CHAPTER 5

ANNUAL ACTION RESEARCH REPORT 2020-21

5.1. Introduction to Action Research

Action research is one of the key functions of the RDA. The main objective of action research is to find out appropriate solutions of rural socio-economic problems. It has also aims to develop replicable models for rural development. RDA has fixed up its action research target in Annual Performance Agreement (APA). Based on the target of APA, RDA is conducting its action research activities in the wide range of rural development prospective.

At present eight action research projects (ARP) are being implemented by the academy. Out of these, seven are GoB Funded Action research projects (ADP) and one is non-ADP funded; in addition, seven self-assisted Centre, RDA Demonstration Farm and RDA Laboratory School and College are managed by RDA as its action research. At the last financial year (2020-21), another two ARPs have completed. Moreover, an incoming and proposed project is also highlighted herewith for the next fiscal year 2021-22.

This paper deals with the updated progress of action research projects and the Centres for the fiscal year 2020-21. In this chapter, a short account of major achievements of action research projects has been discussed into three parts. The first part is about project-wise activities and achievements of ongoing ARPs; second part is about the completed ARPs and the third part about Incoming/proposed ARPs.

5.2 Ongoing Action Research Projects (ARPs)		
5.2.1	**ADP Funded**	
	5.2.1.1	Action Research Project on "Construction of Co-operative based Multistoried 'Palli Janapad' Housing with Modern Urban Amenities for Livelihood Improvement of the Rural People (1st Revised)"
	5.2.1.12	Establishment of Rural Development Academy (RDA) at Rangpur (1st Revised)".
	5.2.1.3	Establishment of Rural Development Academy at Jamalpur (1st Revised)".
	5.2.1.4	Action Research Project on Disseminating Two-storied Agriculture with Solar Power Irrigation Technology and its Multipurpose Uses.
	5.2.1.5	Project on "Poverty Reduction of Marginalized People of Kurigram and Jamalpur Districts (1st Revised)".
	5.2.1.6	Making Markets Work for the Chars (M4C) -2nd Phase Project.
	5.2.1.7	Comprehensive Village Développent Programme (CVDP)-3rd Phase (RDA Part)
	5.2.1.8	Action Research on Impact of Mechanized Systems of Rice Intensification in Bangladesh.
5.2.2	**Non-ADP Funded**	
	5.2.2.1	Livelihood Enhancement of the small farmer in SAARC region through small scale agro-business focusing on value chain development.
5.2.3	**Self Assisted**	
	5.2.3.1	Poverty Free Model Village
	5.2.3.2	RDA Demonstration Farm
	5.2.3.3	RDA Laboratory School and College

5.2.4	**Self Assisted RDA Centres**	
	5.2.4.1	Centre for Irrigation and Water Management (CIWM)
	5.2.4.2	Seed and Biotechnology Centre (SBC)
	5.2.4.3	Cattle Research and Development Centre (CRDC).
	5.2.4.4	Renewable Energy Research Centre (RERC).
	5.2.4.5	Chars Development Research Centre (CDRC).
	5.2.4.6	Centre for Community Development (CCD).
	5.2.4.7	Palli Patshala Research Centre (PPRC).
5.3. Completed Action Research Projects (during 2020-21)		
	5.3.1	Action Research Project on Extension and Dissemination of Modern Water Saving Technologies and Management Practices to Increase Crop Production.
	5.3.2	Livelihood Improvement of the Poor People in the Char Islands of Sariakandi and Sonatola Upazilas under Bogura District.
	5.3.3	Action Research on Improvement of agroforestry practices for better livelihood and environment in Charland area of Tista River Basin Funded by KGF
5.4. Incoming and Proposed Action Research Projects		
	GoB Funded	
	5.4.1	Project on Establishment of Sheikh Zahurul Haque Rural Development Academy, Jashore
	5.4.2	Action Research Project on Poverty Free Model Village.
	5.4.3	Action Research Project on Sustainable Livelihood Improvement and Women Empowerment through RDA-Developed Women in Seed Entrepreneurship (WISE) Model.
	5.4.4	Project on Strengthening of physical facilities through Capacity building of RDA, Bogura.
	5.4.5	Action Research Project on Sustainable Socio-economic Development of Rural Farmers Through Farm Mechanization with Cost Saving Integrated Agricultural Technologies.
	5.4.6	Action Research Project on Creation of Entrepreneurship and Employment Generation through Skill Development.
	5.4.7	Project on Solar based Livelihood Improvement and Enlightened Village.
	5.4.8	Action Research Project on Strengthening and Expansion of Cattle Research and Development Centre under RDA, Bogura.
	5.4.9	Action Research Project on Community Based Livestock and Waste Management for Better Livelihood.
	5.4.10	Action Research Project on Converting Municipal Dumping Ground Waste into Asset Using Environmental Friendly Trichoderma Technology.
	Donor Funded	
	5.4.11	Project on “Improved Livestock Management System Using Modern Technologies at RDA Demonstration Farm”
	5.4.12	Project for the Implementation of Poverty Free Agro Based Industrial Village
	5.4.13	Design, Construction and Experimental Study And Dissemination of Semi-Pilot Scale Low Cost Baking Oven

5.2.1 Ongoing Action Research Projects (ARPs)

ADP Funded

Report-1

Action Research Project on "Construction of Co-operative based Multistoried 'Palli Janapad' Housing with Modern Urban Amenities for Livelihood Improvement of the Rural People (1st Revised)"

This is ADP funded project comprises duration of 4 years (July 2014- June 2018). The project cost is Tk. 42,433.78 lakh (Govt. contribution- Tk. 36,298.00, Owner's Contribution Tk. 6,135.78 lakh). This project is being implemented by CIWM, RDA, Bogura. Under this project a total seven numbers of Palli Janapad building will be established in seven divisions (Rajshahi-1, Dhaka-1, Chittagong-1, Khulna-1, Barishal-1, Sylhet-1 and Rangpur-1) of Bangladesh at suitable place.

However, the project is failure to implement as per the plan within the stipulated time. Therefore, the Hon'ble Prime Minister gave instructions for quick implementation of this project in only three divisions (Rangpur, Rajshahi, Dhaka division) of Bangladesh instead of seven divisions. According to her suggestions, the Palli Janapod project has been revised from July, 2014 to June, 2022 and is being implemented in three (Dhaka, Rajshahi and Rangpur) divisions with total cost of BDT. 21419.72 lakh.

Objectives

The main objective of the project is to restoration of agricultural land for food security and livelihood improvement of the rural community with modern urban housing facilities.
Specific Objectives: The specific objectives are as follows:

1. To improve the life style and livelihood of the rural community, construct multistoried building in rural areas with modern urban facilities;
2. To construct seven numbers of four storied low-cost rural housing with all utility facilities and 272 flat to accommodate the scattered rural people in a common shelter for making it rural level growth centre.

Progress

- Construction works for Palli Janapad building of Rangpur, Rajshshi and Dhaka division completed 95%, 60% and 20% respectively.
- Rural Development Academy (RDA), Bogura is implementing the multi-stored Palli Janpad project in three areas of the three (Rangpur, Rajshahi and Dhaka) divisions of Bangladesh where 272 families will have an opportunity to live safely with modern facilities under four categories of flats. As a result, urban amenities will be created in rural areas through restoration of agricultural land and cooperative based community.
- By implementing of this project, which is a priority of the Government's Election Manifesto 2018 by Hon'ble Prime Minister of Bangladesh. Palli Janapad project of RDA will play a vital role in expanding modern civic amenities to fulfill the requirement of My Village-My City (amar garam amar sohor).
- Rangpur site Palli Janapad project will be hand-over very soon by the Hon'ble Prime Minister of Bangladesh

Report-2

Establishment of Rural Development Academy (RDA) at Rangpur (1st Revised)

This is ADP funded Project of Tk. 13910.57 lakh and duration is October 2014- June 2022. It's an Honorable Prime Minister prioritized project for Rangpur Divisions. The project location is Ikorchali, Kachna and Jogdispur Mouza of Taragonj Upizala under Rangpur District.

Objectives

The main objective of the project is to establish of a Rural Development Academy (RDA) at Rangpur for the sustainable livelihood improvement of the rural people in specially Northern Part of Bangladesh based on the philosophy of RDA, Bogura.

Specific Objectives: The specific objectives are:

1. To serve as a catalyst to accelerate wide dissemination of appropriate and affordable technologies of RDA, Bogura to the rural poor for increasing productivity and enhancing quality of life, thereby enabling the community to move towards sustainable development.
2. To construct the required infrastructures for the well establishment of the rural development academy at Rangpur in line of RDA, Bogura;
3. To develop necessary logistic facilities for conducting training, research and action research in guidance of RDA, Bogura;
4. To build-up a demonstration farm with individual specialized units (Agril. Machineries, Crop, Dairy, Poultry, Fisheries, Horticulture/Nursery, Tissue culture and Hydrophonic unit) exists at RDA, Bogura as a Technology Park like NIRDPR, Hyderabad for training and research ground;
5. To deploy manpower in the field of rural development for innovation and dissemination of sustainable models and technologies of RDA, Bogura;
6. To extend facilities for human resources development and expansion of models/technologies for ensuring food security and eradicating extreme hunger and poverty; finally
7. To mainstream the rural poor people by skill development as work force for the socioeconomic development of the rural Bangladesh.

Progress

- A total land of 50 acres have been acquired for the academy under this project;
- Consulting firm is selected for detailed design, estimate and close monitoring of construction works.
- Land development and boundary wall are almost completed.
- Construction work of 10 storied Administrative-cum Faculty Building is completed.
- Construction work of General Hostel Building completed.
- Construction work of Cafeteria building with recreation centre and guest house is completed.
- A demonstration farm with individual specialized units (Agril. Machineries, Crop, Dairy, Poultry, Fisheries, Horticulture/Nursery, Tissue culture unit) has been established like RDA, Bogura demonstration farm for practical ground of training and research.

i. Boundary wall.

ii. Land Filling up work to the level of highway is going on.

iii. Digging of canal along the side of the boundary wall is completed.

iv. Extension of Director Banglow completed.

v. Technical training centre works is going on.

vi. Creation of manpower beyond and organogram.

Observation

Establishment of RDA, Rangpur is a good initiative of present Government. It will help to main stream in the vulnerable people of Rangpur Division in development activities. The location of the academy was selected by the Honorable Prime Minister considering the all facts of communication (Road, Rail and Air). Most of the construction works of the project almost at the finishing stage. Already 149 post of manpower has been created. The act and by low under proceses of approval. Small scale training are implemented in the Academy.

Report-3

Establishment of Rural Development Academy (RDA) at Jamalpur (1st Revised)

This is a GoB funded project. Length of the project is July 2016 to June 2020 but it was extended as 1st revised from July 2016 to June 2022. The original project cost was Tk. 12450.12 lakh but it was revised Tk. 15555.62 lakh. It's an Honorable Prime Minister prioritized project for the newly commencement of Mymensingh division as the part of equal development on rural development aspects in the country. The project location is Shihata and Mohiramkul Mouza of Melandah Upazila under Jamalpur District. The total area of the project is 50.01 acre. After successful completion of the project activities, it will be run as **Sheikh Hasina Rural Development Academy, Jamalpur** that was already approved by Bangabandhu Memorial Trust at 10 August, 2018.

Objectives

The main objective of the project is to establishment of a Rural Development Academy at Jamalpur for sustainable livelihood improvement of the rural people especially in the greater Mymensingh and Sylhet division of Bangladesh.

Specific Objectives: The specific objectives are:

1. To serve as a catalyst to accelerate wide dissemination of appropriate and affordable technologies to the rural poor for increasing productivity and enhancing quality of life, thereby enabling the community to move towards sustainable development.
2. To construct the required infrastructures for the well establishment of the academy;
3. To develop necessary logistic facilities for conducting training, research and action research;
4. To build-up a demonstration farm with individual specialized units (Agril. Machineries, Crop, Dairy, Poultry, Fisheries, Horticulture/Nursery, Tissue culture and Hydrophonic and Agro-product processing and marketing unit) as a Technology Park like NIRDPR, Hyderabad for training and research ground;
5. To deploy manpower in the field of rural development for innovation and dissemination

of sustainable models and technologies;

6. To extend facilities for human resources development and expansion of models/technologies for ensuring food security and eradicating extreme hunger and poverty; finally
7. To mainstream the rural poor people by skill development as work force for the socioeconomic development of the rural Bangladesh.

Main Activities of the Project

- Acquisition of 50 acres of land.
- 50% of total land development.
- Construction of boundary wall with main gate and school gate.
- Construction of academic cum faculty building (10 storied foundation 10 storied complete).
- Construction of cafeteria building with recreation centre and gust house (6 storied foundation 6 storied complete).
- Construction of male and female hostel (each of 6 storied foundation 6 storied complete)
- DG/ADG Bungalow (2 storied foundations 2 storied complete).
- Mosque (2 storied foundation 1 storied complete).
- Establishment of six individual units (crop unit, dairy unit, poultry unit, fisheries unit, tissue culture unit and agro product processing unit).
- Others related construction works are link corridor, drainage system, 500 kVA power station, water supply, telecommunication, internet facilities etc.

Work Progress

- Acquired of 50.01 acres of land.
- 50% of total land development is done 85%.
- Construction of boundary wall and school gate is done 45%.
- Main gate is done 100%.
- Construction of academic cum faculty building (10 storied foundations 10 storied complete 100%.
- Construction of cafeteria building with recreation centre and gust house (6 storied foundation 6 storied) complete 100%.
- Construction of male and female hostel (each of 6 storied foundations 6 storied) complete 100%.
- DG/ADG Bungalow (2 storied foundations 2 storied) complete 100%.
- Mosque (2 storied foundation 1 storied) complete 100%.
- Establishment of six individual units (crop unit, dairy unit, poultry unit, fisheries unit, tissue culture unit and agro product processing unit) is done 100%.
- Link road, corridor and Drainage system are done 60%.
- 500 kVA power stations is done 100%.
- Entire water supply is done 100%.
- Telecommunication and internet facilities are now under processing.
- Detailed design, drawing and supervision of all construction have been done by Shaheedullah

and Associates Ltd., Dhaka.

Observation

- Establishment of Rural Development Academy in Jamalpur is the need based organization for the equal part of development in the country on the rural development aspects especially for the poor and extreme poor peoples of greater Mymensingh and Sylhet division by the present Government.
- It is a completely rural development approach for the improvement of vulnerable peoples.
- Overall activities have completed in 90%.
- For main-stream running the academy, a total of 149 Nos. manpower an approved by the ministry of public administration and now it is under approval process by the ministry of finance.
- The Act of the academy is now finalized by the administrative ministry.
- Main mandates of the academy would be training, research, action research and advisory services like RDA, Bogura.

Report-4

Action Research Project on Disseminating Two-storied Agriculture with Solar Power Irrigation Technology and its Multipurpose Uses.

An action research in the name of two-storied agriculture with solar powered irrigation system are being conducted by RDA where the base crop is rice and vine/creeper vegetables like gourd are produced in second layer without hampering the production of rice with 200% cropping intensity and harvesting solar power from the top for pumping irrigation water. Considering the outcomes of the research, government already have been approved this project for disseminating this technology in 35 areas of Bangladesh. The project tenure is 5-years (July 2017-June 2022) and the project cost is Tk. 3989.00 lakh.

Objective of the Project

The main objective of the proposed project is to disseminate RDA-developed solar power irrigation system with two-layer agriculture technology for meeting up the increasing demand of electricity (Specially in crop sector) and make crop production profitable one as well as livelihood improvement of the rural peoples for achieving the food security in 21st century.

The specific objectives are as follows-

1. To minimize the increasing demand of electricity power consumption in irrigation sector by using solar power;
2. To ensure multipurpose use of STW water for farm and non-farm activities at the sub-project sites to uplift the lifestyle of the project beneficiaries;
3. To reduce the misuse of agricultural lands generally used for installation of solar panel by the introduction of RDA-developed (solar system) model;
4. To increase the productivity per hectare of land by producing different type of crops in the same land at the same time in different layers;
5. To ensure efficient/economic use of water resources to minimize the irrigation cost and

increase crop production by using RDA-developed technology; and

6. To provide training-match RDA-credit for popularizing this technology and increase skill and socio-economic condition of the project beneficiaries.

Location of the Project: Total 35 (thirty five) sites of 32 districts under 8 Divisions of Bangladesh.

Main Activities of Project

- Installation of Solar Panel and the infrastructures (Traile/Macha) for two layer agriculture;
- Installation of Solar Power operated STW and Installation of buried pipe irrigation system
- Construction of Overhead Tank with portable water supply network for household use;
- Provide training with credit support to up-lift of socio-economic status of rural poor.

Progress

- Field level feasibility survey was conducted in 25 sub-project sites.
- Model replication through action re-project infrastructure development works of two-storied agriculture with solar power irrigation and multiple uses are in functional phase at fourteen sub-project sites.
- Two-storied agriculture with solar power irrigation and multiple uses model have been disseminated at 20 (57%) sub-project areas out of targeted 35 sites (List of completed sub-project shown in Table-1).
- There was a provision for providing training to the project beneficiaries to make them skilled on various IGAS and improvement of their socio-economic status. A total of 2050 (47.56%) Nos. project beneficiaries out of 4310 have already been trained up to June, 2021.
- The overall achievement of the project 61.36% up to June 2021.

Table 5.1. List of completed sub-project

FY	Sl. no.	Sub-Project Name	Address
2017-2018	1	Mirkamary Solar Sub-Project	Mirkamary, Poba, Rajshahi
	2	Chorondip Solar Sub-Project	Chorondip, BoyalKhali, Chattogram
2018-2019	3	Fatepur (3rd Part) Solar Sub-Project	Fatepur, Goyainghat, Sylhet
	4	Madhail Solar Sub-Project	Madhail, Niamatpur, Naogaon
	5	Mothanagar Noyapara Solar Sub-Project	Mothanagar Noyapara, Bishwambarpur, Sunamganj
	6	Ikorchali, Solar Sub-Project	Ikorchali, Taragonj, Ranpur
	7	Joypur Solar Sub-Project	Joypur, Chhagalnaiya, Feni
2019-2020	8	Baniyachang Solar Sub-Project	Baniyachang, Chandina, Cumilla
	9	Chotoghior Solar Sub-Project	Chotoghior, Manikganj-Sadar, Manikganj
	10	Kodonda Solar Sub-Project	Kodonda, Ashashuni, Satkhira
	11	Namuja Solar Sub-Project	Namuja, Bogura-Sadar, Bogura
	12	Hajipur Solar Sub-Project	Hajipur, Kulaura, Moulvibazar
	13	Charkhalifa Solar Sub-Project	Charkhalifa, Doulatkhan, Bhola
	14	Bamuniya Solar Sub-Project	Bamuniya, Shajahanpur, Bogura

FY	Sl. no.	Sub-Project Name	Address
2020-21	15	Maitha Solar Sub-Project	Maitha, Barguna-Sadar, Barguna
	16	Chamta Solar Sub-Project	Chamta, Jhalkathi-Sadar, Jhalkathi
	17	Sajid Solar Sub-Project	Modupara, Phanchagar-Sadar, Phanchagar
	18	Mendhipur Solar Sub-Project	Mendhipur, Khalizuri, Netrochona
	19	Rangamati Solar Sub-Project	Rangamati, Palasbari, Gaibandha
	20	Sundargram Solar Sub-Project	Sundargram, Rajarhat, Kurigram

Observation

- The new innovation of two storied agriculture with direct solar irrigation system minimizes pressure on national power supply grid and load shading.
- Solar panel harvests sunshine (as 3rd layer crop) and generates power for lifting ground water using direct sunshine and reduces the electricity consumption and irrigation cost (operating cost) to almost zero.
- Each sub-project is capable of supply of irrigation water for 15-20 acres of lands and safe drinking water in 50 households.

Impact

- The ultimate long term impact of multistoried cropping system is to reduce poverty and improve livelihood of farmers and limit dependency on ever crying electricity for irrigation.
- Effective utilization of abundant sunshine for irrigation farmers can produce, sale and consume paddy and vegetables on the same piece of land round the year.
- Adoption of this system can increase cropping intensity from 180% to 360% and even 500% in Bangladesh.
- This project can establish a model named 'solar home' where electricity using facility will be created using solar power during load shedding period.

Report-5

Action Research Project on "Poverty Reduction of Marginalized People of Kurigram and Jamalpur Districts (1st Revised)".

This is ADP funded project. Its duration was three years (July 2018- June 2021) but it was revised and the project duration extended up to June 2022. The project cost was Tk. 19515.35 lakh but revised cost is 20324.31 lakh. It is a prioritized project by Honorable Prime Minister for two backward districts of northern Bangladesh. The project location is all union Parishads and Paurasavas of eight selected Upazilas under Kurigram and Jamalpur districts. These Upazilas are Nageswari, Rajarhat, Ulipur and Chilmari under Kurigram district, and Dewanganj, Islampur, Madarganj and Melandah under Jamalpur District.

Objectives

The main objective of the project is to mainstream the extreme poor and marginalized people through poverty alleviation. The specific objectives are:

1. To create employment opportunities for extreme poor and marginalized people;
2. To increase income of the extreme poor and help them becoming entrepreneurs through providing skill development trainings, and transferring assets and modern agricultural technology;
3. To improve livestock breed through artificial insemination [AI] technology and ICT based livestock management; and
4. To enhance the socioeconomic condition of the project beneficiaries.

Main Activities of Project

- Handing over 25,000 cattle heads to the extreme poor households under the 'Asset Transfer' scheme
- Collection of 10 oxen/ cows (pure breed) for improving livestock breeders
- Establishment of eight Agro Processing, Preservation and Marketing (APM) units including rice and flower mills, honey processing unit, chilling plant, freezing and refrigerator unit (one in each Upazila)
- 4.0 acres land acquisition for establishing eight APM units (50 decimals for each unit)
- Establishment of 16 group based fish farms and technology transfer to 720 beneficiaries for modern fish farming
- Creating self-employment opportunity for 168 Livestock Service Providers (LSPs) and 16 Fishery Service Providers (FSPs)
- Providing skill development trainings in different trades to 8,000 project beneficiaries
- Transferring AI technology
- Establishment of 50 solar powered street lights
- Formation of groups consisting 30-50 project beneficiaries

Progress

Completed activities during 2020-21

1. Benefices selection 10000 person
2. Cattle distribution to beneficiaries – 8908 Nos..
3. Land acquisition in 6 sites has been completed
4. Demonstration of modern fish culture technology (16 fish farm demonstration has been completed)
5. Training of 2800 beneficiary in different trades has been completed.

Targeted activates for 2021-22

1. Benefices selection 7000 person
2. Cattle distribution to beneficiaries - 8000
3. Land acquisition the rest 2 sites will be completed
4. Construction of APM Unit in eight sites will be started
5. Installation of 50 solar street light will be completed.

6. Demonstration of modern fish culture technology will be completed.
7. APM Unit of mother station renovation will be completed
8. Collection of Bull will be completed
9. Procurement of ICT based livestock management system will be completed
10. 1Training of 4000 beneficiary (in different trades) has been completed.

Report-6

Making Markets Work for the Chars (M4C) -2nd Phase Project.

This project is ADP Technical Assistance Project. This project has been approved in 02 June 2021; M4C is a project mandated by the Swiss Agency for Development and Cooperation (SDC) and Ministry of LGRD and Cooperatives, Government of Bangladesh; it is implemented by Swiss contact in collaboration with Rural Development Academy, Bogura.

Table 5.2. Project Implementation Period

Type of TAPP	Date of Commencement	Date of Completion
Original	01 January-2021	31-December-2024

The total project cost is Tk. 5,986.00 lakh, (Project AID-SDC Tk.4,510.00 and GoB Tk.1,476.00 lakh). This project is being implemented by Rural Development Academy (RDA), Bogura along with Swiss contact.

Overall goal: The overall goal of the Phase- 2 of M4C project (for a duration of 48 months) is to benefit at least 75,000 char households (comprising of women, men and children) with an additional increased income of CHF 14.5 million in up to 6 districts (5 in Northern and 1 in Southern area) of Bangladesh.

Objectives

The main objectives of the project are:

- To support expansion of national private agri-business network in the chars to enhance productivity and quality of agricultural (Crops, livestock sectors) production of char households creating increased income and employment opportunities;
- To support innovation for growth of local enterprises and integration/ inclusion of these local enterprises with regional and national value chains so that they continue transactions with char households for products and services;
- To facilitate public investment in relevant infrastructure through capitalization and anchoring of market development approaches in public institutions and public -private partnerships.

Specific: Following are the project's specific objectives are:

- Char households demonstrate changes in behavior that reduce vulnerability and benefit from positive changes in economic activity;
- Char producing households have access to and use better and quality inputs and production practices for crops and livestock;
- Char producing households have improved linkages with output market actors and are able to produce quality products and sell at optimal price;

- Char producing households have access to appropriate financial services like RDA-credit through CDRC and other micro-finance institute such as seasonal loan products to enable them to produce good quality of crops and livestock ;
- Private and Public Service providers, firms and other market actors provide char households with better services and show evidence of sustainable changes in terms of business innovation, investments, expansion and/ or business attitude towards chars and service delivery.

Overall Progress

- Setting up and organise assets (staff, offices): all the core staff and offices had been set up and they are full functioning.
- Orientation of the project staff on the strategies and interventions of Phase-2: all the staff including the staff of implementing partners had gone through couple of orientation sessions during this BP.
- Engaging Implementing Partners (IMPs): M4C engaged its previous implementing partners
- National Development Program (NDP) for Jamalpur and two Upazillas (adjacent to Jamalpur) of Kurigram,
- SKS Foundation for Gaibandha and
- Mahideb Jubo Somaj Kallayan Somity for Kurigram, Lalmonirhat and Rangpur.
- Complete area assessments and stakeholder assessments: Area assessment of all the 6 districts have been completed even though it was challenging due to Covid-19 pandemic.
- Engaging private partners (AICs, agro-vet companies, and MFIs): M4C had started the process and completed the planning and negotiation with the potential partners.
- Partnership with agriculture input companies (AIC), local market actors and financial institutes: 6 AICs (2 National and 4 Regional), 278 local market actors (Traders-Outgrowers/TOS, Livestock Service Providers/LSP and Post-harvest Service Providers) and 4 Microfinance Institutes (MFI) have been engaged.
- Assess the feasibility of incorporating alternative financial inclusion model(s) beyond MFIs: Pumpkin Plus and iFarmer have been selected to pilot this model
- Explore feasibility of promoting gender sensitive service provision: So far M4C has identified and engaged 12 women entrepreneurs (3 TOSs and 9 Native Chicken Vaccinator). These women entrepreneurs have successfully started their businesses in the chars.
- Facilitate relevant partners to promote homestead and semi-commercial vegetables production to diversify crop portfolio of chars' households: The pilot with A R Malik Seeds Ltd. (a quality vegetable seed company) was successful. The char farmers have commercially grown summer vegetables for the 1st time. This has given them additional income during the lean period, i.e., summer in the chars.

Report-7

Comprehensive Village Development Programme (CVDP)-3rd Phase (RDA Part)

Introduction

Comprehensive Village Development Programme (CVDP) was initiated by Bangladesh Academy for Rural Development (BARD), Comilla in 1975 in the name of 'Total Village Development Programme' with a view to examine one village one organisation in a village. The main thrust was given to mobilisation of local resources and its utilisation so that the villagers would be self-reliant irrespective of age, sex, class and profession. The project was included in the 3rd FYP and renamed as 'Comprehensive Village Development Programme' (CVDP). In the second phase during the Fourth FYP, Rural Development Academy (RDA), Bogura was involved with the implementation of the project in 1991-92. At this stage CVDP was implemented by BARD and RDA in 40 villages each in Rajshahi and Khulna Divisions, and Dhaka, Chittagong and Sylhet Divisions respectively. The Experimental Phase of the project was wound up in June 2004. During the Experimental phase CVDP was able to create some positive results for the betterment of the rural people under the programme. The government was convinced to adopt CVDP as a model concept for rural development and recommended for nation-wide replication throughout the country.

The First phase of the national programme was wound up in June 2009. The programme is sponsored by the Rural Development and Co-operative Division of the Ministry of LGRD and Co-operatives. RDA, BARD, BRDB and Co-operative Departments were working as implementing agencies. Total number of villages under the programmewere 1575 of which RDA covered 300 villages of four Upazilas such as Sherpur (Bogura), Sadullapur (Gaibandha), Mirpur (Kushtia) and Jhenaidah Sadar (Jhenaidah).

Due to outstanding impacts of the programme the government has approved its Second Phase for a period of July 2009- December 2014 comprising 66 Upazilas of 64 districts. Total number of villages were 4275. CVDP (RDA part) was implemented in 1020 villages of 16 Upazilas in Rajshahi, Rangpur and Khulna divisions.

Achievements Up to 2nd Phase

CVDP has made a good progress until the period of 2nd phase. The remarkable progress was observed in increasing number of cooperatives, enrollment of members, capital accumulation. In addition, the project conducted several types of training courses, workshops/seminars, awareness programmes, and other social activities for the beneficiaries and stakeholders.

Other Comments on the 2nd Phase implementation

1. The institutional base of most of the CVDP co-operatives are being strengthened. These are playing a leading role in the village in a sustainable manner.
2. About 81% of the societies have shown their worthiness in launching credit programme with their own capital consisting of both share and savings. This helps creating self-employment and generating additional income for the co-operators.
3. CVDP has given top priority to imparting training. It helps a lot to make awareness buildings, skill development and technology transfer.
4. Linkage between village based cooperatives and Upazila level government departments

has become strengthened. So the developmental activities such as livestock vaccination, family planning, EPI, sanitation coverage etc. are found very successful.

5. CVDP has given emphasis on environment protection through introducing renewable energy like biogas and solar panel. Bio-fertilizer, vermi compost and tricho compost are used in farming. Plantation also is another important activity of the cooperatives.
6. CVDP was created a diversified impact at the field level with less investment.

CVDP-3rd Phase

Again, the Govt. already approved 3rd phase of CVDP for four years (January 2018-December 2021) with the total allotted cost of 301.05 crores and RDA has been participating in this phase with other three organisations-BARD, BRDB, and Dept. of Cooperatives.

CVDP-3rd Phase is being implemented in 10,035 villages under 162 Upazilas of 64 Districts. RDA, Bogura is responsible for 2160 villages under 35 Upazilas of Rajshahi, Rangpur and Khulna Division. Among 35 Upazilas, 19 are new. RDA, Bogura started project activities from July, 2018 due to late employment of DPDs. Project activities are being hampered due to lack of project personnel at the filed level. The recruitment process is being lingered due to the court case handled by the previous employees. Only Assistant Project Directors at the Upazila level (UCOs) are working in the field and formed a good number of societies at the village level and involved in many activities including enrollment of members, organising training programmes, etc. Apart from this, Cooperators have been participating in social awareness program, maintenance of village roads/EPI program and other activities.

Table 5.3. The short-listed activities upto June 2021 are given below:

Sl. No.	Activities	DPP Target	Progress up to June 2021
1.	Formation of Co-operative Societies (no.)	2160	1980
2.	Family Coverage (no.)	204400	135946
3.	Membership Enrolment (person)	312000	203027
4.	Capital Accumulation (lakh Taka)	10970	3752.64
5.	Loan disbursement from societies' own capital(lakh taka)	8610	4073.71
6.	Training and related activities (person/mandays)	-	
	a) Training for the project personnel	146	35
	b) Orientation Course for Upazila level officials.	475	475
	c) Orientation Course for development of the village societies like Dev. Workers, Gramkormi and Cooperators.	22800	960
	d) Special training (3days)	6840	2100
	e) Special IGA Training (30 days)	7660	620
	f) Monthly Joint Meeting and E-Training	262080	46090

Report-8

Action Research on Impact of Mechanized Systems of Rice Intensification in Bangladesh

The research agreement is made between the National Graduate Institute of Policy Studies (GRIPS), Tokyo, japan and Rural Development Academy (RDA), Bogura, Bangladesh. GRIPS hereby retains institute to perform and institute hereby agrees to perform the program of work set forth in the statement of work. It is hereby agreed that the Focal Person Mr. Abdullah Al Mamun, Director (Social Science), RDA, Bogura. It is hereby agreed that the Project Manager for GRIPS Mr. Kazushi Takahashi, Tokyo, Japan. The research agreements begin on 18/08/2021 and continue until 15/03/2022 and it will be renewed until 15/03/2025.

Background and Objectives of Research

A set of rice management practices, called the system of Rice Intensification (SRI, has been proven to be yield-enhancing, without requiring any additional external input. However, its adoption rate is generally low and dis-adoption rate is high presumably because of high demand for labor. Rural Development Academy (RDA), Bogura has developed a mechanized transplanting system that is compatible with SRI principals. A team of researchers headed by Kazushi Takahashi at National Graduate Institute for Policy Studies (GRIPS), launched a new research project to assess the impact of mechanized SRI in Bangladesh relative to conventional SRI as well as standard rice management practices. In collaborating with RDA and a survey company (SC: Socio-consultant), we will implement a randomized controlled trial and RDA will provide agricultural trainings and all technical supports to randomly selected farmers.

RDA, Bogura will do the following:

1. Demonstration: Do demonstration of mechanized SRI (MSRI) in 25 villages and conventional SRI in 25 villages specified by GRIPS researchers. About 200 lead farmers, machine operators etc. (4 members*50 villages) are trained including selection of 1500 farmers for next three years experiment. The activities will be conducted in 2021-22 Boro season.
2. Two videos (for training) are prepared-one for SRI and another one for MSRI.
3. Submission of the activity record and financial report.

Research Area

The research activities will be implementing at Dupchanchia upazila of Bogura District, Mithapukur upazila of Rangpur District, Raigonj upazila of Sirajgonj District, Shokhipur upazila of Tangail District and Chatmohor upazila of Pabna District.

Expected Outcome

Based on the experiment and household survey that follows GRIPS research team will create several research papers to be published in prestigious journals. Policy makers as well as various donors, government and NGO's will be able to understand whether the mechanized SRI is promising increasing yield and profit of farmers.

Report-9

Action Research on "Accelerating the Genetic Gains in Rice (AGGRi)".

The research agreement is made between the International Rice Research Institute (IRRI), Bangladesh and Rural Development Academy (RDA), Bogura, Bangladesh. Collaborating scientists of RDA, Bogura is Mr. Abdullah Al Mamun, Director (Social Science).

The research agreements begin form Aman/2019 and continued ongoing.

Research Activities (Ongoing season Aman/2022):

1. RDA conducted the total 32 Head to Head adaptive trials (IRRI-BRRI protocol) at farmers' fields which are evidence based research trials.
2. RDA conducted a cluster demo with women led seed producer group under empowerment of seed business model research. As well as RDA will conduct a collaboration training for the women led group to understand the proper seed certification guidelines with SCA (Seed certification Agency).
3. RDA implemented the 07 dealers demo study and 03 manual millers study under the proper IRRI guidelines where this study gathers knowledge of experience of multi stakeholders.
4. RDA will follow-up the crop cut program as per IRRI protocol with the presence of UAO/ breeder from BRRI or universities or local SAAO with few village farmers/ community. As well as crop cut needs proper data collection and documentation.
5. RDA monitors dealer demonstration at the fields with proper data collection and documentation. Dealers selected from BADC who have valid licensed and willing to participate the variety performance trial.

IRRI and Rural Development Academy (RDA), agree that the results of the collaborative research and/or the Foreground IP can be used:

1. For non-commercial research and training conducted by IRRI and by 3rd party public research institute (hereinafter referred to as "Research Exemption"); or
2. For use in the event of a national or regional food security emergency limited to the duration of the emergency (hereinafter referred to as "Emergency Exemption"); or
3. For use in teaching activities by academic organizations (hereinafter referred to as "Teaching Exemption").
4. Foreground IP generated in collaborative research shall be managed with the aim of reaching and achieving the greatest positive impact for the benefit of the rice farmers and rice food security.
5. Each of the parties is free to use all data and information developed under this Agreement for the enhancement of their respective academic and research programs. Whenever applicable, the principal authors, researchers, and project leaders from both Parties shall be identified, recognized, and included in any publications arising from the joint RandD projects.

Non-ADP Funded

Report-10

Livelihood Enhancement of the small farmer in SAARC region through small scale agro-business focusing on value chain development.

Objectives of the project

Overall objective of the project is promoting agro-business model in selected sites with a major focus on promoting small agro-processing equipments for quick value addition of fruits and vegetables.

Specific Objectives

1. Increase income and improve livelihoods of the small holders
2. Promote empowerment of rural women and employment through promotion of agri-business
3. Develop value chain of the agriculture products and mainstreaming the locally produced commodities

In Bangladesh, the major marketing channel flow of fruits and vegetables from the farmers to the consumers is summarized below:

a. Farmers → own family consumption
b. Farmers → Hat/Bazar → Local Trader → Retailer Consumer
c. Farmers → Hat/Bazar → Faria → Wholesaler Retailer
d. Farmer → Hat/Bazar → Faria → Wholesaler → Processor/Exporter

Project activities

a. Inception meetings and Farmer group formation and baseline survey
b. Identification and supply of equipments and inputs
c. Training need assessment (Training on IGA)
d. Conduct of training based on training need assessment (value chain development, agro processing, product handling, post harvest management, farm business management)
e. Development of small agro-business and exposure visit
f. Production, processing and Marketing
g. Monitoring and evaluation

Outcome of the project

a. By 2020, at least 75% of the farmers using the new practices are earning at least 15% more income than under the conventional methods (and none is earning less)
b. Post-harvest losses for selected vegetables and fruits reduced by 10 % as a result of new practices

Impact of the project

a. Proportion of people living below national poverty lines
b. Active involvement of farm families in collective agri-business managed by the community
c. Diversification and specialization of household income source
d. Gradual reduction of poverty and malnutrition
e. Investment on education and family welfare increased

Project Location(s)

Bogura and Gazipur

Project Implementation Period

Date of commencement: 08th October 2018 (Started on June 2019) and date of completion: 7th October 2021 (Expected project no cost extension for 1 year)

Progress

The following project activity has been completed:

- National inception of the Project has been completed at RDA with the collaboration of SAARC Agriculture Center (SAC) and CIRDAP as well as counterpart agency Ministry of Finance.
- Group formation activities have been done at two sub project areas of Gazipur and Bogura.
- Baseline survey has been completed by survey team and under review for finalization.
- Construction of processing shed at Bogura and Gazipur Site has been completed.
- Installation and procurement of vacuum frying machine has been completed and starting value addition of Jackfruit and Banana. Small scale marketing is ongoing of jackfruit and Banana Chips.
- Small scale Tomato Hot Ketchup making machineries are supplied to the Gazipur site and training program has been completed on Value addition of their cultivated Tomato as well as started value addition of Tomato.
- Registering of FPOs of both sites (Bogura and Gazipur) has been completed.
- Training and inputs are supplied to the beneficiaries according to project book.
- Audit has been completed for FY2019, FY2020 according to International Standards on Auditing (ISAs) and there is no audit objection.

5.2.3 Completed Action Research Projects (during 2020-21)

Report-11

Action Research Project on Extension and Dissemination of Modern Water Saving Technologies and Management Practices to Increase Crop Production

This is ADP funded project. The duration of this project was 6 years (April 2015 - June 2021). The project cost was Tk. 3963.00 lakh. This project was being implemented by CIWM, RDA, Bogura. Under this project a total of 200 (two hundred) sites selected under 40 districts in seven divisions of Bangladesh.

Objectives

a. Main Objective

The main objective of this project is to increase rice and other crop production for addressing climate change issues through dissemination of modern technologies and effective water management practices for improvement of rural livelihood.

b. Specific Objectives

The specific objectives was as follows-

1. To introduced modern farming technologies at 200 sites of seven divisions for increasing rice and other crop production;
2. To increased irrigation water use efficiency (reduced irrigation water 30% compared to conventional system);
3. To improved the soil fertility through utilization of trichoderma enhanced composting;
4. To enhanced knowledge and build up awareness among the farmers in modern farming technologies; and
5. To improved rural livelihood through improved on-farm integrated water management practices and farm productivity.

Major Activities of the Project

- Demonstration of water saving technologies such as Alternate Wetting and Drying (AWD), Raised Bed (RB) and System of Rice Intensification (SRI) in 200 sites under 40 districts of Bangladesh as well as RDA demonstration farm.
- RDA demonstration farm used as main station/laboratory as a research field.
- Training on improve water saving farming technologies through Farmer's Field School (FFS) concept and exhibit the demo plots. Total 200 batches FFS training completed.
- Procured required machineries and equipments have been distributed conditionally among the trained farmers. A total 99 Power Tiller with Bed Former distributed among the trained water saving farmer groups.
- Demonstration plot of environment friendly water saving technology would be shown at farmers' field and consider them as service provider group.
- Introduced rice transplanter machine for mechanization in rice cultivation.

- Arranged field day to demonstrate modern technologies among the nearby farmers in various stages of crop production.
- Arranged workshop for sharing the knowledge, experience, findings to the target groups, policy makers as well as relevant organizations for quick expansion and popularizing these water saving technologies.
- Developed and distributed brochure, leaflet, poster and other printed materials for dissemination of these water saving technologies.

Progress

- A total demonstration 2180 on water saving technologies (raised-bed; AWD, SRI and Trico composting) setup up to June, 2021 in 200 sites under 40 districts of Bangladesh.
- Demonstration and research up to june, 2021 has already been done at RDA main Laboratory station and 7 Mother Trial in 7 divisions.
- A total of 200 batches (40 farmer/batch) Farmers Field School (FFS) training has been done in selected sub-projects areas.
- 528 Field days has been done in selected sub-projects area at different growing stages of field crops.
- A total of 36 batches (25 farmers/batch) has been already conducted on Orientation and Management Training
- This project has completed 08 inception workshops among the led participant farmers, researchers, local SAAO, NGO representatives and owner of irrigation source.
- A total of 20 batches (16 farmers/batch) Argil. Machinery training is conducted on.
- Argil. Machinery has already been procured for sub-project areas and main research field 99 Power Tiller has been distributed among the selected farmers group.
- Savings and credit programme are going some selected groups by CIWM of RDA.

Table 5.4. Findings of Water Saving Technologies

Name of Technology	Water Saving	Yield Increased	Remarks
AWD	18% - 20%	10% - 12%	Rice crop
Raised Bed	30% - 40%	15% - 40%	Rice, wheat, jute, maize, mustard, pulse and vegetables crops
SRI	25% - 30%	25% - 30%	Rice crop
Tricho-Compost	Increased soil fertility and productivity as well as fungal infection decreased		

Report-12

Action Research Project on Graduation from Poverty in Chars Island at Sariakandi and Sonatola Upazila of Bogura District.

Action Research Project on Graduation from Poverty in Chars Island at Sariakandi and Sonatola Upazila of Bogura District has been implemented from July 2017 to June 2021 in the char areas at Bogura District of Bangladesh. It is unique in its design and it was implemented successfully resulting poverty reduction, income earning and improving of livelihoods especial emphasis given on women empowerment in the project areas. This is an ADP funded project. The project duration is 3.years (July 2017- June 2021). The project cost is Tk. 3055.70 lakh.

Objective of the Project

Main Objective

The main objective of the project is to graduate from poverty and ensure sustainable rural livelihoods and food security by increasing the household income of the vulnerable char-dwellers living in the char islands of Sariakandi and Sonatola Upazilas under Bogura district.

Specific Objectives: The specific objectives are as follows-

1. To increase the household income of the hardcore poor char-dwellers through capacity development and asset transfer for the graduation from poverty through improved agricultural farming practices;
2. To develop market system linkages for better access to mainland markets;
3. To involve the selected beneficiaries in various enterprise activities (both on farm and off farm for better livelihood improvement;
4. To promote cattle improvement and related services through livestock service providers (LSPs), Artificial Insemination (AI) support service and ICT based livestock management; and
5. Capacity building of the beneficiaries' special emphasis on socioeconomic and agricultural aspects of livelihood improvement.

Location of the Project

The project will be implemented in the char areas in 08 (eight) unions of 02 (two) upazilas namely Sariakandi and Sonatola under Bogura District.

Main Activities of Project

- Base line survey for identification of beneficiaries;
- Categorically group formation;
- Incentive based micro saving programme in VSLAs;
- Assets transfer to the core beneficiaries of the project;
- On farm and off farm enterprise development for the beneficiaries;
- Handicraft or tailoring;
- ICT based livestock management and cattle improvement;
- Agro based technology transfer through demonstration and training;

- Awareness building and skill development training courses, seminars and workshops;
- Delivery social safety net programs and emergency aid during and after natural disasters;
- Implementation of some project activities by LSPs; and
- Monitoring and Evaluation.

Progress

- A total of 6000 cattle (3000 head cows and 3000 head goats) had already been distributed among the core beneficiaries under assets transfer program.
- Training provided to 30 peoples for ICT based livestock rearing, Social awareness 3000, Disaster management 3000, Nutrition and Personal hygiene 3000, Crop production in char land 900, Beef fattening and entrepreneurship development 750, Seed processing and business 60, Fodder and Maize Stover silage production 300, Afforestation 300, Primary treatment 30, Market development and business planning 60 and 150 beneficiaries were trained on handicrafts and tailoring trade.
- Stipend for livestock rearing disbursed among 6000 beneficiaries.
- 6000 (100% Female) members have received productive assets, mainly cattle and goat, with training and stipend support over an 18 month period. The cattle and goat numbers increased 1-3 and 6-17 folds respectively during 4 years project period.
- 1500 beneficiaries are benefited Solar power operated 09 submersible pump were installed for drinking and household purposes.
- Under AI program 3500 cows were artificially inseminated.
- Solar power operated 09 submersible pump were installed for drinking and household purposes.
- Hybrid fodder cutting of pukchung-1 was distributed among 2830 beneficiaries.
- Disaster and climate change 600, health and cleanliness 600, cattle feed and silage making 300.
- 30 LSPs (Livestock Service Provider) achieved skill on ICT Based Livestock Management and AI Technology. They are applying knowledge at the field level among the beneficiaries.
- Establishment of satellite Clinic No. 32.
- Milk marketing and Enterprise development No. 08.
- Incentive to beneficiaries through VSLA No. 3000 person.
- Support Service (Chopping Machine) No. 30
- Improved Nochimon (chorer gari) No. 8.
- 1500 households have access to sanitary latrine and 1604 HHs (1500) with 7700 heads have access to safe water supply system from deep tube-well.

Report-13

Action Research on Improvement of agroforestry practices for better livelihood and environment in Charland area of Tista River Basin Funded by KGF

Action Research on Improvement of agroforestry practices for better livelihood and environment in Charland area of Tista River Basin Funded by KGF has been jointly implemented by Hajee Mohammad Danesh Science and Technology, University, Dinajpur and Chars Development Research Centre (CDRC) RDA, Bogura from February 2018 to February 2021 in the char areas of Teesta river basin. It is unique in its design and it was implemented successfully resulting poverty reduction, income earning and improving of livelihoods environment in the project areas. This is a Non ADP funded project. The project duration is 3 years (2018 to February 2021). The project cost is Tk. 49.00 lakh.

Objectives

1. Improvement of traditional and modern agroforestry systems practiced in the farmland and homestead in the char land areas of Nilphamari and Rangpur districts.
2. To access the impact of improved farming systems in terms of livelihood changes, biomass contribution in the soil and environmental upgradation in the Charland of Tista River Basin.

Outcomes

i. Successfully more different timber, fruits and soil conserving species were transplanted on the Charlands of three districts under Teesta River Basin

ii. Different winter and summer vegetables/crops were successfully cultivated during the year 2017-2019 in association with the planted different tree species resulting increased income of the participating farmers.

iii. Better livelihood and bio-diversified sound environment were crated in char areas of Lalmonirhat, Nilphamary and Rangpur districts which were reflected from the environmental and livelihood parameters recorded before and after the project implementation.

iv. Several different agroforestry cropping pattern were identified which are successfully used by the farmers of char areas of Banladesh.

v. 160 farmers were successfully trained up regarding agroforestry, social safeguard and environmental concept.

vi. Under this, project 6 MS thesis was produced.

vii. Seven different scientific research articles were published in the peer reviewed reputed Journal of broad and abroad.

Report-14

RDA Demonstration Farm

The demonstration farm was created shortly after the establishment of the Academy with the following broad objectives:

1. Conducting innovative, adaptive and demonstration trials and dissemination of improved agro-technologies to the farming community;
2. Holding practical sessions of the skill development training courses on agricultural technologies organized by the Academy; and
3. Producing quality seed of HYV rice, Potato and other high value crops and products to help the Govt. in agricultural development.

The demonstration farm measures about 80 acres of which 65 acres are under Action Research and the rest of the area is under infrastructure such as road, farm building, Bio-gas plant, pond and irrigation system etc. At present the farm has nine agricultural individual production Units: Those are (i) Crop (ii) Nursery (Orchard and Ornamental) (iii) Poultry, (iv) Dairy, (v) Fisheries, (vi) Biotechnology laboratory, (vii) Irrigation and Farm power machinery, (viii) Palli Joibo Shar and Biogas Unit and (ix) Agro-products processing and Refrigerated storage unit

Farm Management

A Farm Development Committee Chaired by the Director General of the Academy oversees the activities of the Demonstration Farm. All faculty members of the Agricultural Sciences Division with diversified technical disciplines are members of the Committee. Each unit In-charge carries responsibility of planning and executing the year long production and research activities. The entire program of the Farm from planning to implementation is materialized under the overall guidance of the Director of Agriculture Sciences Division. The ultimate implementer of the planned activities is the Farm Manager who acts under the overall guidance and care of the Farm In-Charge. The Farm In-Charge is nominated among the faculty members of the Agricultural Sciences Division. Relevant Faculty Members, in addition to the Unit In-charges, render their services in crop production including soil fertility management, horticulture (orchard and ornamental), dairy, poultry, fisheries, farm mechanization, irrigation, tissue culture and agro-product processing and marketing.

Activities Preformed During July 2020-June 2021

i. Crop Unit

It's clear that agriculture, done right, is the best means the world has today to simultaneously tackle food security, poverty and environmental degradation. Keeping this philosophy for rural development RDA, Bogura operates crop unit in its demonstration farm on 30.00 acres of land and also 15 acres under collaborative research activities under (PPP) model. The crop unit experiments on and produces grain crops seed mainly Aman and Boro paddies as well as, potato and different seasonal vegetables around the year. Seeds produced of rice; and potatoes are regularly sold to BADC under its Contract Growers Program. RDA is a member of that program and has been producing, quality seeds that contribute in the government national seed supply chain.

Apart from the production activities the unit offered practical training to training on the production technologies of organic fertilizers and their utilization, hybrid maize production and homestead vegetables production to trained farmers' on modern crop production technologies as learning

by doing.Crop unit also playing a role to motivate farmers and extension of modern technologies. Conduct research to make agriculture more profitable as a means of achieving food security and rural self employment, provide feedback about technologies to the concern research institute to improve the technology. Finally the unit is trying to build up a knowledge bank on crop production technology for delivering actionable knowledge among the farmers.

Table 5.5. Income and Expenditure of the Crop Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Aman rice seed, Potato, Boro Paddy, vegetables and non seed potato, non seed rice along with straw	2016-2017	27.40	19.90	7.50
	2017-2018	23.57	18.23	5.26
	2018-2019	26.62	20.38	6.24
	2019-2020	19.51	13.90	5.44
	2020-2021	28.77	21.15	7.61

During the reporting year crop unit supplied 9,000 Kg of Aman, 40000 Kg of Potato, and 10600 Kg of quality Boro rice seeds to BADC, Bogura for supporting the govt. seed multiplication program. Apart from the production activities the unit conducted practical sessions for total 63 batches trainees on the production technologies of organic fertilizers and their utilization, rice seed production and homestead vegetables production and more than 15100 visitors from home and abroad visited the unit.

ii. Nursery Unit

Nursery unit is one of the self-financed units of RDA demonstration farm. The activities of the unit are being conducted on 6 acres of land including a germplasm repository. It is divided into two parts: orchard and ornamental section.

Orchard Section: In this section experiments and research has been conducted on different variety of indigenous and exotic fruits. During last fiscal year 10000 mango saplings, 4000 lemon saplings, 3500 litchi saplings, 4500 guava and other various 6000 fruit saplings are developed through cleft, layering and other grafting techniques. In orchard section nursery unit has also introduced gremplasm centre of vegetables seedlings plant. From this centre the nursery unit more than 40000 brinjal, capsicum, pointed gourd, bottle gourd vegetable seedlings has been sold to the farmers.

Ornamental Section: In this section experiments and research has been conducted on exotic, rare and others new variety of ornamental plants. During last fiscal year more than 25000 seedlings are developed through cutting technique. More than 30000 thousand seedlings are distributed among project beneficiaries, poor farmers and Government organizations in honor of 100 years birth anniversary of Father of the Nation Bangabandhu Sheikh Mujibur Rahman.

Training on nursery management has been given among 250 people. More than 11000 visitors have visited this unit. The cost-benefit status of this unit is presented in following table:

Table 5.6. Production Income and Expenditure of the Nursery Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Seedlings, saplings and grafts of different plant species	2016-2017	17.62	11.64	5.98
	2017-2018	15.63	14.86	0.77
	2018-2019	10.83	7.19	3.64
	2019-2020	12.43	11.06	1.37
	2020-2021	10.18	11.05	-0.87

iii. Poultry Unit

Poultry unit is one of the important units of RDA demonstration farm. It is covers an area of 1.00 acre including six poultry sheds including two deshi poultry shed. This unit is working as a demonstration as well as training ground for the visitors and participants coming from different corners of the country. This unit also implementing internship programme for Doctor of Veterinary Medicine (DVM) and Animal Husbandry (AH) graduates from Bangladesh Agricultural University, Mymensingh; Hajee Mohammad Danesh Science and Technology University, Dinajpur; Patuakhali Science and Technology University, Patuakali; Sylhet Agricultural University, Sylhet and Sher-E-Bangla Agricultural University, Dhaka. Now, this unit is rearing indigenous chicken commercially under semi intensive system with improved management (brooding, balanced feeding, deworming, vaccination etc) . The last financial year this unit was reared 7577 indigenous chicken and 1000 hybrid chicken locally known as tiger chicken sold out among the employees of RDA and also in local market. The total mortality was very low in case of both deshi and tiger chicken due to application of modern poultry production practices. Income and expenditure of the Poultry Unit during 2020-2021 are shown below:

Table 5.7. Income and Expenditure of the Poultry Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Chicken	2016-2017	17.90	9.91	7.98
	2017-2018	2.59	0.43	2.16
	2018-2019	2.77	0.69	2.08
	2019-2020	3.61	0.90	2.71
	2020-2021	8.32	3.80	4.51

Under this unit 13 rural poor people were trained for developing their practical skill in poultry production and more than 13,000 other trainees and visitors visited the farm as a part of demonstration. But this year here also decreases the number of visitors due to fetal and most contagious effect of Covid-19.

iv. Dairy Unit

Dairy unit is one of the key units of RDA demonstration farm. This unit is working as a demonstration as well as training ground for the visitors and participants coming from different corners of the country. Dairy unit covers an area of 4.5 acres including 5 cattle sheds and grassland. This unit also implementing internship programme for Doctor of Veterinary Medicine (DVM) and Animal

Husbandry (AH) graduates from Bangladesh Agricultural University, Mymensingh; Hajee Mohammad Danesh Science and Technology University, Dinajpur; Patuakhali Science and Technology University, Patuakali; Sylhet Agricultural University, Sylhet and Sher-E-Bangla Agricultural University, Dhaka The newly technologies which are using under this unit are (i) ICT Based Livestock Management for proper record keeping (ii) Machine milking for ensuring hygienic milk production; (iii) using own developed milk replacer and calf starter for ensuring economic calf production; (iv) Maize stover silage to overcome the shortage of cattle feed; (v) Estrus synchronization; (vi) Embryo Transfer; (vii) Dehorning (viii) AI in Sheep; (ix) Environment friendly livestock waste management etc. The regular activities of this unit are milk production, selling of cow dung, selection and culling of cattle. This unit organized practical session of different livestock production, health and artificial insemination related training courses on regular basis. Production, expenditure and income of the Dairy Unit during 2020-2021 are shown below:

Table 5.8. Production, Income and Expenditure of the Dairy Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Culled cattle, Milk, and Cow dung	2016-2017	53.17	45.23	7.94
	2017-2018	68.30	66.20	2.1
	2018-2019	59.90	79.06	-9.16
	2019-2020	50.98	47.92	3.06
	2020-2021	80.25	74.00	6.25

Gross income earned by selling of milk, cow dung and culled animal respectively. The unit also offered internship to 200 students of DVM and AH, skill development training to 100 trainees and more than 12000 other trainees and visitors visited the farm as a part of practical demonstration

v. Fish Hatchery Unit

The Fish Hatchery Unit runs its activities on 06.50 acres water bodies and a modern hatchery. The main activities of this Unit are rearing of brood fish, production of fish seed and fish fingerlings of different indigenous and exotic fish species adapted to local environments and organizing practical sessions of fish culture training courses. There are six ponds and canals under this Unit. Of these, three ponds are perennial, having 03.50 acres of water area used to rearing brood fish. The rest of the pond and the canals are seasonal, having 03.00 acres of water area and used for rearing fish spawn. Fish seed (spawn) of different species such as carps, magur, gulsha, tengra, mono sex tilapia, Vietnami koi are produced in the hatchery.

Additionally, different types of ornamental fishes like koi carp, comet carp, goldfish, milky carp are produced on a small scale in a fish hatchery. Production, expenditure, and income of the Fish Hatchery Unit during 2020-2021 are shown below:

Table 5.9. Production, Income and Expenditure of the Fish Hatchery Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Fish seed and fish fingerlings of different indigenous and exotic fish species	2016-2017	20.52	15.48	4.94
	2017-2018	7.37	5.53	1.83
	2018-2019	8.21	2.84	5.37
	2019-2020	13.07	5.19	7.88
	2020-2021	7.05	5.83	1.22

Gross income earned by selling of fish and fish spawn produced in the pond and hatchery, respectively. Apart from this, the Unit offered training to 03 (three) trainees for the skill development course, and more than 1250 trainees and visitors visited the hatchery.

vi. Biotechnology Laboratory Unit

Biotechnology Laboratory Unit has been producing disease free high quality seed potato of different varieties (Diamant, Cardinal, Asterix, Granola, Courage, BARI-54 etc.) and of different categories (pre-breeder/minituber, pre-foundation, foundation, certified) therefore contributing significantly to the agriculture sector of Bangladesh through supplying of good quality healthy seeds to the rural farmers. It comprises a modern biotechnology laboratory, a Trichoderma laboratory, a mushroom laboratory and operates field level activities on an area of 06 acres of land and presently confined to the production of quality potato seeds and disease free potato plantlets for commercial purposes. Researchers of this centre are also working to establish protocol for the production of quality plantlets of gerbera, banana and orchid, Arabian dates, stevia, tomatoes, fig in this laboratory. Commercial production of tissue culture based strawberry at field level is also going on as regular activities. Recently, virus free plantlets of sweet potato have been produced in the lab and established in the field successfully.

Trichoderma laboratory is also another area of concern of this unit where good quality environmentally safe bio-pesticides and bio-fertilizers are being produced using a beneficiary fungus named Trichoderma harzianum. Trichoderma is an effective biological agent for 5/6 time's faster conversion of solid waste into best quality organic manure. This unit is conducting research on solid waste management using the potentialities of this fungus. These tricho-products have been distributed to the rural farmers and has a significant contribution on crop yield and control of soil borne diseases.

Table 5.10. The financial declaration of the Biotechnology Laboratory Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Tissue culture based Seed Potato; Potato, Banana, Stevia, Fig, Strawberry plantlets and Tricho products (Powder, Suspension and Biopesticide)	2016-2017	44.20	29.08	15.12
	2017-2018	35.52	21.27	14.25
	2018-2019	70.26	23.73	46.52
	2019-2020	28.54	17.28	11.26
	2020-2021	56.38	36.76	19.62

* Taka 16 lac (sixteen hundred thousand) has been transferred to revenue from the net profit in 2020-21 FY.

More than 850 interested students, farmers and entrepreneurs were trained on plant tissue culture

based plant production as well as disease free potato seed production technology under the supervision of the resource persons of this unit.

vii. Irrigation and agriculture Machinery Unit

Irrigation and agriculture Machinery unit of RDA is a support service unit in the demonstration farm which providing activities of irrigation pump and agricultural machinery technology dissemination and development inside and outside of RDA. Total agricultural water supply system of RDA is covered by four bore-hole pump and irrigate in the farmland using buried pipe system which ensure proper use of water reosuces. This unit is covered 80 acres of farm at RDA. The main role of the unit is helps to others units for land preparation, tillage operation by tractor and power tiller, rice planting by rice transplanted intercultural operations by modern equipment's, pre and post-harvest processing by reaper and thresher. Also, two mini combine harvesters are recently added to the units that largely helping to process agricultural crops as contact basis inside and other sides of the RDA. Modern agricultural machinery and equipment like combine harvester, rice transplanted, sprinkler and drip Irrigation, power tiller, tractor, reaper, thresher are used introduced in this unit which has greater impact on farm development. This unit has an agri-machiney workshop that produces many equipment's like close drum thresher, bed planter, potato harvester, AWD magic pipe and local agricultural machineries. Irrigation and agriculture machinery unit of RDA is not only covered land preparation works but also contract basis rent works have done to many farmers in Bangladesh. Moreover, power tiller and tractor operated vehicles also give support from this unit. Income and expenditure of the unit during 2020 –2021 are given in the following table:

Table 5.11. Income and Expenditure of the Irrigation and Agriculture Machinery Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Agricultural machinery rent and Irrigation	2016-2017	7.07	3.17	3.90
	2017-2018	6.65	3.89	2.76
	2018-2019	5.28	4.04	1.24
	2019-2020	6.95	5.75	1.20
	2020-2021	6.23	5.33	0.90

During last fiscal my year this unit has done tillage operation on 250 acre of land and deep tube well operated more than 2500 hours for irrigation and supply purpose. This unit also has given training among 20 persons on farm power machinery operation and maintenance which funded by DAE. Moreover, demand-based irrigation equipment and mechanization training course also offers from this unit. This is operated by an unit-in-charge with three support hand pump and machinery operator.

viii. Polly Joibo Shar and biogas Unit

Palli Joibo Shar and Biogas is a support service unit under RDA demonstration farm involved with the production of biogas and bio-slurry. It operates two different plats (RDA demonstration farm plant and Garidah dairy farm plant) to meet the daily consumption of biogas of RDA residential area. There are 37 (thirty seven) household connections for biogas at RDA residential area. The bio-slurry is being marketed with the brand of "Palli Joibo Shar" having different size of packages. Annual turnover of the unit for the FY2020-2021 with net profit of BDT 2.89.lakh.

Table 5.12. Income and Expenditure of Polly Joibo Shar and biogas Unit during last two years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Sales of Polly Joibo Shar and biogas	2019-2020	5.32	3.93	1.39
	2020-2021	6.79	3.89	2.89

viii. The Agro-product Processing, Preservation and Marketing (APM) Unit

APM unit of RDA, Bogura started in 2007 at the outer periphery of the of the RDA campus and adjacent to the NCDP market on 0.70 acre of land. It has started as a pilot programme with following objectives:

- to ensure processing of agro-products scientifically,
- to preserve the processed products at the right temperature to prolong the storage life,
- to disseminate acquired knowledge in preservation and processing technologies to the farmers, entrepreneurs, practitioners and others,
- to develop an effective marketing network for agro-products
- to make the better use by the farmers and traders for their products during lean period for avoiding losses.

This unit is being experimentally run under the Centre for Irrigation and Water Resource Management (CIWM). It is being used as a demonstration unit. CIWM initiated APM Unit's activities with allocation of Tk 55 lac. The unit is running its operation with marginal profit. Under this unit, processing and marketing federation of CIWM and entrepreneurs are working together.

Table 5.13. Income and Expenditure of APM Unit during last five years.

Name of products	Year	Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net profit (Tk. In Lakh)
Agro food products	2016-2017	186.11	190.22	-4.11
	2017-2018	201.27	213.50	-12.23
	2018-2019	175.12	190.94	-15.82
	2019-2020	85.05	92.08	-7.03
	2020-2021	52.78	52.87	-0.09

Report-15

RDA Laboratory School and College

Rural Development Academy (RDA) School and College is one of the most illustrious and traditional seats of learning in north Bengal in particular and in the country in general. Nestling entirely in a secured and serene atmosphere, some 10 mile to the south of the Bogura city this educational institute is continuing its onward march with a serious of brilliant success in curricular, co-curricular and extra-curricular activities. In 1985, Rural Development Academy (RDA) School and College was established with a view to educate the children of backward rural population of adjacent areas. With the establishment of the college section in 2001, its institutional status has increased greatly. School and College is working as a laboratory of RDA. The institution is run by an efficient governing body under the direct supervision of RDA. The governing body is headed by DG, RDA

as chairman. It started its journey with a vision of educating young students and creating future leaders who can imprint their footsteps in all areas of human achievement. A team of dedicated officers, teachers and staff provides personal attention to every student. Under their able guidance, the talents, skills and abilities of each student is indentified, nurtured and encouraged so that she/he goes to a greater height. Today Rural Development Academy (RDA) School and College is not just a school or college but a family in which the officers, teachers, staff, student and parents work united to foster this family spirit.

We feel proud to be a part of a great future in making. Meanwhile children of many vulnerable families of rural communities have completed their secondary and higher secondary education from this institution and they are now studying in different renowned institutions home and abroad. Some ex-students of this institution have completed their higher education and they are now serving in various sectors of the country. Among them, there are BCS cadres officers, university teachers, doctors, engineers, scientists and other dignified personalities who are contributing to the overall national development through their respective jobs. Our mission is noble and journey is same. Our efforts in this respect will be added new annals of achievements to the increasing glory of the college in the days ahead.

Students of this institute have been taking part in SSC exam from 1990 and HSC exam from 2003. By analyzing the results till 2020, it is found that in most cases 100% success has been achieved. In the PEC, JSC and SSC examination, the passing rate is 100%. In the last JSC exam of 2019, the passing rate is 100%. A+ 159 (68.33%). The passing rate of SSC-2020 is also 100%. A+ 216 (94%). Passing rate of HSC-2019 is 100%, A+ 118 (54.38%). It is notable that a significant number of students are getting scholarships each year in the PEC, JSC and SSC exam. Along with that a good number of students of this institution get chance for higher study in Medical, Engineering and different public universities each and every year. The last 5 years result of PEC, JSC, SSC and HSC exam are illustrated bellow:

PEC Result (2015-2019)

Year	Total	Successful	Grade				% of Successful
			A+ (%)	A	A-	B	
2015	175	175	124 (71%)	51	--	--	100%
2016	178	178	96 (54%)	74	04	04	100%
2017	180	180	125 (69%)	52	1	2	100%
2018	179	179	162 (90.50%)	16	1	-	100%
2019	186	186	151(81.18%)	33	2	-	100%

JSC Result (2015-2019)

Year	Total	Successful	Grade				% of Successful	Remark
			A+ (%)	A	A-	B		
2015	215	215	204 (95%)	11	--	--	100%	--
2016	236	236	228 (97%)	08	--	--	100%	--

Year	Total	Successful	Grade				% of Successful	Remark
			A+ (%)	A	A-	B		
2017	225	225	213 (95%)	12	-	-	100%	--
2018	233	233	166 (71.24%)	66	1	-	100%	--
2019	232	232	159 (68.33%)	73	-	-	100%	

SSC Result (2016-2020)

Year	Total	Successful	Grade			% of Successful	Remark
			A+ (%)	A	A-		
2016	163	163	142 (87%)	19	02	100%	--
2017	206	206	180 (87.38%)	26	--	100%	--
2018	221	221	184 (83.25)	34	03	100%	--
2019	262	262	231 (88.17%)	30	1	100%	--
2020	230	230	216 (94%)	14	-	100%	

HSC Result (2016-2020)

Year	Total	Successful	Grade					% of Successful	Remark
			A+ (%)	A	A-	B	C		
2015	167	167	31 (18.6%)	119	15	01	01	100%	---
2016	313	312	82 (26.20%)	189	35	06	--	99.68%	---
2017	219	219	46 (21%)	157	13	03	--	100%	---
2018	199	199	82 (41.21%)	113	04	--	--	100%	---
2019	217	217	118 (54.38%)	98	1	-	-	100%	

Currently, 2700 students are studying in the institute. 75 experienced teachers and 45 officers and employees are working. Because of the quality education of this institution the pressure of admission is very high. It is now a symbol of progressive and quality education in Bangladesh.

Achievements

In order to develop the latent talent of the students, sports such as football, volleyball, handball, cricket etc. are organized. As well as sports, debates, recitations, dance, knowledge-asking, portraying, music, swimming etc. are included in the syllabus. Students of this institution have achieved remarkable success by participating in different competitions held at upazilas, districts, divisions and national level. It is to be noted that in 2010 a student participated in National Children's Prize Competition, got the Gold Medal as the first prize. In 2011 and 2012, through participation in the National Children's Prize competition, a student occupies second place. The students also participated in the National Cultural Competition-2015 organized by Bangabandhu Shishu Kishore Mela, one student at the national level achieved 1st place on dance and one student

earned second place in NazrulSangitt. In 2016, a student got first place in dance at national level. In 2019, three students participated at Jatio Shishu Porushkar competition at national level and one student got 1st position at Hamd-nat, another got 2nd position at SoraGan and another got 3rd position at Polligiti and Loko Sangit.

Bangabandhu's Birth Centenary Celebration

RDA has undertaken an initiative to commemorate birth centenary of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman and National Children's Day in 2020. It was observed on 17th March, 2020 with due respect under the direct supervision of Md. Aminul Islam, Director General, RDA, Bogura. Md. Aminul Islam, Director General, RDA along with others placed wreath at Bangabandhu Sheikh Mujib's portrait. All the faculty members and officials of RDA, Teachers and Students of RDA Laboratory School and College enthusiastically took part in the program.

Different Activities by RDA Lab School and College in 2021

21st February- 2021

21st February and International mother language day 2021 was observed in RDA Lab School and College, Bogura with due respect and solemnity under the direct supervision of Mr. Khalil Ahmed, Director General, RDA, Bogura. All the faculty members and officials of RDA, Teachers and Students of RDA Laboratory School and College enthusiastically took part in the program. To observe the day the School and College organizes an Academic Essay Competition, Drawing competition and discussion meeting for students virtually. By this patriotism and attachment to own language is increased within students.

Opinion Exchanging Meeting with Teacher

Mr.Khalil Ahmed, Director General, RDA, Bogura and Chairman of the Governing body RDA Lab. School and College, Bogura meet with the teachers of RDA Lab School and College Bogura in an opinion exchanging meeting. In this meeting he gives his valuable opinion, also guide line and clear direction to the development of the institution.

Bangabandhu's Birth Centenary and National Children's Day Celebration

RDA has undertaken an initiative to commemorate birth centenary of the Father of the Nation Bangabandhu Sheikh Mujibur Rahman and National Children's Day in 2021. It was observed on 17th march, 2021 with due respect under the direct supervision of Md. Khalil Ahmed, Director General, RDA, Bogura. On the occasion the College was decorated colorfully. Mr. Khalil Ahmed, Director General, RDA, Bogura inaugurated the function flying colorful balloons and cutting a special cake. Honorable DG sir gives prize bond of 1000/- Tk to 100 poor and meritorious students. He also starts the program of tree plantation by distributing medicinal and fruit tree to the poor students. Moreover he starts the Education Insurance within the students of the school and College. As part of the plan, the School and College organizes an Academic Essay Competition for students. To observe the day the School and College organizes an Academic Essay Competition, Drawing competition and discussion meeting for students virtually. These competition aims to encourage students to write academic essays on the historic and significant role of Bangabandhu as the master helmsman in forgoing a global perspective for a newly independent country, Bangladesh. Special discussion was held on the significance of the life of Bangabandhu Sheikh Mujibur Rahman for the students in the auditorium. 10 students of different classes read virtually three books of Sheikh Mujibur Rahman by 10 days to enrich their knowledge about Bongobondhu Sheikh Mujibur

Rahman and also to heighten their respect for the father of the nation.

Independence Day Celebration : 26 March 2021

26 March of 2021 was observed in RDA Lab School and College, Bogura with due respect and under the direct supervision of Mr. Khalil Ahmed, Director General, RDA, Bogura. All the faculty members and officials of RDA, Teachers and Students of RDA Laboratory School and College enthusiastically took part in the program. To observe the day the School and College organizes an Academic Essay Competition, Drawing competition and discussion meeting for students virtually.

Kudsia Chowdhury Scholarship - 2021

RDA Lab School and College, Bogura gives Kudsia Chowdhury Scholarship to the students according to their result in the examination to increase the development in education and to grow the competitive attitude of the students. The Principal of RDA Lab School and College, Bogura inaugurated the function. Mr. Khalil Ahmed, Director General (Additional Secretary), RDA, Bogura was present in the function as the chief guest.

Farewell Ceremony of the Principal

The principal Mr. Sheikh Md. Abdul Mannan has been given farewell for completing his job successfully. The DG of RDA was the chief guest in the farewell ceremony. He presented a gift and a crest to the outgoing principal.

Bangabandhu Sheikh Mujibur Rahmans 46th Martyrdom Anniversary and National Mourning Day 2021 Celebration

August 15 is the 46th martyrdom of Father of the Nation, Bangabandhu Sheikh Mujibur Rahman. Virtual platform discussion, Drawing, Essay writing and Quiz competition are held on mourning the day. It is highly appreciated that students participated in the program spontaneously. Through this program students are informed the life style of the father of the nation, Bangabandhu Sheikh Mujibur Rahman, his fighting, spirit, love for the country and his leadership. Students are given different types of books written by Bangabandhu in different categories by the honorable DG Mr. Khalil Ahmed (Additional Secretary) of the RDA Bogura.

Engineering, Medical and University Admission Program

Very recently Admission coaching for Engineering, Medical and University program has been inaugurated the by the principal of Rural Development Academy (RDA) School and College, Bogura.This exceptional initiative has created an enthusiasm among the students and parents of the this institutions.

Scholarship for poor and meritorious students

After completing HSC form this institution, the students who are studying in various medical colleges and universities are given scholarship from poor found by the principal sheikh Shahriar Mohammad. The checks are handed over to the poor and meritorious students. Other teachers of the institution were present.

Talent Hunt Competition-2018:

Two students named SM Mushfiqur Rahman Mugdha and SM Shahnawaz of class Eight of RDA Laboratory School and College, Bogura took part in the Talent Hunt Competition-2018 and both of them secured first place at Upazilla and District level. SM Mushfiqur Rahman Mugdha took part from Group-A on Bangladesh Studies and Liberation War and SM Shahnawaz took part from

the same group on Mathematics and Computer. It is mentionable that SM. Mushfiqur Rahman Mugdha secured second place at divisional level.

Scouting at RDA Lab. School and College

This institution has well-equipped scouts and girl-in-scout teams. The scout team has been rewarded in all the camps held at Upazilla, District, Regional, National and International levels. It's notable that among them some are achieving the first position at the national level. By the year 2018, 65 Scouts have won the President's Scout Award, the highest award of Bangladesh Scouts. It is also mentionable that 15 scouts out of 15 were able to earn President's Scout Award in 2018. 14 scouts appeared for President's Scout Award in 2019 and the result hasn't been published yet. Three scouts have already increased the glory of the institute by participating in international Jamboree in Japan and Malaysia. This year in 2019 two scouts attended at the 24th world Jamboree held at West Verginia, USA, during 22 July-02 August. The institute has a nice Red Crescent Team also. Both Read Crescent Team and Scout Team are working relentlessly for peace and in time of disaster and are increasing the glory of the institute.

Curriculum Based Projects with foreign schools under British Council

The students of RDA Laboratory School and College are doing curriculum based projects with different foreign schools under British Council. Project on 'Climate Change' is going on with Punsaeng Middle School, South Korea; 'Arts and Crafts' with Holy Family Convent National School, Sri Lanka; 'Agriculture' with Dakados Governmental Language School, Egypt; 'World Earth Day' with Zarmdine Preparatory School, Tunisia; 'Save Every Drop of Water' with Holy Family Convent National School, Sri Lanka. The students are exchanging their views and thoughts with the foreign students to enrich themselves.

Visit to foreign Countries for International Programmes

1. Seven students from RDA Laboratory School and College visited Lakshmipat Singhania Academy, Kolkata, India for International Friendship Development Program on 05-09 November, 2017. The students also took part in football and Cricket tournament there.
2. Six students from this institution took part in the Asian English Olympics-2018 held on 08-12 February, 2018 in Jakarta, Indonesia.
3. A cricket team of RDA Laboratory School and College took part in the **5th International School Cricket Premier League (ISCPL)** held on 08-13 December, 2018 at **City Montessori School, Kanpur Road, Lucknow, India.**
4. Nine students from RDA Laboratory School and College visited **Lakshmipat Singhania Academy, Kolkata, India** for Curriculum based Projects and International Students' Exchange Visit Program from 21 September to 01 October, 2019.
5. Ten students from this institution took part in Confluence International -2019 and won the trophy held on 04-07 December, 2019 at **City Montessori School, Kanpur Road, Lucknow, India.**

Recognition for International Award:

1. RDA Laboratory School and College has gained **'International School Award, 2018-21'** accredited by British Council for successful completion of **curriculum based projects** handed over on 6th November, 2019 in the presence of Mr.Mohibul Hassan Chowdhoury,

MP, Honourable Deputy Minister, Ministry of Education, Bangladesh as chief guest. Prof.Dr. Syed Md. Golam Faruk, Director General, Directorate of Secondary and Higher Education, Ministry of Education, Mr.Kanbar Hossein-Bor, Honourable British Deputy High Commissioner to Bangladesh, Mr. Adrian Chadwick, Regional Director, British Council, South Asia and Tom Miscioscia, Country Director, British Council, Bangladesh at Hotel Radisson Blu, Dhaka.

2. RDA Laboratory School and College has gained **'International School Award'** accredited by **ISA, Dubai** for **"School with Safest Environment"**handed over on 16th December, 2019 in the presence of the Ambassador Dr. Deepak Vohra, Poland and Dr. Attaulah Wahidyar, Senior Advisor to Education Minister of Afganistan at Amity University, Dubai.

All the above mentioned achievements are due to the contribution of RDA and RDA Lab. School and College authority and the Governing body as well. We truly tune into students' needs and provide them with the support they need to improve their skills at their own pace. Our teachers are hard picked; they take joy in teaching and have proven their dedication to our students. Rural Development Academy (RDA) School and College aims at all round growth and development of students' personality which comprises of physical, psychological, and intellectual faculties. Rural Development Academy (RDA) School and College has progressively been marching forward since its establishment and its individual characteristics are being luminous.

Report-16

RDA Centres (Self Assisted)

Centre for Irrigation and Water Management (CIWM)

CIWM is specialized centre for irrigation and water resources research focusing rural development. It mainly dealing with action research to find out appropriate solutions and replicable models for rural development which was established in 2003 to reach rural people with the benefits of RDA-developed irrigation and water management models within a very short time. The centre has transferred from project approach to programmatic approach to make the projects outcome sustainable and is continuing its past project activities.

Main activities and achievement

Research and Action Research: CIWM conducts action research by emphasizing irrigation and water management as means of improved agricultural practices for sustainable rural development. Since its inception, it has been continuing action research projects to generate additional employment opportunities in rural areas through irrigation and water management technologies. CIWM has already successfully completed seven action research projects and Replicating RDA-developed irrigation and water resources model at various organizations with their own fund and interest/ request. Recent consultancy work is running by CIWM which are listed below.

Innovative Approach of Government for Urban Waste Management

In RAJUK Uttara Apartment Project (6636 flats) an innovative approach of waste management project named "Biological Treatment Plant for Sewage and Wastewater (STP), Solid Waste Management with Bio-digester to produce Energy and Quality Organic Manure including Rain Water Harvesting with Reservoir and Ground Recharging finally make Uttara Apartment Project, RAJUK, Dhaka more Green and Clean" is being implemented by CIWM, RDA, Bogura.

Under this approach rainwater harvested from rooftop will be subside in existing aquifer after treatment for uplifting groundwater level of the project area. Total sewage water will be managed in Sequential Batch Reactor (SBR) type Sewage Treatment Plant (STP). Here biological treatment takes place and the overflow water will be drained in existing stream after treatment. Source separation will be ensured in household level. The sediment of STP and the separated degradable waste will be managed in Bio-gas plant. Produced bio-gas will be used as cooking energy and best quality fertilizer will be produced from slurry comes out from bio-gas plant.

In the last financial year 2020-21 a total of 22 RDA-developed Water Resources Model (DTW with or without WTP) are implemented by different organizations by depositing full cost. In the current financial year a total of 10 projects work is being going on.

On the other hand total 33 technical and financial proposals have been submitted to concern authority on the basis of request from different organizations. After receiving the proposed project cost, the project will be implemented as per scheduled of work plan. CIWM, RDA, Bogura total 282 projects has been replicated as full cost in the different organizations of Bangladesh.

RDA Credit Program

Supply of safe drinking water in rural areas is a critical problem in our country. In rural areas no subsidy is provided by the government for safe drinking water supply. Considering this issue as a national priority basis CIWM has developed a micro-finance model term as RDA-credit. The main objective of this model is to empower rural people in such a way so that they can become financially self dependent. As a result they can easily pay back the seed capital and water supply charges. To carry out varies income generating activities RDA-credit give support to the unemployed project beneficiaries. This support helps to improve their living standard as well is socio-economic level.

Overall Achievement of CIWM

1. RDA-developed technology has been extended at ten sites from the own income of CIWM. In this regard, a MoU is signed with the interested NGO/Samittee to deposit 10% of the total project cost as down payment and to pay the rest amount within one/two years at 11% interest.
2. Till date, a total of 182 persons have been employed from the own income of CIWM without any financial assistance of government. To put it another way, about 910 members of 182 families (5 members in each family) have ensured a comfortable livelihood.
3. In the current year, the Centre has provided Tk. 28.00 lakh to the revenue budget of the Academy.
4. Inter institutional linkage has been developed with various GOs (DAE, LGED, REB, DPHE, BMDA, JFCL, BICIC, NHA, RAJUK) and NGOs (BRAC, Proshika, GKF) by extending RDA-developed Irrigation and Water Management Technology.
5. The Model ensuring multipurpose use of water resource is getting more and more popularity day by day.
6. Water Resource Development Technology with training matched RDA-credit has changed the socio-economic status and improved the quality of livelihood of the rural people.

Recognition for CIWM Activities

- **Independence Award-2004** for extra-ordinary contribution to rural development more

specifically by: (i) irrigation command area development through buried pipe technology (ii) innovation of multipurpose use of low cost DTW model (iii) development of arsenic-free safe water supply plant and (iv) development of technical protocol for commercial hybrid maize seed production in Bangladesh.

- **'Bangbandhu National Agricultural Award 1415 (Gold)'-2010** by the present Government for the recognition of CIWM's achievement (Innovation of Environmental Agricultural Technology).
- **AARDO-Rural Development Award 2012,** New Delhi, India; March, 2012**-** This Award is bestowed on Rural Development Academy from Bangladesh in recognition of its outstanding contribution in the field of Rural Development.

Table 5.14. Model replication in 2020-2021 (Completed up to June 2021)

Sl. No	Name of Project	Nature of Work	Funded by
1	Bangladesh Livestock Research Institute (BLRI), Rajabari Hat Godagari, Rajshahi.	DTW	GO
2	PBS Patuakhali.	DTW, WTP	GO
3	PBS Shatkhira.	DTW, WTP	GO
4	Bangladesh Sugarcrop Research Institute (BSRI), Subornochar, Noakhali.	DTW, Buried pipe	GO
5	Palli Biddut Samity, Ullapara, Sirajgonj.	WFP	GO
6	Chattogram Palli Bidyut Samity-3 at Sitakundo, Chottogram	DTW, WTP	GO
7	132/33 KV Grid Sub-Station, Fultola Bazar, Shitakunda, Chottogram	WTP, and RO	GO
8	DAP Fertilizer Compan Ltd. At Housing Colony Rangadia, Anowara, Chattogram	DTW and PH	GO
9	Pbs-2, Sirajgonj at Sialcole, Sirajgonj	WFP Servicing	GO
10	Fenchugonj Combined Cycle Power Station, Fenchugonj, Sylhet	DTW	GO
11	Jamuna Fertilizer Company Ltd. (JFCL), Tarakandi, Jamalpur.	DTW	GO
12	Strengthening of Hilsha Research in Revering Station at Chandpur	DTW	GO
13	Bibiyana-South 400MW Combined Cycle Power Plant Campus, Nobigonj, Hobigonj.	WFP Servicing	GO
14	Palli Biddut Samity–2, Kashinathpur, Pabna.	WFP Servicing	GO
15	Polas Urea Fertilizar Factory LTD, Polas, Narsindhi.	DTW and P/H	GO
16	Narayongonj PBS , Narayongonj	WFP Servicing	GO
17	Chattogram Urea Fertilizer Factory Ltd. (CUFL) Rangadia, Chattogram.	DTW	GO
18	Palli Biddyut samittee, Zhilongza, Cox's Bazar	WFP Servicing	GO
19	Bangladesh Power Station, BPDB at Baghabari, Sirajgoaj	WFP Servicing	GO
20	Tannery, Dhaka, Savar.	Maintenance	GO
21	Bhola 225 MW Combined Cycle Power Plant, Bhola.	DTW, PH, Pipe line	GO
22	Shazibazar 330MW Combined Cycle Power Station, Shazibazar, Hobigonj.	DTW	GO

Table 5.15. Model replication (On-going)

Sl. No	Name of Project	Nature of Work	Funded by
1	Sopno Nagar Under National housing authority, Segunbagicha, Dhaka.	DTW, WTP, Bio-gas Plant, Pipe line	GO
2	Rangpur Sugar Mills Ltd. at Sahebgang Fram, Gobindaganj, Gaibandha.	DTW, Pipe Line	GO
3	Uttara Apartment Project,Rajuck,Dhaka	Solid Waste Management, STP	GO
4	Fisheries Diploma Institute at Chandpur	DTW, WTP	GO
5	Sheikh Rehana Textile Engineering College at Gopalganj.	DTW, WTP	GO
6	River Research Institute, Faridpur.	DTW & WTP	GO
7	Palash Urea Fertilizer factory, Norshingdi	DTW	GO
8	University Grants Commission of Bangladesh, Residence Area at Dhaka	DTW	GO
9	Titas 50 MW Power Plant, Titas, Cumilla.	DTW and WTP	GO
10	BSCIC Industrial State at Narsingdi	DTW, PH	GO

Table 5.16. Proposal submitted to different agencies

Sl. No	Name of project	Nature of work	Funded by
1	Titas 50 MW Power Plant, Titas, Cumilla.	DTW and WTP	GO
2	Chittagong Urea Fertilizer Factory Ltd. (CUFL) Rangadia, Chittagong.	DTW	GO
3	Bangladesh Glass Factory at Barokund, Sitakunda, Chattogram	DTW and P/H	GO
4	Bangladesh Glass Factory at Barokund, Sitakunda, Chattogram	DTW	GO
5	Palli Bidyut Samity, Bogura.	WTP Servicing	GO
6	Palli Bidyut Samity, Sylhet.	WTP Servicing	GO
7	BCS Administration Academy at Dhaka.	WTP	GO
8	Resettlement Village Development Project, Uttara, Dhaka.	WTP, Sewage Treatment Plant, Solid Waste Management, Rain water Harvest	GO
9	PBS Nowakhali	DTW, WTP	GO
10	Barishal Metropolitan and Khulna District Police Line Project at Barishal	DTW, WTP	GO
11	Barishal Metropolitan and Khulna District Police Line Project at Khulna	DTW, WTP	GO

Sl. No	Name of project	Nature of work	Funded by
12	PBS, Rupatoli, Barishal	DTW. WTP	GO
13	Shazibazar 330MW Combined Cycle Power Station, Shazibazar, Hobigonj.	O/W, 6Nos.	GO
14	PBS-2, Raujan, Chottogram	DTW.WTP	GO
15	70 MW Piking Power Station, Power Development Board, Bara, Pabna	WTP Servicing	GO
16	Bhola 225 MW Combine Cycle Power Plant	3No O/W, 3No DTW, PH, Pipe line	GO
17	Polas Urea Fertilizer factory Narsingdi.	DTW	GO
18	230 KV Switching Station, Sirajgonj	WFP Servicing	GO
19	PBS, Moulovibazar	WFP Servicing	GO
20	PBS-1, Narayongonj	WFP Servicing	GO
21	PBS, Cox's Bazar.	WFP Servicing	GO
22	National Academy for Computer Training and Research at Bogura	DTW	GO
23	Palash Urea Fertilizer factory, Norshingdi	DTW	GO
24	Cornel Malake Medical College and Hospital (500 Bed) at Manikgonj.	WFP	GO
25	Horipur 100 MW Gas Turbine Power Station at BPDB, Horipur, Narayongonj.	DTW, PH	GO
26	Jashore Palli Biddut Samity-2 at Manirrampur, Jashore	WFP, Ground Reservoir	GO
27	Sher-e-Bangla Agricultural University (SAU) at Dhaka	DTW	GO
28	Begum Amina Monsur Textil Engineering Institute at Kazipur, Sirajganj	WFP, Ground Reservoir, P/H	GO
29	Shaheed M Monsur Ali Medical College and 500 Bedded Medical College Hospital at Sirajganj	WFP, Aeration Tank,	GO
30	Naogaon Palli Biddut Samitte-1 at Chakbiram, Naogaon	WFP Servicing	GO
31	Bangladesh Livestock Research Institute (BLRI) at Savar Dhakai.	Pump with Motor supply and Installation	GO
32	Bangladesh Agriculture University, Mymensingh- DTW	DTW	GO
33	University Grants Commission of Bangladesh, Residence Area at Dhaka	DTW	GO

DTW- Deep Tube Well

WTP- Water Filtration Plant

Report-17

Seed and Biotechnology Centre (SBC)

Rural Development Academy (RDA), Bogura along with its stakeholders has drawn national and international recognition as an efficient and leading organization for rural development in Bangladesh. Seed and Biotechnology Centre established at RDA with the aim to produce high quality disease free seeds, for dissemination of quality seeds and planting materials of different crops to the farmers, conducting training, research and action research. RDA has a seed production farm of 80 acres of cultivable land with sophisticated seed processing facilities, seed health testing laboratory and biotechnology laboratory.

From the inception in 2011, this centre was only involved in production of disease free potato seed of two varieties Diamant and Cardinal but at present it is working on seven different varieties of potato, some commercially important plants such as Arabian dates, sweet potato, strawberry, stevia, grape, orchid, banana, gerbera, tomato, pomegranate etc. along with mushroom and trichoderma. Eight persons including three scientists are working in this centre presently.

Strategic goal of SBC

Seed and Biotechnology Centre works to improve the living status of rural poor people using biotechnological knowledge.

Aims and objectives

Specific objectives of the centre are as follows

1. To transfer technologies among the stakeholders and beneficiaries as a means of improving their living standard;
2. To produce disease-free seeds using tissue culture techniques to meet up the increasing demand of quality seeds;
3. To conduct research and demonstrate the outcomes for rural development;
4. To provide training for human resource development on plant tissue culture and employment generation;
5. To initiation of collaborative research program with different relevant organizations and conduct awareness building programs on different biotechnological aspects.

Existing facilities

- Well-equipped 3 laboratories for plant tissue culture and microbiology;
- A demonstration farm of about 80 acres of land with all kinds of modern facilities;
- Skilled and efficient workers.

Research Programs already conducted

- Protocol development for *in vitro* regeneration of some commercially important varieties such as date palm, banana, orchid, stevia, cashewnut, tomato, pomegranate etc.;
- Production of disease free high quality first generation potato seeds through meristem culture for commercial uses;
- In-vitro micropropagation of grape (vitisvinifera);
- Regeneration of strawberry through shoot tip culture;

- Development of technical protocol for trichoderma enhanced biofertilizer production;
- Determination of optimum trichodema dose for organic fertilizer production;
- Effect of trichoderma suspension on production of organic fertilizer.

Achievements

- More than 810 beneficiaries are given skill development training on plant tissue culture of which most them are self-employed at present;
- Each year around 7500 man-day's work opportunity has been created by this centre;
- Seed potato of ten different varieties e.g. Granola, Diamant, Cardinal, BARI-54, BARI-29,BARI-86,Pakri, Hugrai, Sagittaand Asterix;
- From the beginning more than 1670 MTs of total disease-free seed potatoes of different categories e.g. prebreeder/minituber, pre-foundation, foundation and certified are produced;
- Around 3.8 million of disease-free potato plantlets are produced and supplied to the farmers;
- Every year farmers field days are organized for demonstration of technologies and sharing of practical experiences;
- Each year hundreds of rural farmers are getting advisory services.

Currently running program

At SBC near about 1,80,000 disease free plantlet production of different potato varieties is continuing. Besides strawberry, stevia, gerbera, orchid, banana, fig and date palm propagation is also going on. Every year quality strawberries are successfully being produced at field level and disease free plantlets (small plants produced in the lab) are supplied to the farmers at a very reasonable price. Researchers of this centre have already achieved the success for *in vitro* production of banana of different varieties. Now trails are going on for establishment of these plantlets to the field. Recently, protocol for producing virus free sweet potato has been developed and plantlets will be trailed for field level establishment in coming season.

Financial statement

This centre is running by its own earnings and significantly (BDT 16 lac for 2020-21 FY) contributing its profit to the revenue. More importantly, it has created employment opportunities for several unemployed people and rural farmers are getting benefited from the centre.

Table 5.17. The financial declaration for financial year 2020-21is as follows:

Name of item	Total Income (Tk) in lakh	Expenditure (Tk) in lakh	Net profit (Tk) in lakh
Seed Potato, Potato Plantlets and Tricho-products	36.61	20.63	**15.98**

Future Plan

- Has a plan to make a significant contribution for attaining the food security using biotechnological knowledge;
- Commercial production of banana plantlets, protocol development for date palm (Arabian Date) plantlet production in the laboratory, its commercial production and creation of new avenue for income generation of farmers and unemployed youth;

- Micropropagation of Gerbera and Orchids and their profitable production to encourage the rural poor to get involved in huge cut flower market;
- Act as a Centre of Excellence for rural development focused initiatives in the country;
- Use of biotechnological knowledge for the well-being of our rural people to improve their living standard;
- Has a future plan to set up a molecular biology laboratory for the development of new crop varieties through molecular techniques.

Conclusion

Seed and Biotechnology Centre (SBC) established with the aim to uplift the living standards of rural poor people. This centre is using biotechnological techniques as a tool to eradicate rural poverty. It has an ultimate strategic target to be a centre of excellence in the field of agriculture beyond some existing limitations.

Report-18

Cattle Research and Development Centre (CRDC)

Introduction

Cattle Research and Development Centre (CRDC) is one of the important centre under the management of Rural Development Academy (RDA), Bogura to deal with research, action research, and training and advisory services special emphasis put on livestock and rural development in Bangladesh. This centre was established with the government revenue budget for the year 2011-14. The main task of the centre is to provide demand led livestock services and sustainable technologies for increasing their productivity and improving farmer's quality for enhancing scientific managerial and professional competency in harmony with environment. The centre is dedicated in sharing knowledge and skills related to animal feeding, breeding, care, nutrition, management and treatment. This centre also keenly seeks collaborations and partnerships with highly regarded organizations and educational institutions all over the world.

Objectives

The main objective of CRDC is to improve the genetic potential of local cows for milk production (3000 litre per cow per lactation) and to contribute in the national demand of milk and meat. The specific objectives of the study were:

1. To produce and supply of quality semen for improvement of cattle breed through artificial insemination for increasing milk and meat production
2. ICT based livestock services with data management for proper record keeping

Methodology

CRDC has established one main centre at RDA campus and two Sub-centres at Kotalipara, Gopalganj and Jujkhola, Pirojpur for improvement of cattle breed through artificial insemination. Under CRDC there is a modern and full automatic bovine semen processing laboratory where quality frozen semen produced on regular basis and supply to farmer's house for artificial insemination by skilled AI workers of livestock services providers (LSP). This centre has 80-100 skilled AI workers who performed AI for improving the genetic potential of bull and heifer through artificial insemination (AI) to the action research project areas of RDA under direct supervision of the CRDC staff and

technical personnel. This centre also take initiatives for improvement of cattle feed quality and production of silage as cattle feed. It is also conduct research on breeding, feeding and management techniques. They conduct training for the staffs and beneficiaries of the study villages. This centre plays a vital role for ICT based livestock record keeping through application of mobile apps.

Internship programme

The internship programme for Doctor of Veterinary Medicine (DVM) and Animal Husbandry (AH) graduates from Bangladesh Agricultural University, Mymensingh; Hajee Mohammad Danesh Science and Technology University, Dinajpur; Patuakhali Science and Technology University, Patuakali; Sylhet Agricultural University, Sylhet and Sher-E-Bangla Agricultural University, Dhaka were conducted and every year about 500 interns learned practically about modern techniques of bovine semen processing, dairy production, better farm management, machine milking, feeding, breeding etc. This year the number is decreased due to the worldwide effect of Covid-19.

Training and exposure visit

There were about 102 participants trained practically on artificial insemination and developing their skills and more than 1,2500 visitors from home and abroad visited the activities of CRDC every year in the field of cattle breed improvement and taking this as a business model. Here also decreases the number of visitors due to fetal and most contagious effect of Covid-19.

At present there are 12 prove bulls at AI lab and bull station under CRDC centre which is used for quality semen production and the semen is supplied to the AI workers who were trained up by RDA. Production, expenditure, and income of the CRDC during 2020-2021 are shown below:

Production, Income and Expenditure of the CRDC during July, 2020 - June, 2021

Gross income (Tk. In Lakh)	Expenditure (Tk. In Lakh)	Net Loss (Tk. In Lakh)
21.62	24.54	2.92

N.B.: Due to Covid-19, the regular activities of CRDC was impaired.

Projects under CRDC

CRDC has submitted a project entitled: “Action Research Project on Strengthening and Expansion of Cattle Research and Development Centre” under RDA, Bogura to strengthen existing activities as well as expansion this work at different areas of Bangladesh for serving the rural people.

Services providing by CRDC

- Improved livestock farm management
- Cost effective nutritional improvement
- Cow comfort and animal welfare
- Economic calf raising through low-cost milk replacer and calf starter
- Heifer and pregnant cow management
- HYV fodder production, processing and preservation
- Silage and maize stover silage production
- Quality bovine frozen semen production, supply, and genetic improvement
- Produce and skill development of artificial inseminator

- Machine milking
- Milk and meat marketing
- Farm design, project planning and implementation
- ICT based livestock services with data management
- Environment friendly livestock waste management

Conclusion

CRDC is continuously trying to improve breed of cattle by supplying quality semen which is produced by CRDC. If this process is done in large scale within the country it will be helpful to improve the breed of cattle and also in record keeping. CRDC also trying to introduce new technologies for livestock development and production which motivate the visitors to improve the livestock sectors ultimately to develop their livelihood status. It is an attraction for all kinds of visitors to be inspired in receiving new technologies followed by using and contributing to the national GDP. In recent the overall activities of CRDC have decreased due to more contagious effect of Covid-19, which causes adverse effect on the production and profitability of the centre as well as RDA and effect on the national GDP. Hope the world pandemic Covid-19 will recover soon and the country will recover its crisis.

Report-19

Renewable Energy Research Centre (RERC)

Bangladesh has major problems with energy crisis, persisting poverty and environmental degradation. With only 49% of Bangladesh having access to electricity, the per capita energy use is only 180 kWh. Moreover, the people who are connected with the national grid are experiencing frequent load shedding. At present, the country can generate about 4500 MW electricity, while peak demand is about 6000 MW (USAID), 2011). Therefore, the supply is unreliable. Most of the supply is limited to urban areas; access to electricity in rural areas is less than 10%. RET can solve this problem by harnessing energy from country's free flowing renewable such as sunshine, wind, tidal waves, waterfalls or river current, sea waves or biomass, Use of renewable energy, increased energy efficiency and enhancement of energy security constitute a sustainable energy strategy approach.

Rural Development Academy (RDA), Bogura creating environmental friendly model for rural developing rural livelihood socio-economics status since its inception. From a decade ago RDA is working on solid waste (created from demonstration farm units- dairy, poultry, fisheries, cafeteria, guesthouse, hostel and residential areas) management and producing renewable energy through community based bio gas plant to maintain a clean and environment friendly campus. With the rising population growth our natural sources of fuel are in decreasing trends. It is tough to fulfill energy demand from natural resources against required fossil fuel of about 40 million tons annually for Bangladesh. According to the decision of 41st Board Meeting of the Academy a specialized centre established in RDA as "Renewable Energy Research Centre" for quick extension, popularization, continuations as well as institutionalization and dissemination of sustainable technologies in home and abroad.

Objectives

The main objective of this action research project is to meet up rising demand of energy and building awareness of producing and using renewable energy through community based waste

management practice, maintain friendly environment in rural areas of Bangladesh and to developed a replicable and sustainable model through the country. Besides, others renewable energy sources such as solar, wind, hydro energy etc also be given preference.

1. To strengthen organic farming system and utilization of organic manure at the field level. A community based bio-gas plant would be installed for environment friendly waste management and to reduce health hazard and practice of raising livestock's also be developed to meet up nutritional demand as well as ensure supply source of input materials (cow dung) to bio-gas plant.
2. To create an additional employment opportunity by providing RDA credits among the community members for IGAs mainly for raising livestock to have economic support as well as renewable energy such as- bio-gas, solar energy etc.
3. To arrange national and international seminar/workshops for disseminating successful model/technologies among the farmers, NGO/GO and relevant extension agencies for implementing at the field level.
4. To get self-sufficiency in energy sector through producing electricity locally by bio-gas driven generator as alternative means of renewable energy.
5. To take initiative for visiting nationally and internationally in order to sharing experience on renewable energy aspect.
6. To ensure waste management practice environmentally friendly and in sustainable manner.
7. To take initiative for dissemination of renewable energy technologies through suitable agencies like, GO/NGO and PPP (Public Private Partnership).
8. To take renewable energy and waste management related action research projects, consultancy work, research work in the allied fields in home and abroad.

Activities

a. Establishing bio-gas plants for production of biogas, organic fertilizer and electricity as a means of renewable energy and inspire rural people towards livestock's farming.
b. Ensuring support service for installing and management of solar panels.
c. Conducting action research to strengthen irrigation skill and saving grid power for smooth running of solar pumps.
d. Development of livelihoods through education, health-care, nutrition as well as income status of rural people through involving with RDA micro credit activities.

Observation

1. Installation of two storied agriculture with solar system demonstration at RDA demonstration farm in the paddy field for irrigation and cucurbit cultivation in remarkable achievement which could save land for setting solar panels.
2. Farmers many now come forward to set-up solar panels in their paddy fields without losing yield and land.

Green Innovations- Organic Fertilizer

Raw biogas is collected by a truck mounted gas tanker (10 m^3) under 20 bar pressure from community biogas plant located in 112 villages throughout the country. The raw biogas is firstly stored in balloons/tankers as buffer storage. The raw biogas is purified (remove CO_2, H2S and moisture

etc.) in mother station located at RDA. In purified biogas methane content raised up to 97% and store in a purified gas tanker (20 m^3) under 20 bar pressure as buffer storage for its multipurpose use (electricity generation, supply to the gas line for cooking and supply to the vehicle under 200 bar pressure as CNG) experimentally.

Impact

Community biogas has created lot of interests among the policy makers, development planners and common people of Bangladesh considering a source of renewable energy and better management of decomposable wastes. Managing of waste is a big concern. Improper handling and management of waste is also a big challenge. Community approach biogas plant can ensure better waste management as well as adds value and creates positive impact on rural society.

Community biogas is used as alternate source of fuel energy for household cooking. As a result savings of fuel wood reduces deforestation and appears safeguard of village women against health hazard issues.

Employment generation and additional income have been ensured in village level through production of organic manure and biogas marketing. Quality organic manure produced from biogas plant improves soil health. The proper waste management keeps rural environment sound and clean by reducing harmful carbon emission.

Purified biogas is used for electricity generation and inject to vehicle substitute for CNG can reduce additional pressure on national power grid and saves costly foreign currency.

Progress

- Ensured intensive Monitoring of Community Based Biogas Project activity through RERC.
- A GoB funded project entitled "Action Research Project on Disseminating Two-storied Agriculture with Solar Power Irrigation Technology and its Multipurpose Uses" is being implanted through RERC.
- Under this centre a total of two new project proposals has submitted. The projects is (i) Action Research Project on Community Based Livestock and Waste Management for Better Livelihood.

Report-20

Chars Development Research Centre (CDRC)

Introduction

Poverty alleviation constituted the basic theme of all Five Year Development Plans of Bangladesh since its independence and considerable efforts have been made to alleviate poverty. But the incidence of poverty remains high in Bangladesh. Analyses of national data show that the incidences of poverty are not evenly distributed across the region. High concentration exists in specific areas, such as along the major rivers (***char lands)***. Such poverty persists because of increasing inequality between regions as well as people. It has been found that the riverine chars are amongst the poorest in Bangladesh. Chars areas are characterized by a set of specific features that set them apart from other parts of Bangladesh and that justify different approach.

In physical terms, riverine chars are nearly accreted from the river and are consequently low lying.

This makes char dwellers vulnerable to flood and erosions. The soils are relatively low with contents of organic materials, which cause low fertility compared to mainland. Individual and household displacement is common in chars areas. A fragile physical environment, limited assets, reduced income opportunities, remoteness and absence of mainland institutions and services together make char dwellers' livelihoods particularly vulnerable to extreme poverty and destitutions.

An estimated 6.5 millions people live in 28 char upazilas of five districts and 2 millions people living in the chars are extremely poor. This situation focused govt. attention for better integration of the regions into Bangladesh wider socio-economic development. Keeping this in view, Rural Development and Cooperatives Division initiated the Chars Livelihood Programme in 2003.

Strategic goal of CDRC

CDRC works to accelerate the progress in improving income and livelihoods of the extreme poor char-dwellers through exploiting and enhancing their capabilities.

Strategic objectives of CDRC

The strategic objectives of CDRC are across different components:

- Generate knowledge and technologies to improve the livelihoods of the char-dwellers;
- Develop methods and techniques for making effective interventions in the char-lands;
- Bring and demonstrate innovative good practices in the char-lands;
- Empower and mainstream the existing efforts of the char-dwellers;
- Facilitate for better market access;
- Mainstream women empowerment, climate change adaptation and disaster risk reduction/management;
- Conduct interdisciplinary research works including education, health, gender, climate change, disaster management, agriculture, financial and social issues to meet emerging challenges;
- Establish local, national and international partnerships for sharing knowledge and experiences.

Management of CDRC

The management of CDRC follows the guidelines set out in the 41st BoG meeting of RDA. CDRC is considered as the lead centre for chars related development activities in Bangladesh and will have overall operational responsibilities. RDA will play a strong supporting role through providing the chair of advisory committee by the Director General. The planning and managing committee headed by the Director of CDRC will oversee planning, management, implementation, monitoring and evaluation of CDRC activities. RDA faculty members with relevant expertise will always have opportunities to participate and lead CDRC programmes.

Progress of CDRC driven research activities

The following research activities have recently been completed or are being conducted to develop useful ideas and technologies relevant for the chars.

- Impact of Assets Transfer in Chars financed by RDA (completed)
- Impact of Chili Seed Treatment in the Chars financed by M4C (completed) Maize Variety Screening for the Chars financed by M4C (completed)
- Production and Familiarization of Maize Stover Silage financed by M4C (completed)
- Modern Rice Technology Transfer financed by M4C (completed)
- Improvement of Chars' Transportation financed by M4C (completed)
- Migration Behaviour of Char-dwellers financed by CLP (completed)
- Chronology of Agricultural Diversity in the Chars by CLP (completed)

Progress of CDRC field implementation

CDRC involves in the following field implementation:

- Chars Livelihoods Programme (CLP)
- Making Markets Work for the Chars M4C Project
- Women in Seed Entrepreneurship (WISE) activities
- Trichoderma Enhanced Composting (TEC)
- "Livelihood Improvement of the Poor People in the Char Islands of Sariakandi and Sonatola Upazilas under Bogura District Project
- Making Markets Work for the Chars M4C-Phase-2 Project (on going)
- Advocacy activities are going on under different char area.

Progress of CDRC documentation, publication and advocacy activities

- CDRC in the financial collaboration with IFC did an audio-visual documentary on Women in Seed Entrepreneurship in the Chars that telecast in electronic media regular basis.
- CDRC in the financial collaboration with IFC is making another digital documentary on Ash Gourd (Winter Melon): The Magic Crop of the Chars.
- CDRC has decided to document all types of publications (i.e. research publications, impact and evaluation studies, journal articles, Masters, MPhil and PhD theses, leaflet, newsletters, posters, innovative video clippings, important newspaper. clippings, and any other char related documents).
- RDA faculty members has done several char related research and evaluation studies. Assets

transfer in Chars is an example.

- They have also published a number of journal articles on char related issues
- CDRC Consultation Workshop: CDRC Consultation workshop was held on from 4 to 6 July 2021 and developed the details four years action plan for CDRC.

Progress of CDRC Administrative and others

- CDRC already developed its strategic plan;
- The secretariat of CLP has been replaced by the secretariat of CDRC;

Report-21

Centre for Community Development (CCD)

Besides conducting research in technological development of agricultural aspects RDA has been continuing research activities in socio-economic issues. The related socio-economic issues are: rural livelihood improvement, explore various problems and identify problems on rural and agricultural development, social empowerment at the grass root level; social forestry, leadership development at the local govt., child development, climate change, youth development, rural education, women empowerment, rural public health, women repression, anti-drug awareness creation, environmental protection, agricultural extension, micro enterprise development, agribusiness enterprise development and management, evaluation of GO/NGO programmes, etc. Apart from these, RDA has been conducting research on various issues of SDG, five-year plan, perspective plan, etc. Through conducting socio-economic research, RDA has been contributing to rural development and in formulation of policy as well.

To make sustainable development and create fruitful participation in rural development a **Centre for Community Development (CCD)** has been approved in the RDA's 41st Board Meeting.

The objectives of the CCD are to:

1. conduct research on rural development and keep trying to evolve model,
2. continue activities of previous socio-economic research and action research,
3. undertake initiatives to conduct action research through the help of national and international organisations,
4. communicate with national and international organisations in community/rural development,
5. provide training on strengthening skill development to RDA people and personnel of national and international organisations related to rural development,
6. disseminate relevant research findings of CCD through organising seminar/workshop,
7. try to be self-dependent in operation of the CCD by reducing dependency on the revenue budget.

Activities of CCD in 2020-21 and plan in 2021-2022

Research activities

During 2020-21 year faculties of RDA related to CCD were involved in conducting different types of researches and this year faculties have a plan to conduct following research projects:

- COVID-19 impacts on various issues related to community/rural development
- Strengthening BRDB: A way forward

Apart from these researches, faculty members of CCD will be involved in conducting different types of researches sponsored by RDA/outside agencies.

Training activities

CCD has a plan to organize following training courses in 2021-22:

1. Leadership development,
2. Climate change and environment management,
3. Awareness on anti-drug and HIV-AIDS.
4. Agribusiness Entrepreneurship Development and Management course
5. Research methodology and any other courses may be included as per need and request by the faculty members/outside agencies.

Action Research

CCD has now introduced entrepreneurship development activities with the previous fund derived from the Project CVDP. Especially CCD has been working with CVDP-3rd phase and using the organizations of CVDP to initiate its entrepreneurial activities. It searched some potential entrepreneurs and then providing credit to the beneficiaries based on their required demands. CCD already provided RDA credit amounting to Tk. 85.25 lac to 116 beneficiaries including 20 women. The beneficiaries initiated some agribusiness with some other businesses related to:

• Chicken Farming • Beef fattening • Cow rearing • Goat rearing	• Nursery development • Fisheries • Farming • Others like medicine (vet) shop, paddy-rice business, cloth shop, Trolly business, Stationery shop, etc.

CCD already formed 21 Indigenous Chicken Farms including especial chicken Kadaknath and Tiger in Sadullapur, Gaibandha. Beneficiaries are getting benefit through these initiatives and successful in operating their Chicken business. Consumers are getting safe chicken because these chicken farms are being operated with safe feed and safe treatment procedure.

Through various types of entrepreneurial activities CCD already created employment opportunities for 232 persons and entrepreneurs are being benefitted financially. So it is helpful for them to contribute in the family for livelihood development.

Faculty members related to CCD will be making their action plan in relation to community development in the fiscal year 2021-22.

Other Activities

Working with Institute of Bangladesh Studies (IBS), University of Rajshahi

CCD already signed an MoU with IBS to work on various aspects related to training, orientation programs for their MPhil and PhD fellows. IBS has been sending their fellows for getting orientation on RDA's different activities of training, research and action researches. Under this agreement RDA is also sending its fellow for higher Degree. Like the previous years, hope to continue the programme with IBS.

Report-22

Palli Patshala Research Centre (PPRC)

The English name of Patshala is school. Actually Patshala is an academic house where the tender aged boys and girls prepare their lessons. In the past it was in the residence of a preceptor. But on the eve of time residence of preceptor converted into patshala/school. Still now the people remember the name patshala with pride and vanity. Now Palli Patshala will be the new of its kind with few exceptions. In this Patshala all ages youths and olds can learn something as per their desire particularly who are living in the village and deals with crop, livestock, fisheries, poultry, social forestry, health, nutrition, sanitation, education, environment, soil and water what not. Now it will be the meeting place to discuss their problems and once upon a time it will be the store house of knowledge. For cultivation of crops what will be the procedure- the villagers can discuss themselves and take decisions in a body. In this case if they need any training they can seek help from RDA. All types of invented models from RDA will be displayed there. For self employment the villagers can design some courses as per their age, sex and so on. So that Polly Patshala can play a role for Rural Development. Palli Patshala is a new concept of RDA. So initially there are some mistakes but with the age of time it will become a junction of Rural development model.

CHAPTER
6

ANNUAL
ACTION RESEARCH PLAN
2021-22

6.1. RDA own fund Action Research on Poverty Free Model Village (Self Assisted)

Rapid action needs to be taken to alleviate poverty and reduce regional inequality. Otherwise, the progress of the prosperity announced by the government will create an obstacle for Bangladesh to be promoted in the 2018 election manifesto and developing countries. To this end, the Rural Development Academy (RDA), Bogura is conducting "Poverty Free Model Village Practical Research" with its own funds.

Under this study, practical research activities have been started in three villages of the country like- Melandah Upazila of Jamalpur District, Char Polisha Village; Kalshimati Village of Sherpur Upazila of Bogura District and Ratia Village of Mithapukur Upazila of Rangpur District.

Multidimensional Poverty Index (MPI) has been used to select beneficiary and will be used to monitor the progress.

A total of 534 poor families were identified in the light of Multidimensional Poverty Index (MPI) by conducting a baseline survey among 4023 families in the 3 villages. Various sustainable technologies are being expanded, including training on agriculture and rural development, to select and implement income-generating activities by the poor identified for the purpose of poverty alleviation and sustainable development. Efforts have been continued to bring the poverty rate to zero by conducting various support activities including providing cattle and goat insurance (for the first time in Bangladesh), health and life insurance, building low cost house, 20 incubators for hatching chicks,100000 fish fry and 24000 saplings among the poor villagers.

6.2. In-coming/Proposed Projects for 2021-2022

RDA has submitted a total of thirteen project proposals to RDCD and some other donors for nationwide implementation for the financial year 2021-22 and further. List is given below:

Sl. No.	Title of the Project	Remarks
GoB Funded		
1.	Project on Establishment of Sheikh Zahurul Haque Rural Development Academy, Jashore	The projects is at approval stage
2.	Project on Strengthening of Physical Facilities through Capacity building of RDA, Bogura.	
3.	Action Research Project on Poverty Free Model Village.	DPP preparation stage
4.	Action Research Project on Sustainable Livelihood Improvement and Women Empowerment through RDA-Developed Women in Seed Entrepreneurship (WISE) Model.	Proposals have submitted to RDCD are under consideration
5.	Action Research Project on Strengthening and Expansion of Cattle Research and Development Centre under RDA, Bogura.	
6.	Action Research Project on Community Based Livestock and Waste Management for Better Livelihood.	
7.	Action Research Project on Sustainable Socio-economic Development of Rural Farmers through Farm Mechanization with Cost Saving Integrated Agricultural Technologies.	
8.	Action Research Project on Creation of Entrepreneurship and Employment Generation through Skill Development.	DPP preparation stage
9.	Project on Solar based Livelihood Improvement and Enlightened Village.	
10.	Action Research Project on Converting Municipal Dumping Ground Waste into Asset using Environmental Friendly Trichoderma Technology.	
Donor Funded		
1.	Project on “Improved Livestock Management System Using Modern Technologies at RDA Demonstration Farm”	Concept paper has been submitted to Japanese Technical Cooperation for JFY 2022 through Administrative Ministry 1
2.	Project for the Implementation of Poverty Free Agro Based Industrial Village	
3.	Design, construction and experimental study and dissemination of semi-pilot scale low cost baking oven	