

Proposed Research Program 2025-2026

Name of Division: Agricultural Statistics Division

S l. N o .	Program Area/Project/ Experiment Title & Duration	Major Objective	Expected output	Annual Budget (Thous and Tk.)
1.	Stability analysis of BRRV Varieties.	1. To determine the stability index of BRRV varieties 2. To estimate location-wise stability index of BRRV varieties 3. To determine the stability index of BRRV varieties according to the growth duration 4. To find out the location-wise yield performance of BRRV varieties at different years 5. To find out the overall yield performance of BRRV varieties at different locations and year. 6. Season, year and location wise database on BRRV varieties	Stability index of BRRV varieties according to seasons	550
2.	Factors Influencing Rice Flowering Time: A Count Regression Approach.	1. To develop a model on the number of days to flowering in rice using count regression approach. 2. To assess the impact of climatic, agronomic, biotic, abiotic and different soil factors associated with rice flowering time. 3. To compare linear, logistic, Poisson and negative binomial regression and find the best fitted model to predict rice flowering time.	Develop and compare count regression models to identify the key factors influencing rice flowering time and determine the best-fitting model for accurate estimation.	330
3.	Enhancing Decision-Making through the Integration of ANOVA and Risk Probability Analysis.	1. To reveal the utility and power derived from combining ANOVA and risk probability analyses, and how risk analysis can facilitate decision making and technology transfer. 2. To assess the effectiveness of integrating ANOVA and risk probability analysis in decision-making. 3. To evaluate how risk analysis can enhance the interpretation of ANOVA results. 4. To develop a framework for utilizing combined statistical methodologies in technology transfer and adoption. 5. To demonstrate case study for Early Warning Farming Systems (EWFS) Versus Traditional Farming Systems (TFS) in Rice Production where the integrated approach improves decision-making	Develop an integrated ANOVA and risk probability framework to improve decision-making accuracy, support experimental data interpretation, and provide evidence-based management recommendations.	300

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		processes.		
4.	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.	Genotype x Environment Interaction effect of BRRI varieties	300
5.	Enhancing Rice Yield Prediction in Bangladesh: A Comparative Study of Machine Learning and Deep Learning Models.	1. To develop predictive models using machine learning and deep learning approaches. 2. To evaluate model performance using statistical metrics. 3. Identify critical meteorological variables driving rice yield prediction.	Develop a robust, data-driven framework for early rice yield prediction by identifying key climate factors and comparing the performance of ML and DL models in predicting yield loss in Bangladesh.	300
6.	Development of dynamic dashboard on rice and rice related database.	1. To develop a web based dynamic dashboard and database management system. 2. To create dynamic graph and table on rice and rice related data for Bangladesh and worldwide.	Automated informative and user-friendly dashboard on rice and rice related database.	300
7.	Database management and visualizations of demonstration trial of BRRI.	1. To develop a database management system of demonstrations for different divisions and regional stations. 2. To identify the impact of BRRI varieties expansion on growth rate. 3. To generate report and visualize for demonstrations results.	Develop a database management system to monitor BRRI demonstration activities, evaluate the impact of variety expansion on growth, and generate interactive reports and visualizations.	300
8.	Rice database and analysis system (RDAS).	1. To develop a web based integrated framework on 'Rice Database and Analysis System (RDAS) 2. To create map and graph based on rice data.	Automated informative and user-friendly rice database and analysis system (RDAS)	300
9.	Maintenance of Rice and related Database.	1. To maintain up-to-date computerized information on rice and related crops 2. To determine year wise GR of Rice Production in Bangladesh 3. To maintain up-to-date computerized information on climatic factors both BRRI regional stations and BMD stations data. 4. To make comparison between BRRI stations and BMD stations data. 5. To produce various maps from these data	1. Database on rice and related crops. 2. Year wise GR of Rice Production in Bangladesh 3. Database on climatic factors 4. Various climatic maps. 5. Growth rate and trend scenario of area, production and yield of rice in Bangladesh.	300
10	New edition of Simple Lessons from Biometry	1. To update and publish a new edition of 'Simple Lesson from Biometry' 2. To incorporate novel experimental designs 3. To incorporate novel analytical techniques for various types of data 4. To incorporate the other topics	1. Update and publish a new edition of 'Simple Lesson from Biometry' 2. Incorporate novel experimental designs, topics and analytical techniques for various	300

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		related to biometry	types of data	
11	Suitability Mapping of BRRI Varieties.	1. To construct suitability map of BRRI rice varieties (BRRI dhan103 – BRRI dhan106)	1. Suitable and not suitable areas for particular rice varieties	50
12	Climate Mapping of Temperature and Rainfall of Bangladesh.	1. To determine expected maximum and minimum temperature and rainfall in different region for rice in Bangladesh. 2. To determine areas of critical maximum and minimum temperature and rainfall map of Bangladesh for rice during the period. 3. To estimate the return period of extreme rainfall and high temperature.	1. Different climatic factors map of Bangladesh 2. Changing Pattern of climatic factors.	50
13	Season wise rice area mapping of Bangladesh.	1. To construct season wise rice area map of Bangladesh. 2. To estimate season wise rice area of Bangladesh 3. To validate and compare the rice database from various sources To find out the best source of rice area data.	Season wise rice cultivated area.	200
14	Projected Climatic Factors (2050) Maps of Bangladesh.	1. To construct projected climatic factors maps of Bangladesh for 2050 2. To determined projected climatic factors value district/division wise of Bangladesh for 2050. 3. To deliver an idea about future climate to researchers and planners	Projected climatic factors maps of Bangladesh.	300
15	Suitability Mapping of Various Cropping Pattern.	1. To construct suitability map of various cropping pattern	Suitable and not suitable areas for particular cropping pattern.	300
16	Delineation of Rice Area changes in Coastal Area of Bangladesh Using Remote Sensing Data and Machine Learning Approach.	1. Delineate the rice area changes over time 2. To quantify the types of land cover that migrated into and out of the rice-growing region.	1. This will give information about the trend of rice area change. 2. Come to know shifting pattern of rice area.	300
17	Rice growth monitoring through remote sensing and GIS for smart management.	1. Establish a reliable methodology for monitoring rice growth using RS data and GIS techniques. 2. Create a spatial-temporal model to predict potential rice yield based on the monitored growth stages. 3. Use the monitoring data to optimize resource, including water,	1. Develop a detailed methodology document outlining step-by-step procedures for rice growth monitoring using remote sensing data and GIS techniques.	300

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		fertilizers, and pesticides to enhance overall efficiency and sustainability.	2. Develop a decision support system that helps farmers and stakeholders make informed choices for resource management.	
18.	Rice yield prediction by remote sensing in some Selected District of Bangladesh.	1. To provide yield forecasts well in advance of the harvest season. 2. To develop models to accurately estimate rice yields using remote sensing, and field surveys to make precise predictions. 3. To create a rice yield map in a GIS context by applying a crop simulation model. 4. To develop a dashboard for demonstration of rice yield.	Develop an integrated rice yield forecasting system using remote sensing, field surveys, crop simulation, GIS mapping, and an interactive dashboard for accurate pre-harvest yield prediction and visualization.	300
19.	Training Program on Experimental Data Analysis.	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.	BRRI scientists' capacity in statistical data analysis, research planning, and scientific writing to enhance independent research and reporting skills.	300
20.	Training program on multivariate data analysis.	1. To train up BRRI scientists on multivariate data analysis using different statistical software. 2. To give clear and straightforward guideline of how to conduct experimental design for MVA. 3. To make BRRI scientists self-dependent on multivariate data analysis. 4. To develop skills in research planning, program and report writing.	Enhance BRRI scientists' expertise in multivariate data analysis, experimental design, research planning, and scientific writing to enable independent and effective research.	600
21.	Training program on experimental field layout, data collection and data preparation.	1. To train up BRRI Scientific Assistant/Assistant Farm Manager on field experiments. 2. To self-dependent of BRRI Scientific Assistant/Assistant Farm Manager on experimental data collection techniques and processing. 3. Hands-on training on data preparation systems using MS Excel.	Strengthen the capacity of BRRI Scientific Assistants and Assistant Farm Managers in field experimentation, data collection, processing, and MS Excel-based data management.	600
22.	Training program on basic computer operation.	1. To train up BRRI staff on basic computer operation. 2. To be self-dependent of BRRI staff on computer operation.	Enhance BRRI staff's computer literacy through hands-on training in basic computer operations and	600

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		3. Hands-on training on basic computer and office applications.	office applications to promote independent digital skills.	
23	Develop an online integrated platform for collecting rice mapping data.	1. To developed an online platform for collecting rice mapping data integrating Kobo toolbox server and ODK Mobile apps	An online rice mapping data collection platform	600
24	Develop a dynamic web application for visualizing and analyzing the rice disease surveillance data.	1. To Develop a dynamic web application for visualizing and analyzing the rice disease surveillance data	A dynamic web application for visualizing and analyzing the rice disease surveillance data	500
25	Digitalized Tour Distance Calculation System from BRRI HQ.	1. To develop a digital tour distance calculation system for BRRI HQ.	A web application for tour bill management system of BRRI HQ	3.00
26	Update the web application to calculate the Stability Index for BRRI Stability Model.	1. To update the web application to calculate the stability index for BRRI stability model.	An updated web application for calculation the stability index using BRRI stability model.	3.00
27	Update the Platform for BRRI Developed Management Information System (MIS).	1. To update the unique platform for BRRI developed MIS	An updated unique platform for BRRI developed all MIS	1.00
28	Digitalized quota management system of BRRI.	1. To update the digital quota management system for BRRI.	Updated digital quota management system of BRRI	3.00
29	Digitalized labour management system of BRRI.	1. To update Labour Management System (LMSV1) of BRRI.	Updated digitalized labour management system of BRRI	7.00
30	Digitalized Casual Leave Application System	1. To update the digital Casual Leave Application System for Agricultural Statistics Division.	Updated the digital casual leave application management system of Agricultural Statistics Division	3.00
31	Seed Management System (SMS) for BRRI.	1. To develop and digitize the seed supply chain, from production to distribution through web and mobile application; 2. To provide real-time tracking of seed stocks and transactions through collecting necessary reports; 3. To manage, maintain and host web-based application at cloud server.	Develop a cloud-based digital seed supply chain management system with web and mobile applications for real-time seed production, inventory tracking, distribution, and reporting.	3.00
32	Mobile responsive	1. To develop mobile responsive platform for BRRI publication.	Develop a mobile-responsive digital platform	3.00

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	platform for BRRI publication.	2. To manage and maintain mobile responsive platform.	for efficient access to and management of BRRI publications.	
33	Develop real time AI-based monitoring system for location-specific insect and disease.	1. To develop real time dashboard-based monitoring system for location-specific insect and disease using AI and MLM; 2. To determine disease and insect identifying locations through collecting necessary images and reports; 3. To manage, maintain and host web-based application at cloud server. Manage and maintain smart mobile and web app.	Develop and maintain an AI-powered, cloud-based web and mobile platform for real-time, location-specific monitoring of rice insects and diseases using image analysis, machine learning, and interactive dashboards.	3.00
34	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 manage and maintain the e-Agriculture software, dashboard monitoring system and databank.	1. AI based interactive e-Agriculture software for research data of BRRI. 2. AI based dashboard monitoring system for BRRI. 3. Big data databank will be developed. 4. Manage and maintain AI based e-Agriculture software, dashboard monitoring system and databank.	9.5
35	Smart profiling of rice varieties for disaster-prone zones of Bangladesh.	1. To explore mechanism for profiling rice varieties with respect to environmental suitability, physical and physiological characteristics, yield potential and tolerance to abiotic and biotic stresses; 2. To electronically present and disseminate the newly developed smart profiled varieties information through a dynamic web application and mobile app to stakeholders; 3. To manage, maintain and host mobile and web app at server.	1. Provide varietal information through this profiler which will be useful to all stakeholder i.e. farmer, researcher and extension official. 2. An easy comparison of the varieties will develop for a specific environment and quickly picking up the preferred one(s); 3. New ideas will be created in research management. As well as new technologies will be developed. 4. Adopt precision agriculture and automations solutions for choosing right varieties. 5. Manage and maintain smart mobile and web app.	45.00
36	Sensor-based rice pest	1. To develop AI based mobile and web	• Time, Cost and Visit	50.00

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	management through Artificial Intelligence (AI) technology of BRRI.	App for BRRI. 2. To identify AI scopes in rice research engaging scientists, extension worker and farmers. 3. To manage, maintain and host AI based mobile and web app at server.	(TCV) will be less and quality (Q) will be increased. • Adopt precision agriculture and automations solutions to close rice yield gaps. • New ideas will be created in research management. As well as new technologies will be developed. • Manage and maintain Ai based mobile and web app.	
37.	New version of rice knowledge bank (RKB) mobile Apps	1. To develop the new version of RKB mobile apps. 2. To develop a push notification system. 3. To manage and maintain RKB Mobile apps.	1. Disseminate RKB at all regional stations of BRRI as well as in almost all corners of Bangladesh. 2. Extend and update regularly as routine work.	1100.20
38.	Develop a new website for BRRI.	1. To develop a new website for national and international seminars and symposiums. 2. To manage domain or sub-domain for the new website. 3. To host the new website at server. 4. To manage and maintain the new website.	1. A new website for national and international seminars and symposiums. 2. Domain or sub-domain for the new website.	600.00
39.	“BRRI Alapon” Telephone Directory Mobile App of BRRI.	1. To develop telephone directory mobile app for BRRI. 2. To communicate through mobile app via voice call, video call, email or SMS. 3. To provide location sharing through mobile app. 4. To provide all types of meeting, seminar etc. notice via SMS through mobile app.	1. Digitalize internal communication system to each other of BRRI. 2. Minimize time, cost and visit (TCV) for sharing instant information using the app.	8.00
40.	Vehicle Requisition Management System of BRRI.	1. To develop vehicle requisition management system (VRMS) for BRRI. 2. To inform through SMS, on the basis of demand vehicle at BRRI. 3. To provide SMS for drivers for confirming their upcoming duty. 4. To host VRMS at server.	1. Digitalize Transport division using SMS based VRMS service. 2. Manage and maintain the VRMS system.	1.00
3.	Training on Innovation,	1. To provide various training on public service innovation (PSI), SPS and e-	1. Enrich capacity of BRRI scientists and	12.00

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	Service Process Simplification (SPS) and e-Nothi system for enhancing capacity of BRRI employee.	Nothi management to BRRI scientists and officers for developing capacity. 2. To bring qualitative changes in the internal research work process and service delivery in BRRI HQ and respective regional stations. 3. To compile various innovative idea through PSI and SPS training for piloting and replication activities.	officers through various PSI and SPS training. 2. Skills of implementation process will be developed through innovative approach.	
4.	BRKB Website Management.	1. To develop and modify the design of BRKB Website. 2. To manage and maintain BRKB Website through regular updating of the information and documents.	1. Provide more benefit to all users specially farmers, extension workers, researchers etc. 2. Include more information as well as national issues associated with rice production and training.	300.00
5.	BRRI Web Portal Management.	1. To develop and modify the design of BRRI Web Portal. 2. To manage and maintain BRRI Web Portal through regular updating of the information and documents.	1. New features for BRRI web portal. 2. To increase hosting spaces gradually.	400.00