will be developed each year		
16.1	RFS Division	Head, RFS	Improvement of rice-based cropping patterns in different ecosystem	1. To develop location-specific profitable cropping pattern 2. To boost up total productivity of the crop land 3. To meet up food demand of the farm family 4. To ensure nutritional security of the farm family	5	1. At least two cropping pattern technologies will be developed 2. At least 2000 hectares of land will adopt these technologies	?	96.98 lakh(All expt.)
16.2		Head, RFS	Inclusion of rabi crops in rain fed single T. Aman cropping pattern in saline coastal area	i) To find out the suitable rabi crops varieties for Fallow-Fallow-T. Aman cropping pattern ii) To maximize the productivity and income	5	Suitable rabi crops will be established to fit under Fallow-Fallow-T. Aman cropping pattern and will increase of cropping intensity and productivity.	Batiaghata, Khulna	
16.3		Head, RFS	Improvement of Boro-Fallow-T. Aman cropping pattern by replacing with BRRI released newly rice varieties	i) To evaluate the performance of BRRI released newly rice varieties in Boro-Fallow-T. Aman cropping pattern ii) To increase the productivity of the existing two crop system.	5	Suitable rice varieties will be found to fit under Boro-Fallow-T. Aman cropping pattern and will increase the productivity.	Batiaghata, Khulna	

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
16.4		Head, RFS	Establishing and introducing modern HYV rice variety in Jhum system	To increase the system productivity through the introduction of modern HYV rice variety in jhum culture	5	System productivity will be enhanced through the introduction of modern HYV Aus variety in jhum cultivation system	Chottogram hill tract	
16.5		Head, RFS	Exploring fringe land area for rice cultivation at Rangamati district	To increase the Boro coverage across the fringe land by cultivation of different Boro rice varieties	5	Boro coverage and production will be increased by bringing fringe land under cultivation of HYV Boro rice Area- 20 acre	Rangamati	
16.6		Head, RFS	Intensification of Boro-Fallow-T. Aman cropping pattern through the inclusion of mustard in irrigated ecosystem of Madhupur Tract	To scale up the Mustard-Boro-T. Aman cropping pattern through farmers participatory cropping pattern trials to increase the productivity of the system by community basis.	5		Dhanbari, Tangail	
16.7		Head, RFS	Improvement of Potato-Boro-T. Aman cropping pattern with newly released BRRI rice varieties	i) To find out the suitability of newly released BRRI rice varieties under Potato-Boro-T. Aman cropping pattern ii) To maximize the production and farm income	5	Suitable rice varieties will be found to fit under Potato-Boro-T. Aman cropping pattern and will increase the productivity.	Rangpur sadar and Kaunia, Rangpur.	
16.8			Inclusion of Aus rice after Boro rice in Boro – Fallow - T. Aman cropping system in Mymensingh region	i) To evaluate the performance of Aus variety in Boro-Fallow-T. Aman cropping pattern ii) To increase the productivity of the	5	Development of three crop cropping pattern with the inclusion of Aus rice	Nandail and Trishal, Mymensingh.	

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
				existing two crop system with the inclusion of Aus rice				
16.9		Head, RFS	Inclusion of Mustard after Aman rice in Boro-Fallow-T. Aman cropping system	i)To evaluate the performance of mustard in Boro-Fallow-T. Aman cropping pattern ii) To increase the productivity of the existing two crop system with the inclusion of mustard.		Development of three crop cropping pattern with the inclusion of mustard	Nandail and Trishal, Mymensing h.	
17.1	Soil Science Division, BRRI	Umme Aminun Naher, Md. Nazrul Islam, Mosud Iqbal, A. Jahan, Tanjina Islam and Aminul Islam and ICT division	Development of precise nutrient (N and K) management in the rice field through leaf image and soil sensor based analyses using 4IR technologies	to identify and estimate judicial N and K fertilizer requirement of rice plant in field condition by image and soil sensor based analyses using android mobile set. to determine the effect of precision nutrient management on grain yield and socio-economic impact on new technology	5		Dinajpur, Sunamganj, Netrokona, Cox'sBazar , Khagrachor i, Khulna, Patuakhali, Sylhet and Mymensing h	187.7
			Activity-1. Determination of nutrients (N, and K) requirement of rice plant in field condition	(i) to identify and estimate nutrients (N and K) requirement of rice plant in the field condition	5		Dinajpur, Sunamganj, Netrokona, Cox'sBazar , Khagrachor	

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
			and prepare a strong image database	(ii) to take image of nutrient deficiency (N, and K) symptoms in rice plants based on different sensor based nutrient doses (iii) to record the rice yield due to N and K fertilizer management practices in all over the country			i, Khulna, Patuakhali, Sylhet and Mymensingh, Gagipur	
17.2			Activity-2. Developing need base judicial and precision N and K management prescription	i) to develop image base nutrient management database ii) to develop an off-line software compatible for android mobile set, Tab and Laptop that will give required fertilizer recommendations iii) to train farmers and extension workers for using image tool	5			

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
			Activity-3. Field validation of the developed image tools for higher rice productivity	<ul style="list-style-type: none"> i) to validate application of image analysis tool ii) to study socio-economic impact of the developed technology 		<ul style="list-style-type: none"> i) Improved rice productivity due to appropriate nutrient management ii) Easy and simple way to determine nutrient deficiency and determine crop requirements at field condition iii) Cost-effective and environmental friendly technology; needs only android mobile set. Farmers can apply it in both online or offline situation iv) Nutrient requirement of the crop can be performed without soil and plant sample analyses v) Judicial nutrient management in rice field reduced environmental pollution vi) Trained farmers' and Extension field workers developed for solving nutrient management problems vii) Female farmers also can use this mobile app and make fertilization of their own crop 		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
17.2		PI: Umme Aminun Naher CI: Aminul Islam, Rakiba Sultana and Shahanaz Shultana	Innovative climate smart techniques for improvement of hill soil health, rice yield and conserve soil biodiversity in rice cultivation system	1. to study the agricultural soil health (physical, chemical and biological properties of hill soil ecosystem) of Ramu, Sitakundu and Matiranga upazilla 2. to find appropriate climate smart need based nutrient management technologies for sustainable soil health and biodiversity of the hilly areas 3. to improve rice yield in ecofriendly practice			Sitakunda, Ramu and Matiranga	93.5
			Activity-1. Implementation of climate smart nutrient management technologies to improve soil health and rice production of Sitakundu, Ramu and Matiranga area			1. Agricultural soil health and soil biodiversity of Ramu, Sitakundu and Matiranga determined 2. Biofertilizer developed that will reduced chemical fertilizer use in hill cultivation 3. Judicial nutrient management practice developed for Black rice, BRRI varieties and local rice		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
						4. Appropriate fertilizer doses for jhum cultivation developed 5. Rice yield improved		
			Activities-2. Implementation of climate smart nutrient management technologies to improve soil health and rice production of Sitakundu, Ramu and Matiranga area			1. Agricultural soil health and soil biodiversity of Ramu, Sitakundu and Matiranga determined 2. Biofertilizer developed that will reduced chemical fertilizer use in hill cultivation 3. Judicial nutrient management practice developed for Black rice, BRRRI varieties and local rice 4. Appropriate fertilizer doses for jhum cultivation developed 5. Rice yield improved		
17.3		A.T.M. S. Hossain, F. Rahman and A. Islam	Appropriate fertilizer management packages to increase yield and quality of fine and aromatic BRRRI rice varieties	<ul style="list-style-type: none"> To develop an integrated fertilizer management package for increasing rice yield of fine and aromatic Boro and T. Aman rice varieties and To improve or maintain the grain qualities 	Boro 2023-24 to T. Aman 2028	Suitable technology to increase fine and aromatic rice production and quality will be developed and disseminated with maintaining soil fertility and environmental pollution.	BRRRI R/S Dinajpur farm and also in farmer's field of Dinajpur district	49.5
17.4		M.N. Islam, M. Sajidur Rahman,	Saline Soil Management through Organic and Inorganic	To investigate the effectiveness of organic and inorganic amendments	Boro 2023-24 and	Suitable techniques for minimizing soil salinity and	Kalapara/Daope/Batia ghata	22,000,00/-

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
		S.M.M. Islam, M. Iqbal, T. Islam and A. Islam	Amendment and Surface Drainage	along with shallow surface drain in mitigating soil salinity and increasing rice yield	Boro 2024-25	increasing crop yield and cropping intensity in the coastal zone		
18.1	FMD		Location Specific Time of Planting and Seedling Age for Short Duration and Long Duration Varieties	1. To select suitable planting time for different locations. 2. To determine suitable seedling age for rice cultivation in different location in different season.	Three years; from T. Aman 2024	Suitable seedling age and planting time of rice cultivation in different locations.	Proposed R/S	2772000 /-
18.2			Efficiency of Different Commercial Rodenticides and Live Traps in Rice Field	To select suitable rat control technology for rice field	Two years (T. Aman and Boro season; two seasons in each year)	Suitable rat control techniques in rice field	BRRI, Gazipur, BRRI R/S Sonagazi and in Khulna (Batiaghata)	630000/-
18.3			Quality Seed Production of BRRI Varieties	To produce TLS of promising BRRI varieties	03 years from Boro 2023-24	9000 kg TLS in each season		2709240 /-

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
18.4			Artificial Plough Pan Development for Facilitating Modern Farm Machineries	(i) To increase soil resistance capacity (ii) To develop artificial plough pan in BRRI farm	3 years starting from Boro 2024-25	A technology to develop plough pan in soil	BRRI, Gazipur and 2 new R/S	1741000/-
18.5			Determination of Suitable Seed Production Season for Aus Rice Varieties	To select suitable season for the production of quality seed of Aus rice varieties	03 years; from Boro 2024	Suitable season for seed production of Aus rice varieties	Gazipur and Khagrachar i/Chattagram	528000/-
19.1	Plant pathology division	Head, P/Path	Farmers' participatory field demonstration through integrated rice sheath blight disease management	To increase knowledge and efficiencies of the farmers on sheath blight disease management through participatory action.	5	Capacity building of 4000 farmers regarding rice sheath blight disease management		
19.2		Head, P/Path	Farmers' participatory field demonstration through integrated rice bakanae disease management	To increase knowledge and efficiencies of the farmers on bakanae disease management through participatory action.		Capacity building of 4000 farmers regarding rice bakanae disease management.		
19.3		Head, P/Path	Farmers' participatory field demonstration through integrated rice blast disease management	To increase knowledge and efficiencies of the farmers on blast disease management through participatory action.		Capacity building of 4000 farmers regarding rice blast disease management.		
19.4		Head, P/Path	Identification and validation of economic	To determine a standard level of disease incidence		A diagnostic level of blast disease incidence will be identified for		

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
			disease/threshold level (EDL/ETL) for significant controlling of rice blast disease.	up to which significant crop damage/yield loss is happened. A standard time of fungicide spray for leaf blast incidence.		effective controlling of the disease without significant crop damage/yield loss.		
19.5		Head, P/Path	Identification of blast resistant novel QTLs in BRRI dhan33 through mid-density gene sequencing	To identify the blast resistance novel QTL.		Novel blast resistant QTLs		
19.6		Head, P/Path	Multi-location trial of blast resistant lines in hot-spots	To evaluate blast resistance lines against rice blast disease		Two blast resistance line will be identified and to be released as variety.		
19.7		Head, P/Path	Validation of <i>Ankuri</i> ® seed disinfectant and germinator and its smart restructuring	To evaluate field efficacy of <i>Ankuri</i> and farmers' use efficiency and development of a smart <i>Ankuri</i> for further improvement.		Control of seed borne diseases and healthy seed germination. 17-20% seed germination will be increase compare to traditional <i>Jag</i> -method.		
20.1	FMPHT	PI: Md. Monirul Islam CI: Dr. Md. Anwar Hossen	Design and Development of a Small-Scale Recirculating Type Paddy Dryer Suitable for Individual Farmers	<ul style="list-style-type: none"> To design and fabricate of small scale recirculating type dryer To study spatial distribution of air temperature and moisture content in and outside of 	Nov 2023 – Nov 2026	Small scale recirculating type dryer will be developed.	FMPHT workshop, BRRI, Gazipur	

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				<p>small-scale recirculating type dryer;</p> <ul style="list-style-type: none"> To investigate technical and financial performance of small-scale recirculating type dryer; and To study the effect of drying on germination rate and milling quality. 				
20.2	FMPHT	Mahir Shahriar	Densification (pellet) of agricultural residues for sustainable energy generation	<ul style="list-style-type: none"> To develop suitable pelleting methods. Assessment of physical and chemical properties of developed pellets. Test and evaluation of energy potentiality. 		<ul style="list-style-type: none"> Attainment of enhanced pelleting techniques with thorough documentation of parameters such as the mixing ratio of raw materials, type of binding material, temperature, pressure, and pellet size. Comprehensive scrutiny of the physical and chemical attributes, coupled with an evaluation of energy potential, generates vital insights essential for the efficient manufacturing and utilization of the developed pellets. 	FMPHT workshop, BRRI, Gazipur	17 lakhs
20.3		PI: Sharmin Islam	Design and development of a	1.To design a variable power transmission	Jan., 2024 to	<ul style="list-style-type: none"> A suitable crawler type high speed hydro tiller will be 	FMPHT workshop,	50

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
		CI: MAH, BCN, HP, MMI	crawler type high speed hydro tiller	<p>mechanism of the high speed hydro-tiller</p> <p>2. To design a hydraulic system suitable to operate in variable soil condition</p> <p>3. To develop a prototype based on engineering design</p> <p>4. To evaluate the prototype in project locations</p> <p>5. To evaluate and fabricate fifteen (15) copies</p>	Jan., 2027	developed for the end-user to cultivate marshy land easily	BRRI, Gazipur	
21.1	BRRI R/S Sonagazi , Feni	S Tamanna, M Adil, B Karmakar, MM Islam, MN Bari	Reduction of insecticide use in rice production ensuring safe food production for coastal ecosystem	<p>1. To manage insect pests with less or without use of insecticide.</p> <p>2. To compare insect pests and natural enemy status in insecticide free and insecticide spray field.</p> <p>3. To investigate the compensation abilities of different rice varieties due to insect damage.</p>	2	Minimum use of insecticide for rice production in coastal ecosystem	RS Sonagazi	11.23
21.2		MAI Khalid, B Karmakar,	Effect of planting date on the agronomic output of modern rice	<p>1. To find out the suitable planting date of modern rice</p>	3	Optimum transplanting date will be determined for higher performance and maximum grain	RS Sonagazi	5

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
		M Adil, MS Islam	varieties for Chattogram region	varieties for Chattogram region 2. To investigate about the cut of dates for different varieties 3. Yield loss assessment due to delay planting		yield of modern rice varieties for Chattogram region		
21.3		MA Biswas, B Karmakar, M Adil, MM Rahman	Evaluation of modern varieties at coastal saline environment during Boro season	1. To investigate the performance of different salinity tolerant rice varieties in coastal saline environment 2. To identify suitable variety for coastal saline environment for Boro season	5	Suitable rice variety(s) will be identified for coastal saline environment.	Charland, Sonagazi RS, Shitakundo and Ramu	4.09
21.4		MM Rahman, MA Biswas, MN Ahmed, B Karmakar	Optimizing Nitrogen level of modern rice varieties for coastal saline environment.	1. To determine suitable Nitrogen fertilizer (Urea) rate for salinity affected charland 2. To identify Nitrogen fertilizer requirement in different salinity levels	3	Optimum/suitable Nitrogen rate for modern rice varieties will be determined for coastal saline environment to obtain higher grain yield.	BRRI, Sonagazi,	1.60
21.5		B Karmakar, MM Rahman,	Optimizing potassium rate for modern rice	1. To determine suitable Potassium fertilizer	5	A recommendation for suitable Nitrogen fertilizer (Urea) rate for salinity affected Charland.	Charland of Sonagazi RS	1.60

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Duration (Years)	Expected Output	Location(s)	Budget (Lakhs)
		MA Biswas, MN Ahmed	varieties at coastal saline environment.	rate for salinity affected charland 2. To estimate yield response in different Potassium fertilizer rate in different salinity levels				
22.1	BRRIR/S Bhangra	Dr. Ruhul Amin	Development of high input responsive high yielding rice varieties for single favorable Boro ecosystem	To develop advanced breeding lines with higher yield potential along with acceptable grain quality for single boro cropping pattern of Faridpur region with the growth duration of 150-160 days and yield of ≥ 9 t/ha.	5	High input responsive high yielding Boro advanced breeding lines/variety will be developed for single favorable boro ecosystem	RS Bhangra	12.5
23.1	R/S Rajshahi	Dr Harunur Rashid Md	Farmers participatory evaluation of relay system or zero tillage lentil based cropping patterns	To identify the extent of resource saving and to increase the crop productivity and cropping intensity.	3	Productivity as well as livelihood of farmers will be increased	?	3
23.2		Dr Harunur Rashid Md	Validation of four crops cropping patte in Rajshahi region	To increase crop productivity and cropping intensity	3	Productivity as well as livelihood of farmers will be increased	Rajshahi region	5
23.3		Dr Harunur Rashid Md	Productivity Evaluation of inclusion of Mustard in Boro-Fallow-T. Aman cropping	?	3	Productivity as well as livelihood of farmers will be increased	Barind region	3

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
			patterns in Barind region					
23.4		Dr Md Harunur Rashid	Assessing the spatial distribution of soil hydraulic properties and available soil water in irrigated croplands in different Upazilas in Rajshahi district	to identify the reasons for yield losses in irrigated crop fields by analyzing the spatial distribution of soil hydraulic properties and available soil water	3 (2023 to 2025)	The causes behind the decline in yields in irrigated crop fields will be investigated and identified the factors necessitating increased irrigation, and provided farmers with actionable recommendations to address the issue.	Rajshahi	5
24.1	R/S Gopalganj	Dr. Md Jahidul Islam	Deciphering the genetic potential of native rice (<i>Oryza sativa</i> L.) landraces for tolerance to anaerobic germination.	The current study comprises the screening of a panel of 200 landraces along with four control varieties subjected to hypoxia to identify novel genotypes with AGT for further use in breeding programs. SNP markers have also been used in this study to screen the genotypes for GWAS and to identify the novel QTLs/ genes for AG related traits by exploring Bangladeshi landraces.	2 Jan.24 to Dec. 25	The new AG tolerant Bangladeshi rice accessions will be detected and the identified QTLs will be used for the future rice breeding programs.	RS Goplalganj	12.86
24.2		Dr. Md Jahidul Islam	Breeding for developing high yielding shallow flooded Deep	To develop breeding population with desirable characters of shallow flooded deep water/	2 Jjan,24 to	The results will be useful in development of climate resilient rice varieties with specific		9.52

Sl No.	Division	PI / CI	Expt/ Title	Objective(s)	Durati on (Years)	Expected Output	Location(s)	Budget (Lakhs)
			water/Stagnant tolerant rice varieties (Hybridization)	Stagnant tolerant Aman rice varieties	Dec.25)	adaptability for Faridpur and Khulna Region.		