Annual Report 2013




KRISHI GOBESHONA FOUNDATION

A non-profit foundation for sustainable support to agricultural research & development

KRISHI GOBESHONA FOUNDATION

KGF was established in 2007 under Companies Act 1994 for efficient and effective management of the Competitive Grants Program (CGP) and or any other research programs. The objectives of KGF are as follows:

- To contribute towards development of a pluralistic agricultural research system by involving public sector (NARS institutes, universities, other government and autonomous organizations and institutes) private sector and non-government organizations in agricultural research;

- To promote research partnerships and collaboration with the private sector agencies and the international agricultural research centers through co-financing agreements;

- To make agricultural research more demand-driven by involving farmers and other users of research products;

- To improve research quality and innovation by selecting projects based on rigorous peer review, and regular monitoring of the approved research projects;

- To promote linkages with Bangladesh Agricultural Research Council (BARC), National Agricultural Research System (NARS) institutes, technology dissemination systems, farmer's organizations, private sector entities dealing with agricultural research, development and extension;

- To provide support to CGP in the possible areas of:
    a) High priority research on the emerging issues based on priorities set by the BARC, emphasizing intensification and diversification of agriculture (crops, livestock, fisheries, etc) to improve its productivity, stability and sustainability;
    b) Quality research designed to provide solutions to specific problems confronting farmers within their farming systems;
    c) Applied and adaptive on-farm research or other areas of scientific innovation and such other studies which are crucial needs to address at the production system level;
    d) Research on trans-boundary and cross-cutting issues having application across one or more production systems and on the sustainability of the production systems, poverty alleviation and livelihood improvement, household food security, non-farm and off-farm income generation, and rural development;
    e) Training programs to enhance scientific, technical and managerial capabilities of individuals and organizations involved in agricultural research (of crops, livestock, fisheries, etc.) and technology transfer;
    f) Agriculture (crops, livestock, fisheries, etc) policy, marketing, post-harvest management and socio-economic research.

- To do all such other lawful things as are deemed conducive and/or incidental to catalyzing the attainment of the objectives of KGF.

Annual Report

JANUARY - DECEMBER 2013

KRISHI GOBESHONA FOUNDATION

A non-profit foundation for sustainable support to agricultural research
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JANUARY - DECEMBER 2013

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Abbreviations And Acronyms

AIS	Agriculture Information Service
BARC	Bangladesh Agricultural Research Council
BADC	Bangladesh Agricultural Development Corporation
BARI	Bangladesh Agricultural Research Institute
BKGET	Bangladesh Krishi Gobeshona Endowment Trust
BRRI	Bangladesh Rice Research Institute
BODs	Board of Directors
CGP	Competitive Grant Program
CRP	Commissioned Research Program
DAE	Department of Agriculture Extension (MOA)
DOF	Department of Fisheries (MOFL)
DLS	Department of Livestock Services (MOFL)
DG	Director General
DBMS	Data Base Management System
DBM	Data Base Management
ED	Executive Director
GOB	Government of Bangladesh
GIS	Geographical Information System
GO	Government Organization
GnB	General Body
IDA	International Development Association (WB Group)
IFAD	International Fund for Agricultural Development
IPM	Integrated Pest Management
KGF	Krishi Gobeshona Foundation
MOU	Memorandum of Understanding
M&E	Monitoring and Evaluation
MIS	Management Information System
NATP	National Agricultural Technology Project
NARS	National Agricultural Research System
NGO	Non Government Organization
OM	Operational Manual
PCU	Project Coordination Unit
PAD	Project Appraisal Document
PIs	Principal Investigators
PAM	Policy Analysis Matrix
R&D	Research and Development
RM	Research Management
RPATC	Regional Public Administration Training Center
SCA	Seed Certification Agency
TBS	Trap Barrier System
TTMU	Technology Transfar Monitoring Unit

Foreword

Technological improvements through agricultural R&D helped the country reaching food sufficiency in rice. Achievement in rural development has also positive impact on the economy. Establishment of Krishi Gobeshona Foundation (KGF) has opened a new horizon and increased the sphere of agricultural research and development. The unique character of KGF of providing a common platform for the scientists working in different discipline in different institutes, public and private, to work together enabled them to have a hollistic approach towards any common target. New initiateves of KGF enabled NARS institutes and universities designing and implementation of the commissioned research programs (CRP), thrusting on the ecosystem based integrated approach for the overall development of a large area has started a new venture in the field of agricultural research. Moreover, the uncompromised process of review and evaluation of KGF for awarding and implementation of quality research has created a competitive environment for research activities which in turn helped achieving meaningful solutions for the agriculture in problematic areas.

This 4th Annual Report of KGF includes the activities performed and achievements made in the last year (2013). The main task of the period was the management of the ongoing compititive grants program (CGP) projects awarded in 2011 with NATP fund. Monitoring (internal and external) and arrangement of half yearly and annual review workshops of the 35 CGP projects were the major activities.

The availability of its core trust fund (BKGET) widened the scope of activities of KGF as per the Memorandum. In addition to CGP activities, the Foundation initiated implementation of the long cherished Commissioned Research Program (CRP) in hills of CHT with a hollistic approach for the unfavorable ecosystems.

Besides, CGP and CRP activities, capacity enhancement HRD programs for the scientists of different institutes have already been started and being continued with special emphasis on issues related to climate change. The background planning work for other commissioned research programs for the unfavourable ecosystems have been initiated and are expected to be implemented soon.

I believe that successful implementation of the KGF programs under the able supervision of Executive Director will further improve the capacity of the scientists generating appropriate technologies for the improvement of productivity and in turn the livelihood of the poor farmers of the country.

Wais Kabir, Ph.D.
Chairman
KGF

Notes from the Executive Director

Krishi Gobeshona Foundation (KGF) entered in to a new era in 2013 starting implementation of its new streams of R&D programs under the core fund, the Bangladesh Krishi Gobeshona Endowment Trust (BKGET). Although the foundation started receiving trust fund at the end of 2012, but the new streams of research and capacity enhancement programs were in fact, initiated implementation process in 2013 upon approval of KGF Board. In addition to the on-going 35 CGP research projects activities funded by NATP (IDA fund), KGF initiated implementation of new 10 CGP research projects, one commissioned research program (harnessing the potential of hill agriculture) and capacity enhancement (training) programs (funded by BKGET) during the year 2013. Thirty-five CGP projects under NATP fund and 5 pilot projects were running during the period. The achievements and highlights of progress of these projects are given in this report.

The promising technologies developed out of the CGP projects were taken to the farmers for large scale validation in close participation of the extension department. These programs are referred to as the pilot projects, which are interface between research and extension before large scale adoption by the farmers. Merits of the technologies created interest and enthusiasm among the farmers which in turn enhanced productivity and benefited farmers.

During the years ten new CGP projects and one commissioned research program had been under implementation with the KGF BKGET fund. Two follow up training workshops on climate change, in continuation of the 1st one held in December 2012, were organized in 2013. Several consecutive consultative meetings of the scientists of the network formed on climate change in agriculture, were held through out the year. Besides, three (3) training courses on proposal preparation, scientific report writing were arranged for development of knowledge and skills of 87 NARS scientists.

The holistic approach required for the development of a region needs concerted efforts of a number of scientists of different disciplines working in different Institutes. As we know, despite the better side of any integrated approach, it is hard to congregrate several people with different objectives and mindset to work in harmony for some common target. KGF had to minimize all those hardles/bottlenecks to form the groups to work for the commissioned research. Moreover, the political unrest prevailing in the country in 2013 delayed the progress in many ways. It took a lot of time to get the momentum. Finally, the commissioned research for hills of Chittagong Hill Tracts has come into reality.

The successful implementation of programs and achievements of KGF had been made possible in partnership with the agricultural research & development organizations in the country. A hard working small team of technical experts of KGF, particularly the technical contribution of Dr. N. I. Bhuiyan and Professor Abdul Hamid had been instrumental in designing and implementation of new programs like CRP hill agriculture, climate change and pilot programs.

Finally, the dynamic role played by the KGF Board had made it possible in formulating and implementing new streams of commissioned research programs (CRP), capacity building programs (CBP) and technology upscaling pilot programs in the farmers' field.

Dr. M. Nurul Alam
Executive Director
KGF.

Executive Summary

During the last 5 years of its operation Krishi Gobeshona Foundation (KGF) had been engaged in the management of Competitive Grants Program (CGP) of the National Agricultural Technology Project (NATP) Phase-1. During the initial two years, KGF activities concentrated mainly on the establishment of KGF office, organizing and management of CGP, procurement and hiring of personnel. The activities performed and achievements made during the initial two years (August 2008-June 2010) were presented in the KGF's 1st Progress Report, published in December 2010.

So far KGF published 3 progress reports. The first report covers a duration of 23 months, where as the 2nd report covers 18 months. Following that, annual report was published as per KGF Memorandum and Articles of Association covering the calendar year (Jan.-Dec. 2012).

This 4th progress report e.i. Annual Report of KGF includes all relevant activities performed and achievements made for the period from January to December 2013.

This report contains progress of both NATP and BKGET funded programs and activities. NATP funded research highlights of the 35 on-going CGP projects and summary of 4 pilot projects are reported here. Under KGF BKGET funding, research highlights of 10 CGP projects (6 monthly progresses) are also included in the annual report. Besides research highlights, monitoring report, the training workshops under the capacity building program are also incorporated in the progress report.

During the 2nd half of 2013 implementation progress hampered due to political unrest in the country.

The financial progress, annual budget and audit reports are also incorporated in the progress report.

Under the NATP fund 35 CGP R&D projects and 4 technology upscaling pilot projects were awarded during the period. Similar to previously implemented (1st call) CGP projects, most of the 35 CGP projects have been under implementation by the NARS institutions (BARI/BRRI/BINA) and the public universities (BAU/BSMRAU). Out of these, 55% are being implemented by NARS institutions (mostly BARI) and 30% by public universities (mostly BAU) because of good number of researchers and facilities are available in the two types of institutions. KGF also undertaken 6 pilot projects approved by the 36th Board meeting in December 2013.

Under KGF BKGET funding, research highlights of 10 CGP projects (6 monthly progresses) are included in the annual report. Research highlights containing brief information and annual progress of CGP projects and other activities are given in this report. Two commissioned research programs (CRP) viz. harnessing the potential of hill agriculture for enhancing the productivity in three hill districts of CHT, and the pre-proposal activities and training on crop modeling and mitigation measures under Network on Climate Change in Agriculture (NCCA) had been under implementation. It may take few months more to complete preparation/designing of R&D proposal on drought prone agriculture in north-west region upon consultation with relevant researchers and stakeholders.

Notable activities implemented under the KGF NATP funding during the period are highlighted here:

- One Annual General Meeting (AGM) of KGF was held on 24 January 2013; and 4 Board meetings of KGF were held in 2013. The AGM for 2013 was held on 22 February 2014 and also an Extraordnery General Meeting (EGM) of KGF was held on the same day.
- Review and evaluation workshop on 2nd Annual Progress Report (APR) of CGP, Phase-I projects (2nd round call) was held on 15-16 June 2013. More than 100 participents from NARS, DAE, DLS, BARC, World Bank, PCU & PIUs of NATP and Coordinators, PIs & CIs of CGP projects were present in the workshop.
- Second annual review workshop of 14 CGP research projects under phase-II (2nd call) was held on 9 October 2013 at BARC. Progress report of 12 CGP projects with two completion reports were reviewed and evaluated.
- For proper implementation of these projects, periodical concurrent M&E were carried out by KGF professionals at an interval of 6-9 months. In addition, an independent external team in January/February 2013 carried out concurrent M&E of these projects.
- The Wold Bank October 2013 Mission (11th) report rated KGF performance on CGP and other activities under NATP as "Satisfactory". The mission recommended for establishing linkage with CGIAR centres and foreign universities for enhancing quality of R&D programs undertaken by KGF with the partners.

Executive Summary

- In addition to 24 Technical Bulletins published in 2012, twelve (12) more Technical Bulletins on completed CGP projects (1st call, Phase-II) were prepared. Upon editing these were printed for distribution to relevant stakeholders.

- Besides preparation of Technical Bulletins in English, as per suggestions of the 10th World Bank Mission, 10 Bangla technology bulletins (*প্রযুক্তি বার্তা*) were also prepared. The 11th Mission of the World Bank appreciated preparation of *প্রযুক্তি বার্তা*, which would make the new technology known to wider stakeholders.
- Six (6) pilot projects for upscaling of promising technologies (proven practices) under 2nd call CGP research projects were approved in the 36th Board Meeting (20.12.2013). These pilot projects had been under implementation with the objective of involving large number of farmers' through training for validation of a set of technologies under the joint supervision of research and extension experts. The pilot projects are considered as vehicles for technology dissemination to a large number of farmers as an interphase between research and extension agencies.

Notable activities implemented under the KGF BKGET funding during the period are highlighted here:

- KGF Board in its 31st meeting, approved a twelve-member Technical Advisory Committee (TAC) headed by Dr. Mahabub Hossain with provision of cooption.

- TAC upon review and evaluation by experts finally in February 2013, recommended 15 proposals subject to rationalization of program and budget. Based on TAC suggestion, 12 CGP proposals were approved by the KGF Board.

- KGF awarded BKGET funded 12 CGP projects in May/June 2013 and inception meetings/workshops were held.

- KGF organized a Project Launching Workshop in June 2013, and 10 Project Briefs of CGP projects were presented. Dr. S.M. Nazmul Islam, Secretary, Ministry of Agriculture & Chairman of BKGET unveiled these 10 Project Briefs as Chief Guest in the launching workshop. The Project Briefs were also placed in the KGF website (www.kgf.org.bd).

- KGF submitted two progress reports to BKGET on 10.03.2013 and 18.07.2013 as per suggestion of BKGET BoT.

- Under the commissioned research program (CRP), a group of scientists of BARI, CDB and SRDI had been working during 2013 for designing R&D programs for hill agriculture in CHT.

- Based on the TAC recommendation in July 2013, the Board approved in August 2013 the first commissioned research program (CRP) of 5 components on 'Harnessing the Potential of Hill Agriculture' project.

- Following the planning workshop, award letters were issued in October 2013 and MoUs signed in November 2013 upon rationalization of program and budget of 5 components of Hill Agricultural project.

- Under the capacity building programs, one training workshop on "Climate Change and Bangladesh Agriculture" was held during 1-7 December 2012 in BARD, Comilla. Following this training workshop, a network and sub-groups were formed as Network on Climate Change in Agriculture (NCCA) involving NARS scientists and university researchers.

- The network scientists (NCCA) had been trained in 3 batches on Climate Change in Agriculture. The network scientists and sub-groups had been working for preparation of proposals for conducting research and making impact assessment on Climate Change in Agriculture.

- In order to improve research proposal preparation and report writing skill of NARS scientists and research managers, capacity building program had been undertaken by KGF to conduct a series of training workshops in 2013 in collaboration with BRAC Learning Division. During 2013, in total 87 scientists were trained in 3 batches in BRAC Centre, Gazipur.

- As per approval of 31st Board KGF Strategic Vision Document and Implementation Plan was prepared with technical assistance of Dr. Mruthyunjaya an eminent Economist of India with assistance of two local experts. The KGF Board approved the document on 'KGF Strategy and Implementation Plan (2013-22)' in August 2013.

- The Board approved the 1st phase capacity building proposal of BARC on ICT-based ARMIS for NARS.

KRISHI GOBESHONA FOUNDATION

Annual Report

(January-December 2013)

I. INTRODUCTION

This annual report 2013 is the fourth progress report of KGF. KGF published three progress reports each contained activities and progress for a period of 23 months, 18 months and 12 months. That was done in order to incorporate comprehensive information and progress relating to establishment of KGF office and initiating its operation addressing NATP CGP research projects and GoB financial year. The first progress report (August 2008 to June 2010) contained information on recruitment of human resources and creation of basic physical and organizational facilities for addressing administrative, technical (CGP research) and financial management aspects of the newly established organization.

Both the second and the third progress reports contained comprehensive information on the on-going and completed CGP research projects and other related activities. That was done with the intention of informing interested scientists, agricultural practitioners on the KGF activities and progress made during the period up to December 2012 with the financial assistance of NATP (GoB/IDA funding). The first, second and the third progress reports were distributed to relevant stakeholders and also posted in the KGF website.

As per provision of KGF Memorandum and Articles of Association (MAA), this report had been made on the annual progress of the calendar year January to December 2013. The major activities of the period were focused on management, implementation, monitoring and review/evaluation of 39 on-going CGP projects and brief summary of 4 pilot projects. Under KGF BKGET funding, research highlights of 10 CGP projects (6 monthly progresses) are also included in the annual report. Besides research highlights, monitoring report, the training workshops under the capacity building program are also incorporated in the progress report.

The financial progress, annual budget and audit reports are also incorporated in the progress report.

Under the NATP fund 35 CGP R&D projects and 4 technology upscaling pilot projects were awarded during the period. Similar to previously implemented (1st call) CGP projects, most of the 35 CGP projects have been under implementation by the NARS institutions (BARI/BRRI/BINA) and the public universities (BAU/BSMRAU). Out of these, 55% are being implemented by NARS institutions (mostly BARI) and 30% by public universities (mostly BAU) because of good number of researchers and facilities are available

KGF 7th AGM for 2013 was held on 22 February 2014 in the BARC Conference room.

in the two types of institutions. KGF also undertaken 6 pilot projects approved by the 36th Board meeting in December 2013.

Under KGF BKGET funding, research highlights of 10 CGP projects (6 monthly progresses) are included in the annual report. Research highlights containing brief information and annual progress of CGP projects and other activities are given in this report. Two commissioned research programs (CRP) viz. harnessing the potential of hill agriculture for enhancing the productivity in three hill districts of CHT, and the pre-proposal activities and training on crop modeling and mitigation measures under Network on Climate Change in Agriculture (NCCA) had been under implementation. It may take few months more to complete preparation/designing of R&D proposal on drought prone agriculture in north-west region upon consultation with relevant researchers and stakeholders.

During the 2nd half of 2013 implementation progress hampered due to political unrest in the country.

II. SUMMARY OF PROGRESS: KGF ACTIVITIES UNDER NATP AND KGF BKGET FUND (JANUARY TO DECEMBER 2013):

Some of the notable activities are highlighted here.

A. Progress of KGF NATP funded Programs: A brief status on project management and implementation progress and related activities (January to December 2013) are given below:

❖ One Annual General Meeting (AGM) of KGF was held on 24 January 2013; and 4 Board meetings of KGF were held in 2013.

❖ The AGM for 2013 was held on 22 February 2014 and also an Extraordnery General Meeting (EGM) of KGF was held on the same day.

❖ The World Bank 10th Implementation Support Mission (ISM) has reviewed NATP programs during 31st March to 11 April 2013.

❖ Cureently, 35 NATP funded CGP projects are being implemented under the 2nd call. Review workshop on the 2nd year's Half Yearly Progress Report (HYPR) of the 14 CGP projects, Phase-II was held on 13 April 2013.

❖ Review and evaluation workshop on 2nd Annual Progress Report (APR) of CGP Phase-I projects (2nd round call) was held on 15-16 June 2013. More than 100 participents from NARS, DAE, DLS, BARC, World Bank, PCU & PIUs of NATP and Coordinators, PIs & CIs of CGP projects were present in the workshop.

❖ Second annual review workshop of 14 CGP research projects under Phase-II (2nd call) was held on 9 October 2013 at BARC. Progress report of 12 CGP projects with two completion reports were reviewed and evaluated.

❖ For proper implementation of these projects, periodical concurrent M&E were carried out by KGF professionals at an interval of 6-9 months. In addition, an independent external team in January/February 2013 carried out concurrent M&E of these projects.

❖ The World Bank 11th Implementation Support Mission (ISM) reviewed NATP programs during 29 September to 10 October 2013.

❖ The Wold Bank Mission (11th) report rated KGF performance on CGP and other activities as "Satisfactory". The mission recommended for establishing linkage with CGIAR centres and foreign universities for enhancing quality of R&D programs undertaken by KGF with the partners.

❖ Twenty four (24) Technical Bulletins (1st call, Phase-I) completed last year were printed and distributed to all stakeholders.

❖ Twelve (12) more Technical Bulletins completed CGP projects (1st call, Phase-II) were prepared. Upon editing these were printed for distribution to relevant stakeholders.

❖ Besides preparation of Technical Bulletins in English, as per suggestions of the 10th World Bank Mission, 10 Bangla technology bulletins

(*প্রযুক্তি বার্তা*) were also prepared and distributed to large number of readers in extension and research organizations. The 11th Mission of the World Bank appreciated preparation of *প্রযুক্তি বার্তা*, which would make the new technology known to a large number of stakeholders.

❖ GoB and World Bank decided that the NATP:Phase-1:KGF Unit program activities (including additional USAID fund) will be extended upto 31st December 2014. Revised proposal (RDPP) for NATP KGF unit had been prepared and submitted to PCU/MoA.

❖ Six (6) pilot projects for upscaling of promising technologies (proven practices) under 2nd call CGP research projects were approved in the 36th Board Meeting (20.12.2013). These pilot projects had been under implementation with the objective of involving large number of farmers' through training for validation of a set of technologies under the joint supervision of research and extension experts. The pilot projects are considered as vehicles for technology dissemination to a large number of farmers as an interphase between research and extension agencies.

B. Progress of KGF BKGET funded Programs: A brief status on project management and implementation progress of KGF BKGET funded programs and related activities from January-December 2013 are given below:

❖ The KGF Board in its 31st and 32nd meetings (held in August and December 2012), approved program activities and line item-wise 1st years budget of Tk. 1000 lakh for 2012-2013. The fund (Total Tk. 1000 lakh) was received in two installments from BKGET, so far up to 31st January 2014 more than 70% had been spent.

❖ The KGF Board approved 12 thematic areas for calling CGP proposals. KGF invited CGP proposals under KGF BKGET fund in September 2012. Announcement was made in two daily newspapers (on 3rd September 2012).

❖ KGF Board approved in 31st meeting, a twelve-member Technical Advisory Committee (TAC) headed by Dr. Mahabub Hossain with provision of cooption.

❖ TAC meetings were held during November 2012 to February 2013. The TAC reviewed the CGP proposals received for funding from KGF BKGET fund. In total 128 proposals were received and upon screening 73 proposals were found as responsive for peer review by expert reviewers selected by TAC.

❖ TAC members overviewed the reviewers' assessment and selected 30 proposals for presentation by the Principal Investigators (PIs) for final assessment by TAC. TAC upon review and evaluation by experts finally in February 2013, recommended 15 proposals subject to rationalization of program and budget. Based on TAC suggestion, 12 CGP proposals were approved by the KGF Board.

❖ As per KGF CGP Research Manual, Memorandum of Understandings (MoUs) were signed (May/June 2013) between KGF and the heads/authorised representatiives of these organizations.

❖ KGF awarded BKGET funded 12 CGP projects in May/June 2013 and inception meetings/workshops were held.

❖ KGF organized a Project Launching Workshop in June 2013, and 10 Project Briefs of CGP projects were presented. Dr. S. M. Nazmul Islam, Secretary, Ministry of Agriculture & Chairman of BKGET unveiled these 10 Project Briefs as Chief Guest in the launching workshop. The Project Briefs were also placed in the KGF website (www.kgf.org.bd).

❖ In the launching session, the Project Inception Reports (PIR) of the 10 CGP projects were presented by the PIs for finalization of inception reports containing detailed implementation and work plan. Heads/representatives of NARS institutes, DAE, DoF, and KGF Board, TAC and

BKGET Board members attended the workshop. All the Coordinators/PIs/CIs of 10 CGP proejcts presented their inception report in the workshop.

❖ Research highlights of 10 CGP projects under KGF BKGET funding are given in this report.

❖ A workshop on networking climate change scientists was held on 15 Jaunuary 2013. Possible areas of climate change activities and formation of working group were discussed to organize a climate change network group of NARS institutes and agricultural universities. Fifty participents from NARS institutes and universities attended the workshop.

❖ KGF submitted two progress reports to BKGET on 10.03.2013 and 18.07.2013 as per suggestion of BKGET BoT.

❖ Under the commissioned research program (CRP), a group of scientists of BARI, CDB and SRDI had been working during 2013 for designing R&D programs for hill agriculture in CHT.

❖ Based on the TAC recommendation in July 2013, the Board approved in August 2013 the first commissioned research program (CRP) of 5 components on 'Harnessing the Potential of Hill Agriculture' project.

❖ Following the planning workshop, award letters were issued in October 2013 and MoUs signed in November 2013 upon rationalization of program and budget of 5 components of Hill Agricultural project.

❖ Under Commissioned Research Programs (CRP), preparation of CRP proposals for other areas, viz. southern coastal agriculture and north-west drought prone areas had been under way during 2013. This could take few months more to complete preparation/designing of R&D proposals upon consultation with relevant researchers and stakeholders.

❖ Under the capacity building programs, one training workshop on "Climate Change in Bangladesh Agriculture (NCCA)" was held during 1-7 December 2012 in BARD, Comilla. Two reputed Climate Change Experts from India IARI/ICAR joined the workshop as resource persons. They were Prof. Dr. Dinesh Chandra Uprety, and Dr. Naveen Kalra. Twenty seven (27) mid-level scientists (mostly SSOs/PSOs) of ARIs & Universities participated in the workshop.

❖ Following this training workshop, a network and sub-groups were formed as Network on Climate Change in Agriculture (NCCA) involving NARS scientists and university researchers. The network scientists had been trained in 3 batches on Climate Change in Agriculture.

❖ The network scientists (NCCA) and sub-groups had been working for preparation of proposals for conducting research and making impact assessment on Climate Change in Agriculture.

❖ In order to improve research proposal preparation and report writing skill of NARS scientists and research managers, capacity building program had been undertaken by KGF to conduct a series of training workshops in 2013 in collaboration with BRAC Learning Division. During 2013, in total 87 scientists were trained in 3 batches in BRAC Centre, Gazipur.

❖ As per approval in 31st Board meeting of KGF Strategic Vision Document and Implementation Plan was prepared with technical assistance of Dr. Mruthyunjaya an eminent Economist of India with assistance of two local experts. The KGF Board approved the document on 'KGF Strategy and Implementation Plan (2013-22)' in August 2013.

❖ The Board approved the 1st phase capacity building proposal of BARC on ICT-based ARMIS initially at a total cost of Tk. 57.60 lakh for 9 months. BARC submitted a revised proposal. The proposed duration of the revised project was 30 months from July 2013 to December 2015 (including Phase-I) and the total cost was not exceeding TK. 3,87,75,950.00 (including the Phase-I cost). KGF Board in

December 2013 approved the revised proposal of BARC on ICT based ARMIS for NARS.

III.RESEARCH HIGHLIGHTS OF CGP PROJECTS UNDER NATP AND BKGET FUNDED PROGRAMS:

A total of 49 CGP projects under KGF NATP and KGF BKGET funding had been under implementation during 2013 in three Phases: 2nd call under NATP funding-Phase-I&II, 4 pilot projects under 1st call, and 10 projects under 1st call BKGET funding. With NATP fund 35 on-going CGP projects (2nd call, Phase-I&II) are being implemented in different NARS institutes and universities.

For proper implementation of these projects, periodical concurrent M&E were carried out by KGF professionals at an interval of 6-9 months. In addition, an independent external team in January, 2013 carried out concurrent M&E of these projects.

Implementation progress of 35 CGP projects under NATP fund (21 Phase-I and 14 Phase-II) containing research highlights is given in III.A(i&ii).

Progress of four (4) pilot projects implemented under NATP funding are also given in III.A(iii).

Under KGF BKGET funding 10 CGP research projects had already completed 6 months. A list with Research Highlights is given in III(B).

A total of 37 CGP projects were awarded in 2011 in two phases under 2nd call. Out of these 37 projects, one from phase-I and one from Phase-II were terminated after one year of implementation due to their unsatisfactory progress. Remaining 35 on-going CGP projects are being implemented and managed by KGF. Except two, all other projects are of 36 months duration. Till December 31, 2013, twenty one projects of Phase-I have completed 32 months whereas 14 projects of Phase-II have completed 28 months of their project period. Of course, two projects of Phase-II having 24 months duration have already submitted their project completion report. Implementation progress of these projects with research highlights and achievements where appropriate are given below:

Implementation progress of these 35 CGP projects (21/: Phase-I and 14/: Phase-II) made up to December, 2013 with research highlights are in this section.

Training Workshop on Research Proposal Preparation and Scientific Report Writing during 09-13 February, 2013 held in BARC-CDM Rajendrapur, Joydebpur

III. A. (i) Research Highlights:CGP Projects, 2nd Call, Phase-I under NATP fund

List of 21 CGP Projects, 2nd Call, Phase-I:

Sl. No.	Desk Officer of KGF	Project Code, Title, Location(s)	Lead Agency & Coordinator/PI with address (Cell+Email)
01.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-1.12** : Rice reduction under changing climate **Location:** Dinajpur, Rangpur, Rajshahi, Bogra, Joypurhat and Naogoan Districts	**Coordinator:** Dr. Md. Safiul Islam Afrad, Associate Professor, Dept. of Agri. Extension and Rural Development. BSMRAU, Tel: 9205310-14 Ext.-2054(O), Fax: 9205333, Cell: 01718-584820, Email:afrad69@gmail.com/ safiulislamafrad@yahoo.com,
02.	Dr. Mohibul Hasan Senior Technical Expert (M&E)	**C-1.21** : Yield gap minimization in rice using Integrated Crop and Resource Management (ICRM) practices at selected locations in Bangladesh **Location:** Madarganj (Jamalpur), Sherpur Sadar, Nalitabari and Nokla (Sherpur), Kapasia (Gazipur), Pakundia and Kotiadi (Kishoreganj), Monohordi and Palash (Narsingdi)	**Coordinator:** Dr. M. Safiqul Islam Mamin, PSO & Head Adaptive Research Division, BRRI, Gazipur, Phone:9256873, Cell: 01711-075486, Email: msimamin@yahoo.com
03.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-2.11** : Crop intensification in northern region of Bangladesh through up-scaling the production of short duration rice and mungbean **Location:** Rangpur, Gaibandha, Nilphamari, Lalmonirhat, Kurigram, Dinajpur, Thakurgaon and Panchagarh	**PI:** Dr. M. Moynul Haque, Prof. Dept. of Agronomy, BSMRAU, Gazipur, Phone: 9205310-14, Fax: 9205333, Cell: 01711-908640, Email: moynul60@yahooc.com
04.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**C-2.20** : Development of Intensive Cropping System in Two Coastal Districts for Increasing Production **Location:** Jhalakati Sadar and Rajapur (Jhalakati) and Dumki and Mirzaganj (Patuakhali)	**Coordinator:** Prof. Dr. Md. Harun-or-Rashid, Agronomy Department, PSTU, Dumki, Patuakhali-8602, Cell: 01552-429714, Email:mhrashid_pstu@yahoo.com
05.	Dr. Mohibul Hasan Senior Technical Expert (M&E)	**C-3.1** : Validation and up-scaling of maize after T. Aman rice in two southern districts. **Location:** Khulna Sadar and Rupsha (Khulna) and Kalaroa and Satkhira Sadar (Satkhira)	**Coordinator:** Dr. M. Jalal Uddin Sarkar, CSO, OFRD, Joydebpur BARI, Gazipur-1701 Fax: 9261415, Cell: 01552-442044, Email: ofrdjoy@yahoo.com
06.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-4.1** : Intensification of rice based cropping system incorporating short duration oilseed mustard varieties **Location:** Haluaghat, Muktagacha and Mymensingh Sadar (Mymensingh), and Bagha (Rajshahi), Ishurdi and Pabna Sadar (Pabna)	**Coordinator:** Prof. Dr. Lutful Hassan, Department of Genetics & Plant Breading, BAU, Mymensingh-2202, Tel: 091-52268, Cell: 01715-091096, Email:lutfulhassan@yahoo.co.uk
07.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-4.9** : Yield gap reduction through short duration rapeseed-mustard and sesame varieties under existing cropping system **Location:** Sirajganj Sadar & Shahjadpur of Sirajganj; Sherpur (Sadar, Nakla and Nalitabari upalizas) Shibganj and Gomostapur of Chapai Nawabganj	**PI:** Dr. Md. Abdul Latif Akanda, SSO (Plant Bleeding), Oilseed Research Centre, BARI, Gazipur-1701, Cell: 01716-335626, Email: alatifakanda@gmail.com
08.	Dr. Mohibul Hasan Senior Technical Expert (M&E)	**C-5.5** : Variety Selection and Integrated Crop Management for Yield Gap Minimization in Mustard and Sesame in the High Ganges River Floodplains **Location:** Monirampur and Jhikargacha (Jessore); Kaliganj (Jhenaidah); Narail Sadar (Narail); Modhukhali (Faridpur); and Kushtia Sadar (Kushtia)	**Coordinator:** Dr. Md. Sirajul Islam, PSO, On-Farm Research Division (OFRD), RARS BARI, Jessore, Cell: 01712-142042, Email: sirajpso@yahoo.com
09.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-6.8** : Validation and up-scaling of mungbean and lentil technologies in the rice based cropping system in Bangladesh **Location:** Gopalganj, Jessore, Jhenaidah, Gaibandha, Rangpur and Kurigram	**Coordinator:** Dr. Md. Ashraf Hosain, SSO, Pulses Research Sub-station, BARI, Madaripur, Cell: 01712-948871, Email: ashrafbd61@yahoo.com
10.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-6.9** : Validation and up-scaling of improved pulse production technologies for crop intensification **Location:** Madaripur,Khulna, Kayra, Barisal, Jhalakati, Tangail, Mymensingh	**Coordinator:** Dr. Md. Harunor Rashid, SSO, Regional Research Station, Rahmatpur, Barisal Cell: 01915-345460, Email:md_harunor_rashid@@yahoo.com

11.	Dr. N. I. Bhuiyan, Director (RM)	**C-7.12:** Standardization of protocol, and in vitro production of BARI kala-3 & BARI kala-4 plantlets and their validation trial at hilly areas **Location:** BARI (Gazipur), Nazirhat (Chittagong), Hill Agric Res Station, Ramgarh (Khagrachhari)	**PI:** Mst. Dilafroza Khanam, PSO, PSO, Bio-technology Division, BARI Gazipur, Phone: 9261509, Cell: 01673-900311, Email: khanammarry@gmail.com
12.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-9.6** : Rhizome Rot Disease of Ginger and Its Management **Location:** Rangpur, Bogra, Tangail, Mymensingh, Bandarban, Chittagong, Khagrachhari, Rangamati, Pabna, Gazipur	**PI:** Dr. Mahbub Uddin Ahmed, PSO, Plant Pathology Division, BARI, Joydebpur, Gazipur, Cell: 01745-988719, Email: mahbubpso@yahoo.com
13.	Dr. Mohibul Hasan Senior Technical Expert (M&E)	**C-11.1** : Management of Coconut Mite. **Location:** Near RARS, Jessore Sadar Upazilla	**PI:** Dr. Md. Nazirul Islam, PSO (Additional Charge) Plant Physiology Section, Horticulture Research Centre, BARI, Gazipur-1701, Cell: 01715-855239, Email: nazirhrc@yahoo.co.in
14.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-13.2** : Selection and application of BPH management technologies in Sirajgonj (Tarash Upazila) **Location:** Tarash (Sirajganj)	**PI:** Dr. Md. Fazle Rabbi, PSO and Head Entomology Division Bangladesh Rice Research Institute (BRRI), Joydebpur, Gazipur-1701 Phone: 9257401-5 Ext. 547, Fax: 9261110, Cell:01711-786548,Email: rabbebrri@yahoo.com
15.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**NR-15.22:** Validation of drought management techniques for sustainable crop production in the high barind tract **Location:** High Barind Tracts – Nahole (ChapaiNawabganj), Godagari (Rajshahi) and Shapahar (Naogaon)	**PI:** Md. Abdus Salam , SSO & Station In-charge, OFRD, BARI, Barind Station, Paramedical Road, Laxmipur, Rajshahi, Phone: 0721-812474 (O), Cell: 01712-092122, Email: salamraj67@yahoo.com
16.	-do-	**NR-16.15:** Testing, Validation and Up-scaling of Water Saving Technology in Rice Production(TWST) **Location:** Naogaon and Kishoreganj	**PI:** Dr. Md. Towfiqul Islam, SSO, Irrigation Water Management Division, BRRI, Joydebpur, Gazipu-1701, Tel: 9257401-5 Ext. 437, Cell: 01715-090879, Email: islam.towfiq@yahoo.com
17.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**L-17.4:** Development of cost-effective complete feed formula for the productive and reproductive performances of buffaloes **Location:** Mymensing, Pabna, Rajshahi, Sylhet and Noakhali	**PI:** Prof. Dr. Md. Ruhul Amin, Dept. of Animal Science, BAU, Mymensingh-2202, Fax:091 61510, Cel:01714-217157, Email:aminmr64@yahoo.com
18.	-do-	**L-19.2:** Investigation on calf diseases and development of mitigation measures **Location:** Belkuch and Shahjadpur (Sirajganj); Rangati and Komol Nagar (Luxmipur); and Char Fasson and Lalmohon (Bhola)	**Coordinator:** Prof. Dr. A. S. Mahfuzul Bari, Vice-Canceller, CVASU, Khulsi, Chittagong, Cell: 01740-642318, Email: bari.bau.bd@gmail.com
19.	-do-	**L-20.4:** Clinicopathological and serological surveillance of Foot and Mouth Disease (FMD) and Peste des Petits Ruminants (PPR) and adopt preventive measures against them at Shakipur and Madhupur Upozilla **Location:** Shakhipur and Modhupur (Tangail)	**Coordinator:** Prof. Dr. Md. Abu Hadi Noor Ali Khan, Dept. of Pathology and Proctor, Bangladesh Agricultural University, Mymensingh-2202
20.	-do-	**F-22.1** : Diversification of Carp Polyculture Integrating Snail (Viviparus sp.) Shing, (Heteropneustes sp.) Culture in Cage in Ponds of Adviasi Households. **Location:** Nalitabari, Shepur	**PI:** Dr. Mohammad Mahfujul Haque, Associate Professor, Dept. of Aquaculture, BAU, Mymensingh, Cell: 01712-006293, Email:mmhaque@yahoo.com
21	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**CC-25.1:** Development of an integrated rice-fish production system in lower Meghna river floodplain of Noakhali and Lakshmipur districts. **Location:** Sonaimuri, Begumganj, Noakhali sadar, Subarnochar (Noakhali) and Ramgati (Luxmipur)	**PI:** Dr. Mohammad Amin, CSO and Incharge, RARS, Bangladesh Agricultural Research Institute, Hathazari, Chittagong Cell: 01819-803229, Email: psoofrd@ymail.com

Implementation progress with research highlights of 21 CGP projects, Phase-I under 2nd call are given below:

1. Project code with Title: C-1.12: Rice Production in Drought Prone Areas of Bangladesh

Principal Investigator: DR. MD. SAIFUL ISLAM

Lead Organization: Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU)

Locations:

BSMRAU farm, Nachole, Sonatola, Kalai, Badalgachi, Gobindoganj and Pirgacha upazilas of Chapai Nawabganj, Bogra, Joypurhat, Naogaon, Gaibandha and Rangpur districts.

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.97.88 Lac was approved for the entire project period of which Tk.78.04 Lac has been released

Research Highlights:

A vast area of most of the char lands remains uncultivated or poorly cultivated with insignificant productivity due to various unfavorable or adverse conditions. BSMRAU, in collaboration with BRRI, SSURDA and PHKS has taken up this project, having the support of KGF, for identification of factors responsible for poor yield, rice varieties suitable for drought prone areas and to improve soil fertility, and to develop farmers' knowledge ...areness about drought management ...gies. Irrespective of rice varieties green ... practice provided comparatively better ...t all the sites in all the seasons. BRRI ...n Boro and BRRI dhan49 and BUdhan1 in ..., short duration rice varieties, showed ...erformance in drought prone areas as ...d to other varieties considered in the trials. ...ys and training programs created farmers' ...ss and knowledge on rice production technologies for drought prone areas.

2. Project Code with Title: C-1.21: Field gap minimization in rice using Integrated Crop and Resource Management (ICRM) practices at selected locations in Bangladesh

Principal Investigator: DR. MD SHAFIQUL ISLAM MAMIN (CSO & HEAD, ARD, BRRI)

Lead Organization: Bangladesh Rice Research Institute (BRRI), GAZIPUR

Locations: Jamalpur, Sherpur, Gazipur, Kishoreganj and Narshingdi

Duration: 36 months (May, 2011 to April, 2014)

Financial Progress: A total of Tk.87.00 Lac was approved for the entire project period of which Tk.75.40 Lac has been released

Research Highlights:

The economic yield targets of mostly grown HYVs in Bangladesh are 8-10 and 6-7 t/ha in Boro and Aman seasons respectively. But this yield is not usually achieved in farmers' fields due to different inappropriate management practices. As a result, there remains a huge gap in the yield found from farmers' and researchers' managed plots. Adoption of Integrated Crop and Resource Management (ICRM) practices take care of those lackings which cause yield reduction. The project aims to minimize this yield gap implementing available rice production and resource management technologies in an integrated way in farmers' fields. A total of 270 on-farm farmers participatory trials, for minimizing yield gap, were conducted in 9 upazilas of 5 districts in Boro and Aman seasons of 2013.The average yield increase observed in fields having ICRM package over those of the farmers' managed fields of BRRI dhan28, BRRI dhan29 and BRRI dhan36 were 0.9, 1.0 and 0.7 t/ha respectively. The straw yields of the mentioned varieties were also higher in comparison to those obtained from the farmers' managed fields. About 10 tons of seeds of BRRI dhan28, produced in the experimental sites were retained by farmers. A higher net return of Tk. 17961.9 /ha was achieved over that found from farmers' managed field following ICRM practices in rice production. Similar results were also obtained from Aman trial fields having ICRM management package. Fields managed under ICRM practices showed on an average higher yield of 1.0-1.5 t/ha and an increased net income of Tk. 16500 /ha in Aman season. A total of 120 farmers and 20 DAE field staffs were trained on rice production technologies. Nine field days were arranged in 9 Upazilas in Boro season where about 2200 people, coming from different sects of the society attended.

3. Project Code with Title: C-2.11: Crop intensification in northern region of Bangladesh through up-scaling the production of short duration rice and mungbean

Principal Investigator: PROF. DR.M. MOYNUL HAQUE, (Professor, Department of Agronomy, BSMRAU)

Lead Organization: Bangabandhu Sheikh Mmujibur Rahman Agricultural University (BSMRAU), Salna, Gazipur.

Locations: Rangpur, Gaibandha, Kurigram, Lalmonirhat, Nilphamari, Dinajpur, Thakurgaon, Panchagarh and Tangail

Duration: 36 Months (May, 2011 to May, 2014)

Financial Progress:

A total of Tk.98.00 Lac was approved for the entire project period of which Tk.91.24 Lac has been released

Research Highlights:

An intensive cropping pattern with four crops, Aus (Parija)-Aman (Binadhan-7)-Potato (cardinal) /Mustard (BARI Sarisha-14)-Mungbean (BARIMung-6) is tested against farmers cropping pattern, Boro (late)-Aman(late)-Potato, with minimum resource use in upland ecosystem of northern Bangladesh. The project aims to increase cropping intensity, system productivity and thereby create job opportunity at the jobless time of periodic famine of the region. It also aims to improve soil quality, minimize ground water use and to reduce cost of production applying need based chemical fertilizers. Introduction of short duration Mungbean and Aus rice in the alternative cropping pattern, Mungbean-Aus-Aman- Potato, increased cropping intensity, system productivity and benefitted farmers' providing a gross return of Tk 468960 against Tk. 257980. The BCR obtained was 3.02 against 1.42, used to be found with farmers existing pattern. The gross return was about 81.78% higher than that obtained with conventional pattern. Furthermore, balanced dose of fertilizer use in potato fields saved about 190 and 125 Kgs of TSP and MoP/ha for the succeeding Aus and Aman rice. Moreover, alternative cropping pattern produced 5.60 t/ha of additional food and saved about 8.917- 15.470 million liters of water which would otherwise be used in 12-28 irrigations required for Boro rice cultivation. Above all, the alternative pattern created job opportunity of 68-117 labors for each hectare of land during the time of seasonal famine which was an usual phenomenon of the northern region from long past. Similarly, Boro- Aus (early)- Aman (early) cropping pattern showing gross return of Tk.190720 and BCR 1.68, introduced in place of Boro- fallow- Aman pattern of Tangail having a Gross return of Tk. 122040 and BCR 1.47, was found more productive and economic for the area.

4. Project ID with Title: C-2.20: Development of intensive cropping system in two coastal districts for increasing production

Principal Investigator: PROF DR. MD. HARUN-OR-RASHID, PSTU, Patuakhali.

Lead Organization: Patuakhali Science and Technology University, Patuakhali.

Locations: Dumki, Mirzaganj of Patuakhali , Sadar and Rajapur of Jhalakati.

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.97.80 Lac was approved for the entire project period of which Tk.82.79 Lac has been released

Research Highlights:

Most of the lands of the coastal region of the country remains frequently inundated during the monsoon restricting the cultivation of most crops except local rice varieties. The short statured HYVs of Aman rice is not suitable for the area as the varieties cannot withstand the tidal flood. Production technologies developed and extensively adapted under irrigated condition elsewhere in the country are not generally suitable for tidal floodplains. Considering the problems, the project was implemented to increase production in tidal floodplains through improvement of cropping systems incorporating upland crops and adopting suitable T.Aman rice. BRRI dhan44 showed the highest yield (5.38t/ha) in the varietal trial

conducted at all the locations. The traditional varieties, having 50% of the recommended fertilizers for HYVs, showed higher yield. Sadamota had the highest yield (3.4 t/ha). Thirty day old seedlings of traditional rice varieties, planted at 30x30 cm spacing at the rate of 7 seedlings/hill showed the best performance. Among the non rice crops, Maize, Chickpea and Sesame tried at all the experimental sites, BARI hybrid maize at Jhatra in 2011-12, BARIChola-9 at Lebukhali in 2012-13 and BARI Til-4 at Jhatra in 2011-12 produced 14.8, 2.87 and 2.07 t/ha respectively. Maize, Chick-pea and sesame performed best when sown by 15th January, 15th December and 31st January respectively.

5. Project Code with Title: C-3.1: Validation and up-scaling of maize after T.Aman rice in two southern districts

Coordinator: DR. M JALAL UDDIN SARKER (Chief Scientific Officer, On-farm Research Division, BARI)

Lead Organization: Bangladesh Agricultural Research Institute (BARI), Gazipur

Locations: Satkhira and Kaliganj Upazilla of Satkhira district

Duration: 36 months (May 2011 to April 2014)

Financial Progress: A total of Tk.44.21 Lac was approved for the entire project period of which Tk.40.43 Lac has been released

Research Highlights:

About 30% of the net cultivable area is in coastal region. Salinity, late releasing of land, use of local varieties, and lack of irrigation water, low fertility status and exposure to natural calamities limit the agricultural production of the area. Fallow-Fallow-T.Aman rice is the dominant cropping pattern of the area. As a result, a huge amount of land remains fallow for most of the year. On farm Research Division of BARI having support of KGF has initiated a project to increase the productivity, cropping intensity of the area introducing new crop, HYVs and ideal management practices. The program was executed in 20 ha of land in two upazilas of Satkhira (Satkhira sadar and Kaliganj). Adaptive trials of 3 T.Aman rice varieties, Binadhan-7, BRRI dhan49 and Jamaibabu, were conducted at Satkhira sadar and Kaliganj during 2012-2013. Binadhan-7 showed the highest yield at both the sites which were 5.06 and 4.90 t/ha at Satkhira and Kaliganj respectively. In T Aman 2013-14, Binadhan-7 and Jamaibabu produced 5.25 and 4.95 t/ha having soil salinity ranging in between 2.18-3.98 and 3.12-4.98 Ds/m at Satkhira and Kaliganj respectively. The adaptive trials of maize were conducted in the same lands of the two sites in 2011-12 and 2012-13. Out of the 3 HYV maize varieties, HM 8255 and BHM5 showed the highest yield at Satkhira and Kaliganj respectively in 2011-12. Similar result was also obtained in 2012-13. HM 8255 produced the highest yield (7.45 t/ha) at Satkhira Sadar. However, its yield was found the lowest amongst the three varieties tested at Kaliganj.

6. Project Code with Title: C-4.1: Intensification of rice based cropping system incorporating short duration oilseed mustard varieties

Principal Investigator: PROF .DR. LUTFUL HASSAN, (Professor, Depertment Genetics and Plant Breeding BAU)

Lead Organization: Department of Genetics and Plant Breeding, Bangladesh Agricultural University.

Locations: Mymensingh (Sadar, Muktagacha and Haluaghat), Rajshahi (Bagha), Iswardi (Pabna), Lalpur (Natore)

Duration: 36 Months (June, 2011 to May, 2014)

Financial Progress:

A total of Tk.82.86 Lac was approved for the entire project period of which Tk.71.03 Lac has been released

Research Highlights:

An attempt was taken to increase the cropping intensity accommodating a short duration, high yielding mustard variety in between the T.Aman and Boro rice of the existing pattern, Aman-Fallow-Boro. During the second year, 100% of the selected 400 farmers of the six Upazilas cultivated Boro rice harvesting mustard. Successful Boro crop could be cultivated after the mustard. The farmers of all the six Upazilas have shown keen interest and enthusiasm in the cultivation of mustard following the T.Aman-Mustard-Boro cropping pattern which increased cropping intensity of the project area. The pattern increased edible oil production and net income of the farmers.

7. Project Code with Title: C-4.9: Yield gap reduction through short duration rapeseed-mustard and sesame varieties under existing cropping system

Principal Investigator: DR. MD. ABDUL LATIF AKANDA (Principal Scientific Officer, BARI)

Lead Organization: Oil Seed Research Centre, BARI

Locations: For Rapeseed-Mustard Trial: District Sirajgonj & Sherpur

For Sesame trial: District Rajshahi & Chapainowabgonj

Duration: 36 Months (May, 2011 to April,2014)

Financial Progress:

A total of Tk.39.58 Lac was approved for the entire project period of which Tk.32.45 Lac has been released

Research Highlights:

Bangladesh has chronic shortage of edible oil for long past. Around 30% is met by local production while the rest of the requirement is met by import. Rapeseed- mustard, sesame and groundnut are the major oil crops of Bangladesh. However, cultivation of traditional, mostly degenerated, varieties and traditional management kept the average yield considerably low. Substantial increase in the yield of the crops might be achieved with the cultivation of the newly developed varieties having high yield potential. This project is taken to verify the yield potential of mustard and sesame varieties, developed by BARI and BINA. The participatory and up scaling trials of mustard and sesame were conducted at 10 upazilas of Sirajganj, Sherpur, Rajshahi and Chapai Nababganj districts during the last two years (2011-2013). BARI Sarisha-14 produced the highest seed yield (1782 kg/ha) followed by BARI Sarisha-15 (1765 kg/ha) and BARI Sarisha-9 (1209 kg/ha). BARI Sarisha-14 and BARI Sarisha-15 showed more than 95% higher seed yield than that of Maghi Sarisha and could be accommodated successfully in the existing cropping pattern, TAman- Mustard- Boro. Similarly BARI Til-4 showed the highest yield (1142 kg/ha) followed by BARI Til-3 (969 kg/ha) and Binatil1 (920 kg/ha) over the locations and which were 46, 36 and 33% higher than that of T-6, the traditional variety used as check. All the farmers involved with the trials of mustard and sesame were trained before the commencement of the respective seasons.

8. Project Code with Title: C-5.5: Variety selection and integrated crop management for yield gap minimization in mustard and sesame in the high Ganges river floodplains

Coordinator: DR. MD. SERAJUL ISLAM, (Principal Scientific Officer, On-farm Research Division, BARI)

Lead Organization: Bangladesh Agricultural Research Institute (BARI), Gazipur

Locations: Jessore, Magura, Jhenaidah, Narail, Faridpur & Kushtia.

Duration: 36 months (May 2011 to April 2014)

Financial Progress:

A total of Tk.65.00 Lac was approved for the entire project period of which Tk.39.17 Lac has been released

Research Highlights:

The national mean yields of mustard and sesame are very low. New varieties having high yield potentials have been developed by this time and are producing higher yields in researchers' managed plots. However, there remains a big gap in the yield of the crops managed under farmers' and researchers' practices. The project was implemented to minimize the yield gaps observed for mustard and sesame. Screening trials of 8 varieties of mustards having short, medium and long duration of growth developed by BARI and BINA, were conducted in 5 locations of gangetic flood plains involving 155 local farmers. Binasarisha-4 followed by BARI Sarisha-15 among the short duration and BARI Sarisha-11 followed by BARI Sarisha-16 belonging to long duration varieties, produced the highest yields, 1.5, 1.35, 1.76 and 1.64 t/ha respectively. About 30-50% yield gap was minimized in the trials. BARI Til-4 produced the highest yield (1.68 t/ha) among the 4 varieties tested in the screening trials. It showed the same performance in the adaptive trials conducted in 2013. BARI Til-4 showed the highest yield (1.74 t/ha) and reduced about 30-50% of yield gap.

9. Project Code with Title: C-6.8: Validation and up-scaling of mungbean and lentil technologies in the rice based cropping system in Bangladesh

Coordinator: DR. MD ASHRAF HOSSAIN (Principal Scientific Officer, BARI)

Lead Organization: Pulses Research sub- station, BARI, Joydebpur, Gazipur-1701

Locations: Gopalgonj, Jhenaida, Jessore, Gaibandha, Kurigram and Rangpur

Duration: 36 Months (May, 2011 to May, 2014)

Financial Progress:

A total of Tk.130.00 Lac was approved for the entire project period of which Tk.86.91 Lac has been released

Research Highlights:

Majority of the population in the charlands developed along the rivers Dharala and Tista, are marginal and poor farmers. The chars have been forming due to siltation from upstream and erosion of Tista and Darla rivers. The soils are mostly sandy with poor water holding capacity having poor nutrient status. Because of water scarcity and lack of irrigation facility, farmers do not grow crops during the dry season. Therefore, large area remains uncultivated or poorly cultivated with insignificant productivity. With the support from Krishi Gobeshona Foundation, Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU) has been testing the yield performance of lentil variety BARIMasur-6 in around 60 bighas in Kurigram sadar upazilla and Nageshwary for

three years. The performance of both lentil and mungbean during post-aman dry season was found appreciably good in the charland. It was also noticed that BARIMung-6 and BUmug4, and lentil (BARIMasur-6) performed satisfactorily with a production range between 800 - 1500 kg/ha. In the summer of 2013, three short duration aman rice varieties namely BRRI dhan56, BUdhan1 and Binadhan-7 were also tested in the farmers' fields of Kurigram sadar and Nageshwary. Polythene water delivery pipe of 700 feet were supplied to irrigate the fields to solve the irrigation problem. However, some fields being relatively lowland were inundated with flash flood. Despite 7-10 days of inundation, the three varieties recovered well from the flooding shock, though they had variations in the performance. BUdhan1 produced 3.6 - 4.40 t/ha, while BRRI dhan56 and Binadhan-7 had 3.5 - 4.0 t/ha yield. The three rice varieties matured within 120 days from seed to seed. The crop duration sequence was BRRI dhan56< BUdhan1<Binadhan-7. BRRI dhan56 recovered from flood injury better than the other two varieties. Harvesting the rice, lentil was sown timely by November 15. Therefore, even the land type of the char is not suitable for harvesting potential yield of agricultural crops; the farmers can easily increase their farm income by adopting lentil-mungbean-short duration aman rice pattern.

10. Project Code with Title: C-6.9: Validation and up-scaling of improved pulse production technologies for crop intensification

Principal Investigator: DR. MD. HARUNOR RASHID (Senior Scientific Officer, BARI, BARISAL)

Lead Organization: Bangladesh Agricultural Research Institute, Barisal

Locations: Sadar and Rajor of Madaripur, Babuganj and Bakerganj of Barisal Sadar, Rajapur, Nalchiti of Jhalokathi, Shakipur of Tangail, Mmuktagacha and Fulbari of Mymensingh.

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.133.53 Lac was approved for the entire project period of which Tk.117.53 Lac has been released

Research Highlights:

The project has been initiated to identify disease resistant high yielding pulse varieties, validate and upscale improved production technologies of pulse crops and thereby to achieve diversification in crops and improvement in total pulse production. A total of two hundred Entries have been screened against insect pests and diseases of pulse crops of which eight were found promising. Chickpea sown in the first week of December produced higher yield than those sown in January. About 27 and 47% higher yields were obtained in 2012 and 2013, respectively, from 'December sowing'. Out of the three Chickpea varieties included in fertilizer trials of 2012 and 2013, Bari sola9 showed the highest yield, 937 and 1156 kg/ha in 2012 and 2013 respectively. Interplanting of BARIchola-9 with local rice produced half of its normal yield. The BARIMasur-7 showed better response to fertilizer applications and produced 1500 and 1100 kg/ha in 2012 and 2013 respectively. More than 3000 personnel including farmers, SAAO, SA and SSA were trained on modern production technologies of pulses during the last two years.

11. Project code with Title: C-7.12: Standardization of protocol, and in vitro production of BARI kala-3 & BARI kala-4 plantlets and their validation trial at hilly areas.

Principal Investigator: DILAFROZA KHANAM, Principal Scientific Officer, Bio-Technology Division BARI, GAZIPUR.

Lead Implementing Organization: BARI, Gazipur

Locations: BARI (Gazipur), Nazirhat (Chittagong), 8 upazilas of two Hill Districts (Khagrachari and Rangamati)

Duration: 36 Months (From May 2011 to April 2014)

Financial Progress: A total of Tk.98.00 Lac was approved for the entire project period of which Tk.82.21 Lac has been released

Research Highlights:

Bunchy top disease propagated by infected suckers, has decreased the area of BARI Kola-3 and BARI Kola-4, the two most popular banana varieties of Chittagong hill districts. Tissue culture is the only option that can produce sufficient number of disease

free planting material within limited time and space. Moreover, about 10-15% higher yield can be obtained from the saplings produced by tissue culture. The project was therefore undertaken to standardize the protocol for in vitro plantlet production of BARI Kola-3 and BARI Kola-4 and to evaluate their yield and economic performance in Chittagong hill districts. BARI Biotech lab standardized the protocol and Plant Tissue Culture Lab of Mustafa Group of Industries, Nagirhat, Chittagong, produced the disease free quality plantlets. The on-farm validation trials on tissue cultured banana production were carried out in 36 farmers' fields, each being 30 decimal in size, selected from 8 Upazilas of Khagrachari and Rangamati. BARI Kola-3 produced about 45 t/ha which was about 1 t/ha higher than BARI Kola-4. BARI Kola-4 matured about one month earlier than BARI Kola-3. Two field days involving 100 neighboring farmers at the time of harvesting banana and training on banana production for 72 farmers and 8 SAAO of 8 Upazilas were arranged during the period

12. Project Code with Title: C-9.6: Rhizome Rot Disease of Ginger and its Management

Principal Investigator: DR. MD. ABDUR RAHMAN (Chief Scientific Officer, BARI)

Lead Organization: Plant Pathology Division, Bangladesh Agricultural Research Institute (BARI), Gazipur.

Locations:

Gazipur, Bogra, Khagrachari, Nilphamari, Rangpur and Tangail.

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.45.00 Lac was approved for the entire project period of which Tk.36.07 Lac has been released

Research Highlights:

Several diseases limit the cultivation of Ginger in Bangladesh. Rhizome rot caused by *Pythium aphanidermatum* seemed to be the devastating one. The project aims to identify the microorganisms associated with rhizome rot, to develop appropriate management technologies for controlling the disease in Bangladesh and to validate the developed technologies in farmers' field. Research showed 46.7, 38, 34.5, 78 and 35.5% disease incidences in Nilphamari, Rangpur, Bogra, Tangail and Khagrachari respectively. The causal pathogens of Rhizome rot of ginger were *Pythium aphanidermatum, Fusarium oxysporumand, Sclerotium rolfsii* and *Ralstonia solanacearum* and considered to be involved for developing disease complex. Observation revealed that damping off caused by *Phythium* sp. and wilt caused by *Ralstonia solanacearum* cumulatively incurred severe damage to the crops throughout the vegetative period of ginger. Severity of wilting was observed at the time of the germination and at the later part of the rainy season of the year. Seed treatment with Clorox, Ridomil gold and soil disinfection were found partially effective against rhizome rot of Ginger caused by fungi.

13. Project ID with Title: C-11.1: Management of Coconut Mite.

Principal Investigator: DR MD NAZIRUL ISLAM, (Principal Scientific Officer, HRC, BARI)

Lead Organization: HRC, Bangladesh Agricultural Research Institute (BARI), Gazipur.

Locations: Jessore Sadar Upazilla, Jessore.

Duration: 36 months (May, 2011 to May, 2014)

Financial Progress: A total of Tk.31.40 Lac was approved for the entire project period of which Tk.22.58 Lac has been released

Research Highlights:

The coconut cultivation of southern Bangladesh was about to be abandoned due to severe mite infestation. Ignorance and inappropriate measures taken against the pest made the farmers frustrated and hopeless. At this situation a project "Management of coconut mite"was taken to address the issue. Two years' endeavor developed an effective management package for the control of coconut mite which is undergoing validation trials at present. Out of the 6 treatments, the treatment of Cleaning of coconut crown including young infested nuts (2-6 months old), followed by spraying of Omite @ 2 ml/lit of water and incorporation of 250 g of Neem Cake at the root zone of a tree, was found most effective. On an average 77 healthy coconuts were found from each of the coconut plant having the above mentioned treatment which initially produced almost no healthy nuts (indicated by baseline survey). Application of Neem Cake increased edible portion without influencing dry matter content of the kernel.

14. Project Code with Title: C-13.2: Selection and application of BPH management technologies in Sirajganj.

Principal Investigator: DR. MD. FAZLE RABBI (Chief Scientific Officer & Head, Entomology Division, BRRI)

Lead Organization: Entomology Division, Bangladesh Rice Research Institute (BRRI), Gazipur

Locations: Tarash Upazila, Sirajganj

Duration: 36 Months (May, 2011 to April 2014)

Financial Progress: A total of Tk.41.50 Lac was approved for the entire project period of which Tk.29.66 Lac has been released

Research Highlights:

Brown plant hopper (BPH) is a menace pest of rice and a threat to rice production. A considerable crop loss of both T.Aman and Boro crop is incurred by the pest every year in Bangladesh. Farmers' ignorance, failure to take timely measures, above all, methods of applying pesticides lead farmers to miserable failure protecting their crops. In this situation the project was taken to develop an effective management package against BPH. Use of double nozzle sprayer applying pesticide brought about the most effective protection of the crops against BPH. Plots having pesticide application by double nozzle sprayer showed yield increases of 14.46 and 8.38 % over those of the untreated control plots and 11.43 and 3.27 % over those of the farmers' managed plots in T.Aman and Boro seasons respectively. However, the yield differences observed in response to different treatments in different fields varied extensively depending on the extent of infestation levels of BPH. A total of 137 farmers, NGO and Extension personnel were trained on "BPH management technologies" during the reporting period.

15. Project Code with title: NR-15.22: Validation of drought management techniques for sustainable crop production in the high barind tract

Principal Investigator: DR. MD. ABDUS SALAM (Senior Scientific Officer, On-farm Research Division, BARI)

Lead Organization: On-Farm Research Division, Bangladesh Agricultural Research Institute, Barind Station, Rajshahi.

Locations: Nachole (Chapai Nawabganj), Godagari (Rajshahi), and Shapahar (Naogaon).

Duration: 36 Months (May, 2011 to May, 2014)

Financial Progress:

A total of Tk.39.92 Lac was approved for the entire project period of which Tk.32.09 Lac has been released

Research Highlights:

The major part of the high Barind tract, a drought prone area, largely depends on rainfed agriculture. Adoption of appropriate drought management techniques can help improving the agriculture of the area. With this view, the project was implemented in three Upazilas of Rajshahi, Chapai Nawbabganj and Naogaon districts to validate the drought management techniques. A total of 180 validation trials of short duration T.Aman rice (Binadhan-7), Chickpea (BARIChola-9) Wheat (BARI Gom-26) and potato (Cardinal) were conducted at Nachol, Godagari and Shapahar (Barind Tract) during 2011-2012 and 2012-2013. Cultivation of Chickpea using residual moisture and potato with mulch and minimum tillage after T-Aman harvest showed promise in the drought management for the area. The short duration Binadhan-7 helped successful establishment of Chickpea, wheat and potato. The trial plots of potato and wheat produced 23.4 to 24.2 and 4.85 t/ha of tuber and grain, respectively, and which were 15-20 and 30-40% increases in yield over those of the farmers' plots. Inclusion of Mungbean (BARIMung-6) in Wheat-Mungbean-T-Aman cropping pattern increased the cropping intensity by 1.88-2.30%. About 500 farmers, 60 SA/SAAO and NGO personnel were trained on the techniques of drought management.

16. Project Code with Title NR-16.15: Testing, validation and up-scaling of Water Saving Technology in Rice Production (TWST)

Principal Investigator: DR. MD. TOWFIQUL ISLAM (Senior Scientific Officer, BRRI)

Lead Organization: Bangladesh Rice Research Institute, Joydebpur, Gazipur

Locations: Dhamurhat of Naogaon and Hossainpur of Kishoreganj

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.39.95 Lac was approved for the entire project period of which Tk.32.12 Lac has been released

Research Highlights:

Drought is one of the major concerns of T.Aman farmers of Northern part of our country. Occurrence of light to moderate drought at the later part of the T.Aman crop is a regular phenomenon of the region. Use of excess rainfall collected in 'on-farm reservoirs' is a solution of the problem which makes farmers capable of providing supplemental irrigation and thereby help increasing

production, water use efficiency and income. T.Aman fields of BRRI dhan49 having supplemental irrigation with harvested rain water showed 21.33% higher yield (5.52 t/ha) than that (4.33 t/ha) of the fields receiving no supplemental irrigation. The benefit was of Tk. 11948/ha. PVC Pipe water distribution system (PWDS) saved about 99% of conveyance loss of irrigation water which helped increasing irrigated area by 20% at Dhamurhat. Development and use of iron made shutter facilitated single plot irrigation solving the problem of 'end cap detachment'. Check Value user saved Tk. 3000 for each of the STW operation per season.

17. Project Code with Title: L-17.4 Development of cost-effective complete feed formula for the productive and reproductive performances of buffaloes

Principal Investigator: DR. MD. RUHUL AMIN (Professor, Department of Animal Science, BAU)

Lead Organization: Department of Animal Science, Bangladesh Agricultural University, Mymensing

Locations: Trishal in Mymensingh, Subornochor in Noakhali, Lalpur in Natore and Bagha in Rajshahi

Duration: 36 Months (May, 2011 to May, 2014)

Financial Progress:

A total of Tk.59.03 Lac was approved for the entire project period of which Tk.46.41 Lac has been released

Research Highlights:

Healthy growth, sound reproductive performance and increased milk production of buffaloes can assure a sustainable supply of animal protein to meet the huge ever increasing requirement of the country and which can only be achieved if proper ration for the animal is provided. This research program was implemented to formulate a cost effective ration for the productive and reproductive buffaloes and to make available to the buffalo farmers in absence of commercial feeds. Four types of diets were developed on the basis of protein and energy requirement of milking and growing buffaloes. Eighty buffalo farmers received the formula diets. On average milk production was found to be increased by 1.5 and 1.8 L with Diet 1 and Diet 2, respectively, in all the locations. Diet 2 showed better performance in respect of milk production. Higher body weight gain was achieved for buffalo bull calves which ranged in between 17.0 - 19.6 Kg with both the Diet 3 and Diet 4.

18. Project Code with Title: L-19.2: Investigation on calf diseases and development of mitigation measures

Coordinator: PROF. DR. A. S. MAHFUZUL BARI (professor, Chittagong Veterinary and Animal Science University)

Lead Organization: Chittagong Veterinary and Animal Science University, Khulshi Chittagong

Locations: Chittagong, Dhaka, Sylhet, Khuln, Barisal

Duration: 36 Months (June, 2011 to May, 2014

Financial Progress:

A total of Tk. 99.54 Lac was approved for the entire project period of which Tk.50.43 Lac has been released

Research Highlights:

An endeavour was taken to identify the major causes of calf diseases and important factors related to calf diseases and develop mitigation measures and improve knowledge and skills of the farmers about management of calf diseases through training programs. Diarrhea, FMD, Pneumonia, naval ill and skin diseases were found as the predominant calf diseases of the study area. Analysis of 316 fecal samples indicated the presence of *B. coli, Eimeria* sp, *Taenia* sp, *Moniezia* sp, *Stongyloides* sp, *Toxocara* sp, *Paramphistomum* sp, *Trichuris* sp and *Fasciola* sp. Diarrhea the major mortality factor of calves, was found to be caused by *E. coli* and *Salmonella*. The questionnaire survey revealed that the calf population of the target village received better care in terms of deworming, vaccination, vitamin and mineral supplement and balanced ration in comparison to those of the control village. A total of 1616 calves and cattle were dewormed and vaccinated and about 1572 farmers attended training programs and field days during the period

19. Project Code with Title: L-20.4: Clinicopathological and serological surveillance of Foot and Mouth Disease (FMD) and Peste des Petits Ruminants (PPR)

Coordinator: PROF DR. MD ABU HADI NOOR ALI KHAN (Professor, Department of Pathology, BAU

Lead Organization: Department of Pathology, Bangladesh Agricultural University (BAU), Mymensingh

Locations: Shakhipur and Madhupur Upazila, Tangail.

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.88.49 Lac was approved for the entire project period of which Tk.60.61 Lac has been released

Research Highlights:

The research effort has been taken for the surveillance of FMD and PPR in ruminants at Shakhipur and Madhupur Upazila, Tangail and to develop an appropriate vaccination schedule and

dose intervals of FMD and PPR vaccines and to adopt an accurate diagnostic system for the viral subtypes. Two year findings showed that priming and busting at an interval of 2-3 weeks enhanced immune respons for a period of six months with FMD vaccine. PPR vaccine administered twice in a year on goats provided better protection against natural infection. About 20-30% weight gain and 25-35% increased milk production were achieved by deworming of cattle, buffaloes and goats. FMD viral serotype '0' and Asia 1 were grown in culture.

20. Project Code with Title: F-22.1: Diversification of Carp Polyculture Integrating Snail (*Viviparus* sp.), and Shing (*Heteropneustes* sp.) Culture in Cage in Ponds of Adivasi Households

Principal Investigator: PROF. DR. MD MAHFUJUL HAQUE (Professor, BAU)

Lead Organization: Department of Aquaculture, Bangladesh Agricultural University (BAU).

Locations: Nalitabari, Sherpur

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.39.95 Lac was approved for the entire project period of which Tk.33.71 Lac has been released

Research Highlights:

The project aims to increase income of Adivasi people through fish culture using diverse resources including poor human capital (adivasi people), natural resources (pond), and biological resources (fish and snail). The endevour is to increase production of Carps in polyculture pond, Shing in cage system and to increase farmers' knowledge and skill about Shing and Carp culture. The average productivity of the Carps was found better in the experimental ponds (Tk. 3682 kg/ha) in comparison to that found in traditional pond poly culture (Tk. 2500 kg /ha). However, the growth of Shing was not at the expected level as the fingerlings used there was of poor quality. Use of better fingerlings in the following year improved the situation. The average Shing production with formula and Snail mixed feed were found 3.14 and 3.06 kg/Cage respectively. However a similar experiment (check) carried out at University showing an increase in the production of Shing (3.81kg/ha) indicated a poor management aspect of the experimental sites. The productions of Snail in ponds increased and were used in the feeds for the Shing which reduced the feed cost by Tk.29/kg and ultimately the operation cost for Shing culture.

21. Project Code with Title: CC-25.1: Development of an integrated rice-fish production system in lower Meghna river flood plain of Noakhali and Lakshmipur districts

Principal Investigator: DR.MD AMIN (CS0, BARI, Hathazari, Chittagong)

Lead Organization: BARI, Hathazari, Chittagong

Locations: Sadar, Sonaimuri, Begumganj and Subornerchar of Noakhali

Duration: 36 Months (May, 2011 to April, 2014)

Financial Progress:

A total of Tk.75.00 Lac was approved for the entire project period of which Tk.44.49 Lac has been released

Research Highlights:

The project aims to increase system productivity of the vast flood plains of Noakhali and Lakshmipur which remains water logged seasonally, through integrated rice-fish production system. On an average, 4.39 t/ha of BRRI dhan49 and 1.35 t/ha of fish were obtained from farmers' participatory trials, following T.Aman based fish culture pattern, conducted at 4 locations of Noakhali. Similarly, the Boro based pattern, showed 211% higher yield of fish in comparison to those obtained by farmers in existing system, and 5.97 t/ha of rice (BRRI dhan29) were found fallowing rice-fish pattern in First year. The same experiments are being repeated in 2013 (at reporting time).

III. A(ii) Research Highlights:CGP Projects, 2nd Call, Phase-II under NATP fund

List of 14 CGP Projects, 2nd Call, Phase-II:

Sl. No.	Desk Officer of KGF	Project Code, Title, Location(s)	Lead Agency & Coordinator/PI with address (Cell+Email)
1.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**C-1.2:** Testing, validation and upscaling of cotton-rice intercropping in Chittagong Hill districts. **Location:** Bandarban, Rangamati & Khagrachari District	**PI:** Dr. Md. Farid Uddin, Addintoional Director (H.Q) Cotton Development Board (CDB) Khamarbari, Farmgate, Dhaka-1215 Phone: 9111476(O), Email: mfarid08@yahoo.com
2.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**C-1.11:** Improvement of appropriate rice based cropping systems in Barind areas **Location:**3 upazilas of Bogra district:Sherpur, Shajahanpur and shibonj upazila and on station trial of RDA Demonstration farm at Sherpur upazila, Bogra	**PI:** Mr. Md. Feroz Hossain, Director (Project Planning & Monitoring), Rural Development Academy (RDA), Sherpur, Bogra, Fax:051-78615 Phone: 015-73601-2 Ext.-2..., Cell: 01711-587799, Email: firozrda@gmail.com
3.	-do-	**C-1.26:** Minimizing yield gaps in rice-based cropping systems three northern districts. **Location:** Rangpur, Kurigram and Bogra districts.	**Coordinator:** Dr. A.S.M.Mahbubur Rahman Khan, PSO, OFRD, BARI, Gazipur, Phone: 9252085, Fax: 9261415 Cell: 01712-598035, Email: ofrdjoy@yahoo.com,
4.	Dr. N. I. Bhuiyan, Director (RM)	**C-1.27**: Productivity enhancement through improved management practices, tools and techniques **Location:** Dhamrai upazila of Dhaka & Singair upazila of Manikganj districts.	**PI:** Dr. Dilwar Ahmed Choudhury, SSO, OFRD, BARI, Gazipur, Phone: ....., Fax:..... Cell: 01711-318685 Email: dilwar92@yahoo.com
5.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**C-2.19** Crop intensification through incorporating quick growing fruits and vegetables into existing cropping systems in Jhalakati and Patuakhali districts **Location:** Dumki and Patuakhali Sadar (Patuakhali) and Jhalakhati Sadar (Jhalakhati).	**PI:** Mr. H. M. Khairul Bashar, SSO, OFRD, BARI, Sabujbag, Patuakhali-8600 Phone: 0441-62431, Cell: 01716-599601, Email: basharlaboni@yahoo.com
6.	Dr. N. I. Bhuiyan, Director (RM)	**C-4.5:** Maximization of crop yield in T. Aman-Mustard-Boro cropping pattern by Agronomic Manipulation **Location:** Dhanbari & Kalihati upazila of Tanigail district.	**PI:** Prof. Dr. M. Rafiqul Islam, Department of Soil Science, BAU, Mymenshingh Phone: 091-55695-7 Ext.-2436, Cell: 01711-985414, Fax: 091-55810 Email: mrislam58@yahoo.com
7.	-do-	**C-5.2:** Yield maximization of mustard and sesame through improved package of production practices in some selection areas of the country. **Location:** Jessore Narail, Jhenaidah, Faridpur, Kushtia and Chuadanga Districts	**Coordinator:** Dr. M. Raisul Haider PSO and Head, TC&P Division, BINA, BAU Campus, Mymenshingh-2202 Phone: 019-67834, Cell: 01715-372740 Email: haidertcp@yahoo.com
8.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**C-7.9:** Validation and up-scaling of year round pineapple production technology in hilly areas. **Location:** Maulavibazar, Rangamati and Khagrachari districts	**PI:** Dr. Madan Gopal Shaha, CSO, HRC, BARI, Joydebpur, Gazipur-1701, Phone:....., Fax: 9261415, Cell: 01848-106762 Email: mgs_60@yahoo.com
9.	Dr. N. I. Bhuiyan, Director (RM)	**C-8.14:** Integrated management of major diseases of brinjal and tomato in Jamalpur & Sherpur districts. **Location:** Jamalpur & Sherpur districts.	**PI:** Dr. Biresh Kumar Goswami PSO,RARS, BARI, Jamalpur-2000 Phone: 0981-63147, Fax: 0981-63138 Cell: 01716-519187/01813-158197 Email: bkgbari@yahoo.com
10.	Dr. Mohibul Hasan STE (M&E)	**C-12.1:** Development of Management Package for Powdery Mildew of BAU kul and apple kul **Location:** Satkhira, Jessore and Natore District.	**PI:** Prof. Md. Rejaul Islam, Agrotechnology Discipline, Khulna University, Khulna Phone: 041-733886, Fax: 041-731244 Cell: 01926-865086, Email: refa_bd@yahoo.com

11.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	**L-17.1:** Least cost feed formulation for poultry through the production of fermented yeast product from locally available feed resources **Location:** Chittagong Veterinary and Animal Science University, Khulshi, Chittagong	**PI:** Md. Ashraf Ali Biswas, Professor and Director (E/A), Dept. of AS&N,CVand ASU, Khulshi, Chittagong Phone: 031-659093, Fax: 031-659492 Cell: 01195-098971, Email: bisws1@bijoy.net
12.	-do-	**L-19.7:** Calf mortality in large and small holder cross breed dairy Cattle: Epidemiological and Pathological investigation and mitigation **Location:** Muktagacha-Mymensingh, Sahjadpur-Sirajganj;	**Coordinator:** Prof. Dr. Emdadul Haque Chowdhury, Professor, Dept. of Pathology, Faculty Veterinary Science, BAU, Mymenshingh, Phone: 091-66049, Cell: 01712-017381 Email: emdad001@yahoo.com
13.	Dr. N. I. Bhuiyan, Director (RM)	**F-21.20:** Adaptation of high valued fish species shing (*Heterponeustes fossilis)* culture technology for Maximizing prediction in three Agro-Ecological zones of Bangladesh **Location:** Narsingdi, Hobigong and Sirajgong	**Coordinator& PI:** Dr. Md. Jahangir Alam, Professor & Head, Department of Fisheries Technology, BSMRAU, Gazipur-1706 Phone9205310, Cell: 01715-143521, Email:alammj_bfri@yahoo.com
14.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	**CC-25.2:** Development of integrated crop-fish production system using ditch-and-dyke method in low lying areas of Barisal and Faridpur region **Location:** Jhalakati & Rajapur upazila of Jhalakati and Gobtoli upazila of Bogra districts	**PI:** Prof. Dr. Mofazzal Hossain, Dept. of Horticulture, BSMRAU, Gazipur-1706 Phone: 9205310-4 Ext.-2151, Fax: 9205333 Cell: 01819-433225 Email: mdmofazzal.bsmrau@gmail.com

Implementation progress with research highlights of 14 CGP projects, Phase-II under 2nd call are given below:

1. Project ID with Title: C-1.2: Testing, Validation and Up-scaling of cotton-rice intercropping in Chittagong Hill districts

Principal Investigator: DR.MD.FARID UDDIN (Additional Director, Cotton Development Board)

Lead Organization: Cotton Development Board, Khamarbari, Dhaka.

Locations:

Three sites in Bandarban (Raicha, Bakhichara & Dolupara); one site in Rangamati (Kawkhali), and another site in Khagrachari (Alutila).

Duration: 36 Months (October, 2011 to September, 2014).

Financial Progress:

A total of Tk.41.04 Lac was approved for the entire project period of which Tk.27.49 Lac has been released

Research Highlights:

Cotton is an important crop to the tribal people not only for their source of income but also in their religious rites. Hill cotton is a long duration crop and generally hilly farmers grow cotton in Jhum system. The project was taken to test, validate and upscale Cotton-Rice intercropping technology in place of traditional Jhum cultivation to improve system productivity and to reduce soil erosion. Intercropping of Rice and Cotton with two rows of rice with one row of cotton showed the maximum benefit in terms of REY (Rice Equivalent Yield). However, the yield of cotton and rice showed variations with the planting systems. The Jhum system showed the lowest yield of both the crops.

Both the American upland cottons (Rupali 1 and CB -12) performed better than the hill cotton. Rupali 1 showed the highest yield (1060 kg/ha). However in terms of economic return, CB-12 was found better than Rupali 1 as Rupali 1 incurred higher seed cost.

2. Project Code with Title: C-1.11: Improvement of appropriate rice based cropping systems in Barind areas

Principal Investigator: MD FEROZ HOSSAIN (Director, RDA, Bogra)

Lead Organization: Rural Development Academy (RDA), Bogra

Locations: Sherpur, Shahjahanpur and Shibganj Upazilas of Bogra District and on station trial at RDA farm, Bogra.

Duration: 36 Months (August, 2011 to August, 2014)

Financial Progress:

A total of Tk.70.00 Lac was approved for the entire project period of which Tk.51.96 Lac has been released

Research Highlights:

Farmers in the northern districts of Bangladesh have adopted intensive cropping systems in recent years. Majority farmers do not follow recommended management practices for the cultivation of the crops, neither they use modern varieties. Consequently, the average yields of most of the crops remain stumpy. The project aims to improve system productivity by increasing the yield of different component crops grown in the major cropping patterns of three Upazillas of Bogra District. Use of quality seed, balanced fertilizer, high yielding varieties and proper pest management helped achieving higher yield and greater benefits even from the cropping patterns existing in the area. HYV Yard long bean produced 16.68 t/ha which was 16.67 % higher than that obtained in farmers' plots. The gross margin over farmers' practice was Tk 52153/ha. Snake gourd yield of trial plots (21.89t/ha) was 36.38 % higher than those obtained in farmers' plots. Gross margin was about Tk 96779/ha over that of farmers plots. Similarly, higher yield of potato (25.10 t/ha), maize (8.5 t/ha) and Aman rice (4.24 t/ha) providing higher gross margins of Tk.127068, 17045 and 10188 respectively were obtained over farmers practice from the existing cropping pattern (potato-maize-T.Aman) of Shibganj. About 25.69, 27.69 and 18.46% higher yields and gross margin of Tk. 23398, 11469 and 14381 over farmers' practice were obtained from the trial plots of Boro, Aus and T.Aman rice respectively.

3. Project Code with Title: C-1.26: Minimizing yield gaps in rice-based cropping systems of three northern districts.

Principal Investigator: DR.A S M MAHABUBUR RAHMAN KHAN (Principal Scientific Officer, BARI)

Lead Organization: Bangladesh Agricultural Research Institute (BARI), Joydebpur, Gazipur.

Locations: Mithapukur upazila

Duration: 36 Months (October, 2011 to September, 2014)

Financial Progress: A total of Tk.66.00 Lac was approved for the entire project period of which Tk.41.45 Lac has been released

Research Highlights:

Majority farmers of the selected locations (Ulipur, Mithapukur and Shibgang) do not follow the recommended management practices for the cultivation of their crops. Access of these farmers to agricultural inputs including credit is also very limited. Due to these limitations, the average yields of crops of these farmers are much lower than those of the farmers who use modern varieties and improved management practices. The project aims at improving system productivity by increasing yields of rice and other component crops of the existing major cropping patterns through selection and validation of improved methods and technology packages for increasing yields of rice, potato and mustard in major rice-based patterns. Focus Group Discussion (FGD) revealed that mustard and potato were planted late due mainly to late harvest of previous T.Aman rice. Likewise, boro rice was planted late because of late harvest of earlier potato. Farmers applied imbalanced and low doses of fertilizers that finally resulted in low yields of the crops. Mustard, Boro and T.Aman rice produced 1.55, 5.76 and 4.95 t/ha in trial plots of Shibganj which showed 49.7, 16.67 and 17.37% increases over those found from farmers' plots respectively, following the existing Mustard-Boro-T.Aman pattern in 2011-12. Similar result was also obtained in 2012-13. Yield increases of 50.64 and 17.95% for Mustard and Boro rice were obtained in trial plots. The same trend was also achieved in Mithapukur and KurIgram. About 37.66, 22.03 and 20.21% of yield increases for potato, Boro and T.Aman rice, respectively, were obtained in 2011-12. Potato and Boro rice of 2012-13 showed 42.12 and 23.50% increases over those of the farmers' plots. About 33.96, 17.61 and 23% increase in yields for potato, Boro and T.Aman rice of 2011-12 and 45.10 and 19% for potato and Boro rice of 2012-13, respectively, were obtained at Ulipur.

4. Project Code with Title: C-1.27 Enhancement of Crop Productivity through Improved Management Practices, Tools and Techniques

Principals Investigator: DR. DILWAR AHMED CHOUDHURY, PSO, ON-FARM RESEARCH DIVISION, BARI, GAZIPUR-1701

Lead Implementing Organization: On-farm Research Division, BARI, Gazipur-1701

Locations: OFRD, BARI, Gazipur, Dhamrai, Dhak and Singair, Manikganj

Duration: 36 months (From October 2011 to September 2014)

Duration: 36 months (From October 2011 to September 2014)

Financial Progress: A total of Tk.44.96 Lac was approved for the entire project period of which Tk.31.17 Lac has been released

Research Highlights:

There remains a gap in the yield of the crops obtained from farmers' field and research stations. A number of factors like time of planting, quality of planting material, fertilizer management, variety of the crops, tillage depth, use of organic manures etc. have profound effect on crop yield. There is an ample scope of increasing crop yield by 20-30% over existing yield level adopting improved production technologies/practices. The project was designed to increase individual crop yield and system productivity by changing variety and adopting improved production packages. OFRD of BARI in collaboration with NGO SUS conducted on-farm trials on selection of short duration varieties of T.Aman and mustard, effects of Tillage depth, integrated nutrient management and improved management practices in 20 farmers' fields, selected from two Upazilas, Dhamrai and Singair of Dhaka and Manikganj districts, respectively.

Deep tillage increased 15-20% of higher seed yield of Mustard, Maize, Boro and T.Aman. BARI Sarisha-15 and BARI Sarisha-14 showed 30-35% higher seed yield over that of the local variety Tori 7. Yield of Mustard, Wheat, Maize, Boro and T.Aman rice and Jute increased by 10-20% with IPNS based fertilizer application. Binadhan-7 matured about 20 days earlier which facilitated timely planting of Rabi crops. About 14-36% higher net return and higher BCR were obtained with deep tillage, a greater net return (33-60%) was found with nutrient management.

5. Project Code with Title: C-2.19: Crop intensification through incorporating quick growing fruits and vegetables into existing cropping systems in Jhalakati and Patuakhali districts

Principal Investigator: H.M. KHAIRUL BASHAR, (Senior Scientific Officer), BARI

Lead Organization: Bangladesh Agricultural Research Institute (BARI), Gazipur

Locations: Dumki and Sadar Upazila of Patuakhali, Jhalakathi Sadar Upazila of Jhalakathi

districts.

Duration: 36 Months (October, 2011 to October, 2014)

Financial Progress:

A total of Tk.46.25 Lac was approved for the entire project period of which Tk.33.659 Lac has been released.

Research Highlights:

About 41 - 60% of arable lands of Patuakhali and Jhalakathi remain fallow during Rabi and Kharif 1 seasons due to adverse agro-ecological conditions of the region. Moreover, traditional agronomic practices of the people has made the lands less productive with least diversification of crops, consequently, low productivity and low cropping intensity of the region has made the people poor.

At this situation the project has been taken up for the improvement of the cropping system of the region and thereby to improve the livelihood of the people of the area. A number of experiments on selection of suitable crops, varieties of the suitable crops and planting methods have been carried out during the period in 6 villages of Dumki, Patuakhali Sadar and Jhalakathi Sadar upazilas of Patuakhali and Jhalakathi districts respectively. Out of 4 vegetable crops, Brinjal, Tomato, Okra and Spinach, Tomato performed the best producing 72.66 t/ha and which was followed by Brinjal, Spinach and Okra in terms of yields. Hybrid tomato, 'Safal' collected from local market produced the highest yield (95.66 t/ha) in comparison to those of BARI Tomato-2, BARI Tomato-3, BARI Tomato-14 and BARI Tomato-15 undergoing the varietal trial. Out of the two hybrid summer tomato varieties, BARI Hybrid Tomato-4 showed better yield (39.19 t/ha) in 2012. Crop performance was found better in bed planting system.

6. Project Code with Title: C-4.5 Maximization of Crop Yield in T. Aman-Mustard-Boro Cropping Pattern by Agronomic Manipulation

Principal Investigator: PROF. DR. M. RAFIQUL ISLAM, Department of Soil Science, BAU, Mymenshingh.

Lead Organization: Bangladesh Agricultural University, Mymensingh.

Locations: Dhanbari and Kalihati upazila of Tanigail district.

Duration: 36 months (From October 2011 to September 2014).

Financial Progress: A total of Tk.27.00 Lac was approved for the entire project period of which Tk.20.85 Lac has been released

Research Highlights:

Late harvesting of long duration high yielding T.Aman rice followed by Boro cultivation makes it difficult to accommodate mustard in the cropping pattern. Consequently, area under mustard has been decreased widening the gap between the production and consumption of edible oil with ever increasing population. However, the development of short duration varieties of T.Aman rice and mustard has facilitated the establishment of mustard in between Aman and Boro rice. The present research project was designed to grow mustard in between T.Aman and Boro rice and with Boro rice as mixed crop to increase cropping intensity and system productivity and thereby farmers' income. On-farm participatory adaptive trials to develop alternative cropping pattern (BARI Sarisha-14-BRRI dhan29-Binadhan-7) were conducted in 18 farmers' fields of Dhanbari and Kalihati Upazilas in the 1st year. In the second year, adaptive trials in 3 blocks, each with about 5 acres of land involving 45 farmers, were established in the two Upazilas. BARI Sarisha-14 was established successfully both as sole and mixed crop with direct seeded Boro rice which showed an yield of 1462 and 1383 kg/ha at Dhanbari and Kalihati respectively. Direct seeded Boro rice mixed with mustard, showed higher yield of 458 and 416 kg/ha than those obtained from transplanted Boro rice grown at the two sites. The mean rice equivalent yield of the T.Aman - Mustard-Boro pattern of all three block was 15.74 t/ha compared to 12.54 t/ha, obtained from the existing Aman-Fallow-Boro pattern. About 32% (Tk154, 646/ha/yr) higher net income was found

from the alternative pattern. The new pattern required 16% higher number of labourers.

7. Project Code with Title: C-5.2 Yield Maximization of Mustard and Sesame through Improved Package of Production Practices in Some Selected Areas of the Country

Principal Investigator: DR. M. RAISUL HAIDER, (Principal Scientific Officer and Head TCP Division), BINA, BAU Campus, Mymensingh

Lead Implementing Organization: BINA, BAU Campus, Mymensingh

Locations: Jessore, Narail, Jhenaidah, Faridpur, Kushtia and Chuadanga districts

Duration: 36 months (From October 2011 to September 2014)

Financial Progress: A total of Tk.40.00 Lac was approved for the entire project period of which Tk.33.16 Lac has been released

Research Highlights:

The national average yields of mustard and sesame are very low compared to the potential yields of the two crops. Use of traditional varieties and inappropriate management practices keep the yield low. Development of short duration HYVs of Aman rice created opportunities for cultivation of high yielding mustard and sesame varieties in proper time. The projct is therefore designed to select appropriate rice varieties allowing the cultivation of high yielding mustard and sesame varieties in rice based cropping patterns of the target locations under six districts (Jessore, Faridpur, Jhenaidah, Chuadanga, Narail and Kushtia) of Bangladesh. The project was implemented by BINA in collaboration with two NGOs namely Jagoroni Chakra Foundation and Muslim Aid Bangladesh Field Office. On-farm trials were conducted to select proper varieties of the crops and validate the relevant production packages. Efforts were also made to include Mustard replacing Wheat in T.Aman-Wheat-Jute pattern. Based on the performance, Binasarisha-4, BARI Sarisha-14, BRRI dhan28, Binatil1/ Binatil2, Binadhan-7, Binamasur-5 and Binamasur-6 were selected from the tested varieties for upscaling three cropping patterns: Binasarisha-4/BARI Sarisha-14- BRRI dhan28-Binadhan-7, Binasarisha-4/BARI Sharisha-14-Jute-Binadhan-7 and Binamasur-5/6-Binatil1/2-Binadhan-7. Boro rice based pattern showed the highest profit (105.1%) followed by the jute and lentil based patterns having 36.4 and 29.4% profit over the farmers' practice. On-farm participatory demonstration trials were established at six locations involving 454 farmers' in T.Aman season 2013. Seven hundred and thirty seven farmers and SAAOs were trained on improved crop cultivation technique and six field days were organized during the period.

8. Project Code with Title: C-7.9: Validation and up-scaling of year round pineapple production technology in hilly areas

Principal Investigator: DR. MADAN GOPAL SAHA (Chief Scientific Officer), BARI

Lead Organization: Bangladesh Agricultural Research Institute (BARI), Gazipur

Locations: Doluchara, Sreemangal of Moulavibazar, Bolipara, Ramgarh, Harinathpara, Pratap para and sadar of Khagrachari, Bogachariand Naneer char of Rangamati.

Duration: 36 Months (September, 2011 to August, 2014)

Financial Progress:

A total of Tk.45.00 Lac was approved for the entire project period of which Tk.21.79 Lac has been released

Research Highlights:

Pineapple is one of the major seasonal fruits of Bangladesh. Despite a year round market demand, the fruits become available in the market in large quantity at a particular period of the year which deprives the farmers from the expected price. At this situation, an attempt was taken to grow pineapple throughout the year and to increase production with better varieties to make farmers more benefitted. Between the two varieties of Pineapple, undergoing the validation trials conducted at Moulovibazar, Khagrachhari and Rangamati, the Giant Kew, having larger fruits weighing in between 450-2300 g, performed better compared to Honey Queen in respect of yield and BCR (Tk.3.52). Moreover, higher number of slip suckers produced by Giant Kew made farmers economically benefitted. However, fruit quality and shelf life of Honey Queen were better than those of Giant Kew. Both the varieties responded to Ethrel, a growth regulator, and produced fruits throughout the year.

9. Project Code with Title: C-8.14: Integrated Management of major diseases of brinjal and tomato in Jamalpur and Sherpur districts

Principal Investigator: DR. BIRESH KUMAR GOSWAMI (Chief Scientific Officer), BARI.

Lead Implementing Organization: Bangladesh Agricultural Research Institute (BARI),Regional Station,Jamalpur-2000

Locations: Jamalpur and Sherpur districts

Duration: 22 months (From September 2011 to June, 2013)

Financial Progress: A total of Tk.17.97 Lac was approved for the entire project period of which Tk.17.75 Lac has been released.

Research Highlights:

Different diseases incur about 35-40% of yield loss of Brinjal and Tomato every year. Sometimes the yield loss reaches even up to 90-95%. At this context the project was undertaken to develop effective technologies for controlling major diseases of the two vegetables and, to evaluate and upscale the technologies in farmers' fields of Sherpur and Jamalpur and to upgrade the knowledge and skill of the beneficiaries on disease management. Current status of the two vegetables and their diseases were documented through a survey conducted in the area. Bioassays of the collected pathogens causing different diseases were done in the laboratory. Technology packages were developed and evaluated conducting on-station experiments and on-farm trials in 25 farmers' fields of Jamalpur and Sherpur. Two cost effective packages were developed which reduced 80-90% and 75-85% disease incidences of Brinjal and Tomato, respectively. The bacterial wilt disease of the two vegetables reduced even up to 95-98% yield. The benefit cost ratios found under the packages were 5.1 and 3.82 compared to 1.63 and 1.78 obtained with farmers' practice for Brinjal and Tomato respectively.

10. Project Code with Title: C-12.1: Development of Management Package for Powdery Mildew of BAU Kul and Apple Kul

Principal Investigator: PROF. MD. REJAUL ISLAM (Professor, Khulna University)

Lead Organization: Khulna University, Khulna

Locations: Khulna, Jessore and Natore districts

Duration: 24 months (September 2011- August 2013)

Financial Progress: A total of Tk. 45.00 Lac was approved for the entire project period of which

Research Highlights: Jujube cultivation is increasing day by day in our country and has been established as a profitable business. Unfortunately, the powdery mildew, a devastating disease has been appeared in recent years as a threat of the jujube Orchards. Powdery mildew, *Oidium ziziphi*, causes considerable losses of BAU Kul and Apple Kul of our country. A project was taken to develop a "management package" for the control of the disease. The project continued for two years and developed a package which controlled the disease and thereby reduced the loss and increased the production of BAU Kul and Apple Kul in the project area. Six sulphur containing fungicides (Gaivet 80% DF, MYSULF 80 W6, McSULPHUR 80 WP, Greensul 80 WG, HAYSULF 80 DF and Genivit 80 DF) were found effective against the disease. Application of fungicide at 15 days interval from the date of 1st visible appearance of the disease and pruning at the end of March helped BAU Kul and Apple Kul producing about 25 and 20% higher yield than those of the untreated controls, respectively. BCR obtained for BAU Kul and Apple Kul were 10 and 10.67 respectively.

11. Project code with Title: L- 17.1: Least cost feed formulation for poultry through the production of fermented yeast product from locally available feed resources

Principal Investigator: DR. KAZI M. KAMARUDDIN (Director, Poultry Research and Training Center)

Lead Organization: Chittagong Veterinary and Animal Science University, Khulshi, Chittagong

Locations: Chittagong

Duration: 36 Months (Sep, 2011 to August, 2014)

Financial Progress: A total of Tk.29.48 Lac was approved for the entire project period of which Tk.17.43 Lac has been released

Research Highlights: An endevour was taken to establish a production procedure and least cost rations for poultry from locally available feed resources like maize, wheat, rice-polish and rubber seeds using microorganisms. Poultry feed, with different levels of protein and fibre content, was developed by mixing locally available food ingredients at different proportions and allowing them to remain under microbial activities (yeast and fungus) for different periods (48 hr -13 day). The small scale trial conducted with the developed poultry feed increased body weight of the treated birds. The feed price could be reduced by Tk. 1.5/kg.

12. Project code with Title: L-19.7: Calf mortality in large and small holder cross breed dairy cattle: epidemiological and pathological investigation and mitigation

Principal Investigator: PROF DR. EMDADUL HAQUE CHOWDHURY (Professor, Department of Pathology, BAU)

Lead Organization: Department of Pathology, Faculty of Veterinary Science, Bangladesh Agricultural University, Mymensingh-2202

Locations: Muktagacha, Mymensingh and Shahjadpur, Sirajganj

Duration: 36 Months (Oct, 2011 to Sep, 2014)

Financial Progress: A total of Tk.60.00 Lac was approved for the entire project period of which Tk.23.95 Lac has been released

Research Highlights: Gastrointestinal and Respiratory diseases cause about 9 and 13.4% of calf mortality under rural and farm condition, respectively, in Bangladesh. Exotic and crossbred cattle are highly susceptible to diseases in comparison to local zebu cattle. Considering these facts, the project was designed to determine the etio-epidemiological factors associated with calf morbidity and mortality under farm and rural conditions in Bangladesh. Ten risk factors influencing calf mortality and morbidity, directly or indirectly, have been identified. Those are farmers' occupation, education, new introduction of animals into herd, production purpose, parturition hazard, age at first grazing, herd size, milk feeding practice, kacha-floor and poor physical condition. Fourteen types of helminthes, four types of protozoa, two types of virus and two types of bacteria have been identified. The overall mortality of calf was reduced from 24.6% to 1.84% in Muktagacha and from 44% to 2.23 % in Shajadpur. Health status of cow and calves improved and morbidity and mortality reduced due to early diagnosis of diseases and treatment, routine de-worming, vaccination and improved health management practices. Seventy five farmers of the project sites have been trained on calf health management.

13. Project Code with Title: F-21.20: Adaptation of High Valued Fish Species Shing (*Heteropneustes fossilis*) Culture Technology for Maximizing Production in Different Agro-Ecological Zones of Bangladesh

Coordinator: PROF. DR. MD. JAHANGIR ALAM, BSMRAU, Salna, Gazipur-1706

Lead Implementing Organization: Department of Fisheries Technology, Bangabandhu Sheikh Mujibur Rahman

Locations: Gazipur and Narshingdi district

Duration: 36 months (From October 2011 to September 2014)

Financial Progress: A total of Tk.79.89 Lac was approved for the entire project period of which Tk.63.99 Lac has been released Agricultural University (BSMRAU), Salna, Gazipur-1706

Locations: Gazipur and Narshingdi district

Duration: 36 months (From October 2011 to September 2014)

Financial Progress: A total of Tk.79.89 Lac was approved for the entire project period of which Tk.63.99 Lac has been released

Research Highlights: Shing farming is largely confined in Mymensingh region due to the easy availability of hatchery bred seed and technological interventions in the area. The success in developing captive breeding and pond culture indicates the potentiality of shing farming throughout the country. However wider adoption of shing farming requires refinement and standardization of the technologies for different agro climatic regions and which can be achieved

through on-farm participatory adaptive trials. The present research has been undertaken to standardize the Shing culture techniques for wider adoption, building awareness and improving knowledge and skill on Shing farming as well. The first year trials conducted in 9 farmers' ponds of Narshingdi district, indicated that 500 fingerlings/decimal was the best out of the 3 stoking densities in terms of production and economic return. However, the Feed Conversion Ratio (FCR) was not up to the desired level as the fingerlings were released in pre winter months. The trial is being repeated in the second year to verify the Feed Conversion Ratio (FCR) and other parameters with same stocking density. Collected data indicated satisfactory FCR ranging in between 2.99-3.17 having a net production of 3.93-5.43 t/ha. The average net return and BCR ranged in between Tk. 441738-872762/ha and 1.48-1.76 respectively.

14. Project Code with Title: CC-25.2: Development of integrated crop-fish production system using ditch-and-dyke method in low lying areas of Jhalakati and Bogra region

Principal Investigator: PROFESSOR MOFAZZAL HOSSAIN (BSMRAU, Gazipur)

Lead Organization: Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Salna,Gazipur.

Locations: Jhalakati Sadar and Rajapur of Jhalakati and Gabtoli of Bogra.

Duration: 36 Months (September, 2011 to August, 2014).

Financial Progress: A total of Tk.49.76 Lac was approved for the entire project period of which Tk.35.09 Lac has been released.

Research Highlights: There are some low lying areas in the country which usually remain under water for 6-8 months. Year round crop production is neither feasible nor profitable in those areas. As a result the productivity of the area is considerably low. At this situation an attempt has been taken to increase the resource productivity of these areas introducing ditch and dyke system of crop and fish culture. Out of Seven vegetables, tried in first year (2012), Indian spinach showed the highest yield (49.4t/ha). The yield of tilapia was 9.9 t/ha/120 days where as the monoculture of Shing and polyculture of carps and other fishes produced 2.0 and 7.4t/ha/120 days respectively. The monoculture of tilapia showed the highest gross income and BCR. Egg plants grown in 2nd year showed the highest yield and BCR, 55 t/ha and Tk 5.16 respectively. Results indicated that the Ditch-Dyke system would be profitable for the area and farmers' income could be increased by 10 -12 times than that obtained by conventional production system.

III. A (iii) Research Highlights: CGP Pilot Pojects for upscaling promising technologies of 1st Call, Phase-I under NATP Fund:

List of 04 CGP Pilot Projects, Phase-I, 1st Call:

Sl. No.	Desk Officer of KGF	Name of the Project Code/Title	Name of the PI
01.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	C-HF-103:Validation of improved agricultural technologies at farmer's field in hill farming system	Dr. Md. Mohabbat Ullah, Principal Scientific Officer, Hill Agril. Research Station, Bangladesh Agricultural Research Institute, Khagrachhari
02.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	C-CA- 113: Adaptation of improved Sesame varieties in Khulna District optimizing sowing time and Nitrogenous fertilizer management	Dr. Md. Sarwar Jahan, Professor, Agrotechnology Discipline, Khulna University, Khulna-9208, 01712813106
03.	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	C-S- 161: Up-scaling of improved water management practices for increasing crop water productivity and cropping intensity in Barind area	Dr. Md. Asgar Ali Sarkar, CSO (cc), Agriculture Engineering Division, BINA, P.O. BOX-04, Mymensingh-2202, 01715998145
04.	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	C-PHT-179: Piloting for up-scaling the technology of potato storage under natural condition.	Dr. Md. Azizul Haque, Former in charge, Tuber Crops Research Sub-center, BARI Munshiganj-1500, Currently Professor, BSMRAU, 01912126302

Implementation progress with research highlights of 4 CGP pilot projects, Phase-I under 1st call are given below:

1. Project code with Title: C-HF-103: Validation of Improved Agricultural Technologies at Farmers Field in Hill Farming System.

Principal Investigator: DR. MD. MOHABBAT ULLAH (Principal Scientific Officer, BARI, Khagrachari)

Lead Organization: Bangladesh Agricultural Research Institute(BARI), Khagrachari

Locations: Sadar, Matiranga, Dighinala and Panchari of Khagrachari, Longodu and Baghaichari of Rangamati

Duration: 24 Months (March, 2012 to February, 2014)

Financial Progress:

A total of Tk.20.00 Lac was approved for the entire project period of which Tk.17.11 Lac has been released

Research Highlights:

The crop production technologies developed for the plain land are generally not suitable for the hilly farmers due to the unique form and topography of the area. At that context, 'Khagrachhari model'- a model for year round vegetable production, was developed for the improvement of the livelihood of tribal farmers, having a financial and technical support from KGF during 2009-2011. The pilot project on up-scaling of "Khagrachhari Model" is running for the last two years. One fifty small and marginal farmers from different upazilas of Khagrachhari and Rangamati districts got involved with the project and are capable now to fulfill their yearly requirement of vegetables from their own homestead gardens. The pilot project helped the farmers increasing vegetable consumption rate from 40 to 152g/head/day.

2. Project code with Title: C-CA-113: Pilot Project for Large-Scale Adoption of Improved Sesame Varieties in Khulna.

Principal Investigator: DR.MD.SARWAR JAHAN (Professor, Khulna University)

Lead Organization: Agrotechnology Discipline, Khulna University.

Locations: Batiaghata and Damuria Upazilas under Khulna District

Duration: 24 Months (January, 2012 to December, 2014)

Financial Progress:

A total of Tk.27.98 Lac was approved for the entire project period of which Tk.20.74 Lac has been released

Research Highlights:

Sesame is one of the important oil crops of Bangladesh and has a long history of cultivation for its oil. However, the farmers grow one or two local cultivars with poor yield which remain far below the national average. At this context, a pilot project was implemented to evaluate the performance of BARI Til-4 and standardize production practices for growing the modern variety in the existing cropping pattern of south west part of Bangladesh having saline soil. In the first year of pilot project, trials were conducted to verify the performance of the selected modern variety and to speed up the dissemination of BARI Til-4 involving 150 farmers of four locations of Batiaghata and Dumuria upazilas. Data were collected on various growth and yield parameters. In all four locations BARI Till-4 produced more than 225% extra yield compared to local variety. The recorded maximum and minimum yields of BARI Till-4 were 2.95 and 1.40 t/ha, respectively, with an average of 1.915 t/ha which was about 236% of the yield of the local variety.

3. Project code with Title: C-S-161: Up-scaling of improved water management practices for increasing crop water productivity and cropping intensity in Barind area

Principal Investigator: DR. MD. ASGAR ALI SARKAR (Chief Scientific Officer), BINA

Lead Organization: Agriculture Engineering Division, Bangladesh Institute of Nuclear Agriculture (BINA), Mymensingh.

Locations: Chapai Nawabganj district

Duration: 24 Months (May, 2011 to April, 2014)

Financial Progress: A total of Tk.16.00 Lac was approved for the entire project period of which Tk.11.78 Lac has been released.

Research Highlights:

Cultivation of Long duration T.Aman rice, normally grown in Barind area (Shorna, Sumon etc), hinders the cultivation of following rabi crops as it keeps fields occupied till December. By that time the soil moisture, required for the germination of the subsequent rabi crops is totally depleted. Consequently, vast area remains fallow in the region. At this context, the project aims to upscale the recommended water saving techniques, management practices for higher yield of rice and other crops and thereby to increase system productivity, cropping intensity and farmers' knowledge and skill about the potentialities. Result of year round block farming with different crops indicated that maximum net economic benefits were obtained from the cropping patterns of Binadhan-7-Binadhan-4-Binamung-8/Binatil2 (Tk. 54,285 with BCR of 1.32-1.34) followed by Binadhan-7-BARI Gom-26-Binamoog-8/Binatil2 (Tk 44,865 with BCR of 1.28-1.29), and were higher than that of the check cropping pattern (Tk. 34,345 with BCR of 1.21) by 58.06 and 30.63%, respectively. The new patterns required only one tenth of the supplemental irrigation water needed for the existing pattern (Sharna-Boro). All together 80 farmers and extension personnel were trained on water saving alternative cropping patterns during the period.

4. Project code with Title: C-PHT-179: Piloting for up-scaling the technology of potato storage under natural condition.

Principal Investigator: DR.MD. AZIZUL HOQUE (Associate Professor, BSMRAU)

Lead Organization: Department of Horticulture, BSMRAU

Locations: Munshiganj, Bogra and Rangpur

Duration: 24 Months (March, 2012 to February, 2014)

Financial Progress:

A total of Tk.19.99 Lac was approved for the entire project period of which Tk.11.44 Lac has been released

Research Highlights:

Thousands of tons of potato grown in the country

are either sold at lower price or spoiled every year in absence of adequate storage facilities. At that context low cost potato storage technology has been developed by a project supported by KGF. At present for up-scaling and disseminating the technology to wider areas of the country a pilot project has been taken up and being implemented in potato growing areas. A total of 39 store houses have been made in Bogra, Munshigang and Rangpur area with the help of TCRC, RDRS or DAE personnel. These have been established in farmers' home following the model developed by the Tuber Crop Research Center of BARI. A total 120 stake holder farmers have been trained on "Post harvest handling and storage of potato " and about 300 farmers have attended 3 field days arranged by the pilot project. Booklet and folders having the relevant information have been distributed among the farmers.

III.B Research Highlights: CGP Projects, 1st Call, under KGF BKGET Fund

The KGF Board approved 12 thematic areas for calling CGP proposals. KGF invited CGP proposals under KGF BKGET fund in September 2012. In respons to the announcement, a total 128 proposals were received and upon screening 73 proposals were found as responsive for peer review by expert reviewers selected by TAC. KGF Board approved a twelve-member Technical Advisory Committee (TAC) with TOR (provision of cooption), in its 31st Board meeting. TAC meetings were held during November, 2012 to February, 2013. The TAC reviewed the CGP proposals received for funding from KGF BKGET Fund. TAC members overviewed the reviewers' assessment and selected 30 proposals for presentation by the Principal Investigators (PIs) for final assessment by TAC. TAC finally, on 23.02.2013, recommended 15 proposals subject to rationalization of program and budget. Out of 15 proposals, 12 CGP proposals, upon revision/rationalization as per TAC suggestion, were placed for consideration of the Board.

The 12 projects having BKGET fund have completed 36 months of their project period. Implementation progress of these projects with research highlights and achievements where appropriate are given below:

Implementation progress of these 10 CGP projects made up to December, 2013 with research highlights are given in this section.

List of 10 CGP Projects under KGF BKGET fund:

Sl. No.	Desk Officer of KGF	Project Code, Title, Location(s)	Lead Agency & Coordinator/PI with address (Cell+Email)
1	Dr. N. I. Bhuiyan, Director (RM)	TF 01-C: Validation and Up-scaling of High Value Vegetable Crops production in Sylhet region.	**PI:** Dr. Md. Shahidul Islam Address: Associate Professor and Chairman, Dept. of Horticulture, Sylhet Agricultural University, Sylhet-3100, Mobile no. 01916662421 Email: shahidulhrt@gmail.com
2	Prof. Dr. Abdul Hamid, Director (P&E)	TF-02-C: Development/ validation and up-scaling of dry direct seeded boro rice system for improving crop productivity in areas with limited water supply	**PI:** Dr. Md. Moshiur Rahman Professor, Department of Agronomy Bangladesh Agricultural University Mymensingh, Bangladesh Mobile: 01711-072561, Email: rahmanag63@yahoo.com
3	Dr. Md. Mohibul Hasan, STE (M&E)	TF 03-C: Adaptation of high yielding soybean in polder areas in Barguna and Patuakhali districts	**PI:** Dr.Md. A. Mannan Associate Professor, Department of Agronomy Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur-1706 Tel. No: (02) 9205310-14- 2114 Mobile No.: 01816020290
4	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	TF 04-C: Screening and testing of Improved Aus Rice Varieties/Genotypes Suitable for Rainfed Aerobic Soil Condition of Bangladesh	**Coordinator:**Dr. A S M MasuduzzamanPrincipal Scientific Officer, Plant Breeding Div. BRRI, Gazipur.Tel. No.9257405 ext 559 Mobile no. 01721964002**PI:** Md. Torikul Islam, TMUF
5	Dr. Md. Abdur Razzaque Senior Program Officer (RM)	TF 05-C: Year-round Production of Some Selected HYVs and Hybrid Vegetable Varieties in Southern and Hilly Regions of Bangladesh	**Coordinator:** Dr. G M A Halim, CSO, Olericulture Division HRC, BARI, Gazipur-1701 Mobile: 01715 179366. **PI:**Dr. M.A Goffar, SSO, Olericulture Division HRC, BARI, Gazipur-1701. Mobile: 01552 442512
6	Dr. N. I. Bhuiyan, Director (RM)	TF 06-C: Validation and up scaling of HYVs of brinjal, tomato, bottle gourd, as gourd and pointed gourd in hilly areas of Moulvibazar	**PI:**Dr. Reaz Uddin Shamim Chief Scientific Officer, Bangladesh Agricultural Research Institute (BARI) Regional Agricultural Research Station, Akborpur,Moulvibazar. Mobile: 01711-459104
7	Prof. Dr. Abdul Hamid, Director (P&E)	TF 07-C: Adaptation of newly released HYV oil seeds (Mustard, Groundnut, Soybean and Sesame) in Charland of Padma	**PI:**Dr. Md. Abul Khayer MianSenior Scientific Officer (Agronomy)Bangladesh Agricultural Research Institute (BARI)Ishurdi-6620, Pabna, Mobile: 01914-661301

8	Dr. Rahim Uddin Ahmed Senior Program Officer (P&E)	TF 08-NR: Evaluation and Up scaling of Resource Conservation Technologies (RCTs) for Improving Productivity in the Drought Prone Areas	**PI:**Dr. Md. Ilias Hossain Senior Scientific Officer Regional Wheat Research Centre, BARI, Rajshahi Tel. No. 0721-750462 Office, Mobile no. 01712632167
9	Dr. N. I. Bhuiyan, Director (RM)	TF 09-NR: Validation and up-scaling of Tricho-products for soil borne disease management in vegetable Crops	**PI:**Dr. Mossammat Shamsunnahar Principal Scientific Officer Plant Pathology Section, HRC, BARI, Gazipur 1701 Email: nahar321@yahoo.com Cell: 01674876252
10	Dr. N. I. Bhuiyan, Director (RM) and Dr. Md. Abdur Razzaque Senior Program Officer (RM)	TF 10-F: Adaptation of Community Enterprise Approach for Intensification of floodplain fish production in Chalan beel	**Coordinator:**Sakiul Millat MorshedExecutive Director, SHISUK, 16/D, Modhubag Mog bazaar, Dhaka 1217, Bangladesh. Cell phone: 01713 037796 Email: ed.shisuk@gmail.com **PI:**1. SHISUK : A S M JahangirRtd. Principal Scientific Officer, DoF Bangladesh 2. DOF : DR. BINAY KUMAR CHAKRABORTY,PD, Fisheries Diploma Course Implementation Project3. BSMRAU: Dr. Mohammad ABDUS SALAM, Assistant Professor,

Implementation progress with research highlights of 10 CGP projects under KGF BKGET 1st call are given below:

1. Project code with Title: TF 01-C: Validation and Up-scaling of High Value Vegetable Crops production in Sylhet Region

Principal Investigator: PROFESSOR DR. MD. SHAHIDUL ISLAM, SYLHET AGRICULTURAL UNIVERSITY, SYLHET.

Lead Organization: Sylhet Agricultural University, Sylhet.

Locations: SAU campus and eight Upzillas of Sylhet, Moulavibazar, Sunamgonj and Hobiganj districts.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.37.67 Lac was approved for the entire project period of which Tk.5.13 Lac has been released.

Research Highlights:

The demand of high value vegetable crops like capsicum, broccoli, summer tomato and summer bean is increasing and the prices of these vegetables are very high in Sylhet region. Researchers recently have developed some high yielding and hybrid varieties of some vegetable crops along with their production technologies. This research project is, therefore, under taken for validation, and up scaling of improved production technologies of high value vegetable crops in the region. Remarkable variations in seedling characteristics like hypocotyl colour, shoot length, root length, fresh and dry weight of seedlings at transplanting were found in both capsicum and broccoli.

2. Project code with Title: TF 02-C: Development/validation and up-scaling of dry direct seeded boro rice system for improving crop productivity in areas with limited water supply

Principal Investigator: PROF. DR. MD. MOSHIUR RAHMAN, (BAU), Mymensingh.

Lead Organization: Department of Agronomy, Bangladesh Agricultural University, Mymensingh.

Locations: Godagari Upazilla of Rajshahi district and Sadar Upazilla of Rangpur district.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.67.02 Lac was approved for the entire project period of which Tk.13.98 Lac has been released.

Research Highlights:

Boro rice which contributes about 56% of the total rice production (33.54 million tons) in Bangladesh is grown by seedling transplanting on puddle land with flood irrigation. Considering Irrigation water scarcity, dry direct seeding could be well thought-out as a vital option to sustain boro rice production with less water. The yield performance of rice under dry direct seeding system is quite satisfactory with saving of 55% irrigation water. However, poor seedling establishment, admixture of volunteer rice plants and organic matter depletion are the major concerns towards sustainability of this technology. Adaptation of T.Aman-Rabi-Dry direct seeded boro rice (DDSR boro) cropping system could help sustain boro rice production with less water and consequently improve the farm productivity and income. Binadhan-7, a short duration T. Aman rice variety has been introduced in the project area for the first time especially in Godagari, Rajshahi. Farmers are highly satisfied with the yield performance of this rice variety. Among the seven rice varieties (Binadhan-7, BRRI dhan33, BRRI dhan39, BRRI dhan49, BRRI dhan56, BRRI dhan57 and BRRI hybrid dhan4) tested, the yield of Binadhan-7 was the highest at both the locations.

3. Project code with Title: TF 03-C: Adaptation of high yielding soybean in polder areas in Barguna and Patuakhali districts

Principal Investigator: DR. MD. A. MANNAN, (Associate Professor), BSMRAU.

Lead Organization: Bangabandhu Sheikh MujiburRahman Agricultural University, Gazipur-1706

Locations: Amtali Upazila under Barguna district and Kalapara Upazila of Patuakhali districts.

Duration: 24months (May 2013 to May 2015).

Financial Progress:

A total of Tk.31.00 Lac was approved for the entire project period of which Tk.8.61 Lac has been released

Research Highlights:

About 0.828 million hectares of the arable lands of 64 Upazilas of 13 coastal Districts are under great threat of vulnerabilities of the climate change and crop production. Agricultural land use in these areas is very poor due to water stagnancy, tidal surges, late harvest of T.Aman, drought and increased salinity, expansion of shrimp culture etc. However, there remains a considerable land area protected from tidal flooding and Saline intrusion by a network of polders which might be brought under cultivation. Hence, it has become imperative to explore the possibilities of increasing potential of polder areas for increased production of crops. In first six months activities research was in early phase and not in a stage to highlight any progress on research. However, it is expected that the alternative cropping pattern of the project including high yielding soybean varieties in sequence would help increasing cropping intensity and crop productivity of polder areas in Bangladesh.

4. Project code with Title: TF 04-C: Screening and testing of Improved Aus Rice Varieties/Genotypes Suitable for Rainfed Aerobic Soil Condition of Bangladesh

Principal Investigator: DR. ASM MASUDUZZAMAN, (Chief Scientific Officer), BRRI.

Lead Organization: Bangladesh Rice Research Institute (BRRI), Gazipur-1701.

Locations: Gazipur, Rajshahi and Moulovi Bazar.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.69.98 Lac was approved for the entire project period of which Tk.14.98 Lac has been released.

Research Highlights:

In large portion of rainfed Aus areas, particularly in North-West districts, scarcity or uneven distribution of rain is common at seedling stage of T.Aus crop. "Aerobic Rice Cultivation" can save labour cost for land preparation and irrigation water. The endevour was taken to develop improved Aus rice varieties under direct seeded condition to save about 60% of irrigation water. Three improved direct seeded Aus rice varieties: BR7566-4-4-2, BR7384-2B-5 and BR6855-3B-12 having higher yield were selected for further evaluation. Root/shoot length ratio of BR7384-2B-5 (0.76) and BR6855-3B-12 (0.70) and BRRI dhan42 (0.64) were comparatively higher-indicating their better phenotypic acceptance for better seedling growth. Direct seeded methods have the advantages of early harvest over the transplanting method. Early harvesting is the advantage of direct seeded rice.

5. Project code with Title: TF 05-C: Year-Round Production of Some Selected HYVs and Hybrid Vegetable Varieties in Southern and Hilly Regions.

Coordinator: DR. G M A HALIM, CSO, BARI.

Lead Organization: Bangladesh Agricultural Research Institute (BARI), Gazipur.

Locations: One upazila of Banadrban and three upazilas of Patuakhali district.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.70.00 Lac was approved for the entire project period of which Tk.12.38 Lac has been released.

Research Highlights:

Large proportion of the land resources remains fallow in the southern region (Patuakhali and Bandarban) of Bangladesh. Salinity causes unfavorable environment that restrict the normal crop production throughout the year in Patuakhali. On the other hand the traditional Agricultural practice, Jhum cultivation of the hilly region is another major constraint to productivity of the area. Thus a large area of the southern part of Bangladesh leaves room to be explored. Considering these facts an endevour was taken to produce vegetables at homestead level under a model called "Khagrachori Model" to increase the scope of HYV vegetable production in Patuakhali and Bandarban districts. Farmers were found unaware of modern vegetable production techniques. In first six months of research till reporting date, crops are in vegetative stage and relevant data of individual crops are being recorded.

6. Project code with Title: TF 06-C: Validation and up scaling of HYVs of brinjal, tomato, bottle gourd, ash gourd and pointed gourd in hilly areas of Moulvibazar

Principal Investigator: DR. REAZ UDDIN SHAMIM (Chief Scientific Officer), RARS, Akborpur, Moulvibazar.

Lead Organization: Bangladesh Agricultural Research Institute, Gazipur.

Locations: Sreemangal, Kamolgonj, Moulvibazar Sadar and Rajnagar Upazilla of Moulvibazar District.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.34.93 Lac was approved for the entire project period of which Tk.6.09 Lac has been released.

Research Highlights:

Vegetable production and availability is relatively low and price is high in the hilly areas of Moulvibazar. Some vegetables are being grown mainly in rabi season but about 60150 ha in Kharif I and 4392 ha of lands in Kharif II remain fallow in the region. Possibility of growing hybrid vegetables along hillock/hill slopes cannot be ruled out. BARI developed HYV and hybrid vegetables such as tomato (BARI Tomato-3, BARI Tomato-4, BARI Tomato-5, BARI Tomato-6), brinjal (BARI Begun-8, BARI Begun-10), Okra (BARI Dherosh-1) and cucurbits such as bottle gourd (BARI Lau-2, BARI Lau-4); ash gourd (BARI Ashgourd-1) and bitter gourd (BARI Korolla-1) are suitable for cultivation in different parts of the country. An endeavour is taken to validate and up scale the suitable vegetables in the proposed areas. Production and profit was found positively correlated to the number of summer tomato and was found negatively correlated to seedling mortality due to bacterial wilt diseases. Therefore, summer tomato production depends on successful disease management.

7. Project code with Title: TF 07-C: Adaptation of Newly Released HYV Oil Seeds (Mustard, Groundnut, Soybean and Sesame) in Charland of Padma

Principal Investigator: DR. MD. ABUL KHAYER MIAN, (Senior Scientific Officer), RARS, Iswardi, Pabna.

Lead Organization: Bangladesh Agricultural Research Institute, Joydebpur, Gazipur 1701.

Locations: BBC Bazaar, Lokhikunda of Iswardi of Pabna district, Golapnagar, Philipnagar of Kushtia district).

Duration: 36 months (May 2013 to May 2016).

Financial Progress: A total of Tk. 38.82 Lac was approved for the entire project period of which Tk.7.38 Lac has been released.

Research Highlights:

HYV oilseeds can be introduced in adverse ecosystem of Padma charlands for improving crop productivity. Crop production in charland mainly depends on rainfed cultivation. Moisture stress tolerant suitable crop varieties are needed for nutrient deficit charland. Usually, the farmers' of charland cultivate local variety of different crops and follow local crop production practices. The project was initiated with the endevour of adopting new HYV oil seed crops along with improved production technology. During the first six months, data on crop yield (Mustard: 1.1 t/ha, Soybean: 1.2 t/ha, Groundnut: 2 t/ha, Sesame: 1.3 t/ha), insect pest and disease incidence have been collected. A total of 140 participatory farmers and 30 associated stuffs have been trained.

8. Project code with Title: TF 08-NR: Validation and Up scaling of Resource Conservation Technologies (RCTs) for Improving Productivity in the Drought Prone Areas

Principal Investigator: DR MD. ILIAS

HOSSAIN (Senior Scientific Officer, Agronomy), RWRC, BARI, Shyampur, Rajshahi.

Lead Organization: Bangladesh Agricultural Research Institute, Joydebpur, Gazipur.

Locations: Paba, Charghat and GodagariUpazila of Rajshahi District.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.34.98 Lac was approved for the

entire project period of which Tk.6.82 Lac has been released.

Research Highlights:

Climatic variations have a profound effect on agriculture and livelihoods of rural communities. The effect of climatic variation is more pronounced in the drought prone areas of the country, north western part of Bangladesh. High temperature with limited soil moisture storage along with low and erratic rainfall are the regular features of the area (BMDA, 2011). Cropping intensity and land productivity of the areas are low in comparison to those of the other parts of the country. Adaptation of resource conservation technologies (RCT) might help increasing the productivity and cropping intensity of the area, overcoming the adverse climatic effect. The research activities have just been started as per the plan. There is nothing to be highlighted yet.

9. Project code with Title: TF 09-NR: Validation and up-scaling of Tricho-products for soil borne disease management in vegetable Crops

Principal Investigator: DR. MOSSAMMAT SHAMSUNNAHAR, (Principal Scientific Officer), BARI, Gazipur.

Lead Organization: Plant Pathology Section, HRC, Bangladesh Agricultural Research Institute, Gazipur.

Locations: Churamonkathi, sador of Jossore and Khanpur, Sherpur of Bogra.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.40.98 Lac was approved for the entire project period of which Tk.6.89 Lac has been released.

Research Highlights:

Bangladesh Agricultural Research Institute (BARI) developed Trichoderma based compost by mixing spore suspension of a *Trichoderma harzianum* with processed organic materials. The composting process also produces a drainage enriched with *Trichoderma*, called Tricho-leachate. Tricho-compost is effective in reducing plant mortalities caused by soil borne (fungi, nematode and bacteria) pathogens. Tricho-leachate is used for foliar disease control. Tricho-compost along with other IPM techniques protects vegetable crops and save natural ecosystem. This research was undertaken to use the IPM tools for soil borne disease management and production of safe vegetables which will contribute to increase production and consumption of vegetables, and also protect biodiversity of the agricultural ecosystems. A number of summer and winter vegetables are grown extensively in Jessore and Bogra area. However Egg plant at Jessore and Country bean at Bogra dominated the vegetable crops. On the basis of Focus group discussion, foot and root rot of seedling, wilting disease of vegetable crops, root-knot nematode and leaf curl virus of tomato, little leaf and Phomopsis blight of eggplant, Gummosis disease of bottle gourd and pointed gourd, Shoot and fruit borer of eggplant, pod borer of country bean, Jessid, Aphid, diamondback moth (*Plutella xylostella*), and armyworm (*Spodoptera litura*) of cabbage etc. were identified as major pests of vegetables grown at Jessore and Bogra, the two vegetable growing areas of the country.

10. Project code with Title: TF 10-F: Adaptation of Community Enterprise Approach for Intensification of Floodplain fish production in Chalanbeel

Principal Investigator: SAKIUL MILLAT MORSHED (Executive Director), SHISUK.

Lead Organization: SHISUK (Shikkha Shastha Unnayan Karzakram) 16/D, Modhubag Mog bazaar, Dhaka 1217, Bangladesh.

Locations: Chalan beel of Sirajgonj, Pabna and Natore districts.

Duration: 36 months (May 2013 to May 2016).

Financial Progress:

A total of Tk.79.39 Lac was approved for the entire project period of which Tk.15.13 Lac has been released.

Research Highlights:

Chalan beel is one of the largest floodplain ecosystems in Bangladesh. A larger portion of land remains flooded for 5-6 months under 4-6 feet of water, sometimes even more than tahat. Natural fish production is very low. The potentiality of these natural resources needs to be explored. Proposed project is an on-farm adaptive research of Community Enterprise Approach (CEA) in regional variation for intensification of fish production in floodplain. The project has been designed to explore the potentials integrating CEA of Floodplain aquaculture considering regional variations including the existing practice, technology used, the social/community dynamics, the economic performance and the interface with fisheries and agriculture. SHISUK's model of CEA of floodplain fisheries known as "Daudkandi model" is going to be implemented in Chalan beel for improving its productivity. During the first six months, the project is in preliminary stage and the actual data collection will be done in the second half of the year while at least two CEA will be in operation.

III. C. Technical Bulletins in Bangla (*প্রযুক্তি বার্তা*) on CGP Completed Projects, 1st Call, Phase-II under NATP Fund

24 Technical Bulletins (1st call, Phase-I) completed last year and new twelve (12) Technical Bulletins of completed CGP projects (1st call, Phase-II) were submitted to the 11th ISM of World Bank. Upon editing these are being printed for distribution to relevant stakeholders. Besides preparation of Technical Bulletins in English, as per suggestions of the 10th World Bank Mission, 10 Bangla technology bulletins (*প্রযুক্তি বার্তা*) were also prepared and submitted to 11th Implementation Support Mission of World Bank. The Mission appreciated preparation of technology bulletins in Bangla;

The World Bank 11th Implementation Support Mission (ISM) reviewed NATP programs during 29 September to 10 October 2013. The Mission report rated KGF performance on CGP and other activities as "Satisfactory". The mission recommended for establishing linkage with CGIAR Centres and foreign universities for enhancing quality of R&D program undertaken by KGF with the partners;

All the 10 Technical bulletins in Bangla (*প্রযুক্তি বার্তা*) have been posted in the website of KGF. A list of the Technical Bulletins is given below:

কেজিএফ সিজিপি গবেষণা ফলাফলের ভিত্তিতে প্রণিত প্রযুক্তি বার্তার তালিকাঃ মে ২০১৩

ক্রমিক নং	প্রকল্প কোড নং	প্রকল্প শিরোনাম
১।	সি-এফপিই-০৫৫	বৃহত্তর রংপুর অঞ্চলে খাদ্য নিরাপত্তা ও কর্মসংস্থান বৃদ্ধিতে নিবিড় ফসল চাষাবাদ
২।	সি-সিএ-১১৭	নোয়াখালী জেলার লবনাক্ত মাটিতে চাষাবাদের উপযুক্ত ফসল নির্বাচন
৩।	সি-এইচএফ-১০৩	পার্বত্য অঞ্চলের জন্য উন্নত কৃষি উৎপাদন প্রযুক্তি ঃ খাগড়াছড়ি মডেল
৪।	সি-ভিআই-০০৬	উন্নত জাতের রসুনঃ বাউ রসুন- ৩
৫।	এল-এইচএম-২১৯	চর অঞ্চলের দরিদ্র কৃষকের জীবনযাত্রার মান উন্নয়নে পশুস্বাস্থ্য সেবা ব্যবস্থাপনা ও দুগ্ধ বিপনন
৬।	সি-পিএইচটি-১৭৯	উন্নত পদ্ধতিতে কৃষকের বসতবাড়িতে গোল আলু সংরক্ষণ
৭।	সি-এসপিএম-০৯৬	গ্রীষ্মকালীন পিঁয়াজের উন্নত বীজ উৎপাদন কৌশল
৮।	এল-ডিডি-২৩২	মুরগীর সালমোনেলা পুলোরাম রোগের টিকা উৎপাদন
৯।	সি-পিএইচটি-১৭৫	দানাজাতীয় ফসলের মানসম্পন্ন বীজ শুকানোর হাইব্রিড ড্রায়ার
১০।	সি-এস-১৫০	এডবিউডি পদ্ধতিতে জমিতে সেচ প্রয়োগ এবং অগভীর নলকুপের প্রাইমিং সমস্যা নিরসনে সাকশন পাইপে চেক ভাল্‌ব সংযুক্তি

প্রযুক্তি বার্তা

মে ২০১৩

বৃহত্তর রংপুর অঞ্চলে খাদ্য নিরাপত্তা ও কর্মসংস্থান বৃদ্ধিতে নিবিড় ফসল চাষাবাদ

কৃষি গবেষণা ফাউন্ডেশন
বিএআরসি ক্যাম্পাস, ফার্মগেট, ঢাকা-১২১৫, টেলিফোনঃ ৮৮০-২-৯১১১০৪১, ৮১৫৩৮৭২
ফ্যাক্সঃ ৮৮-০২-৮১৫৩৮৭২ ই-মেইলঃ kgf-bd@live.com, ওয়েবসাইটঃ www.kgf.org.bd

খাদ্য ও কর্মসংস্থানের অভাবের কারণ

বাংলাদেশের উত্তরাঞ্চলের পাঁচটি জেলা যথা: গাইবান্ধা, রংপুর, নীলফামারী, লালমনিরহাট ও কুড়িগ্রাম জেলায় এপ্রিল-মে এবং সেপ্টেম্বর-নভেম্বর মাসে কৃষক ও কৃষি শ্রমিকদের কাজের অভাবে আয়-রোজগার না থাকায় এই সময় তীব্র খাদ্য সংকট দেখা দেয়। এই মৌসুমী কাজের অভাবজনিত খাদ্য সংকটকে স্থানীয়ভাবে মঙ্গা বলা হয়। এই অঞ্চলের অধিকাংশ মানুষ প্রধানত: কৃষিকাজ এবং কৃষি শ্রমিকের কাজের মাধ্যমে তাদের জীবিকা নির্বাহ করে থাকে। দেশের অন্যান্য অঞ্চলের চেয়ে বৃহত্তম রংপুর অঞ্চলে কৃষি শ্রমিকের সংখ্যা বেশি। এই অঞ্চলের ফসল আবাদ মূলত: ধানভিত্তিক। অধিকাংশ কৃষক মধ্যম উঁচু জমিতে আমন ধান চাষ করে। সাধারণত: আগষ্ট মাসের শেষ দিকে ধানের চারা রোপন করা হয় এবং ডিসেম্বর মাসের প্রথম ভাগে ধান কাটা হয়। আমন ধানের চারা রোপন ও ধান কাটার মধ্যবর্তী এই দীর্ঘ সময়ে মজুরদের কোন কাজ থাকে না। তাই সেপ্টেম্বর-নভেম্বর মাসে একটি মঙ্গা দেখা দেয়। আমন ধান বিলম্বে কাটার দরুণ স্বাভাবিকভাবেই পরবর্তী রবি ফসল আলু/গম আবাদে বিলম্ব ঘটে। নাবী চাষাবাদের ফলে এসব রবি ফসলের ফলন কম হয়। ফলন কম হওয়ার কারণে অধিকাংশ সময় রবি ফসল আবাদ না করে জমি পতিত রাখা হয়। মার্চ মাসের শেষ ভাগে রবি ফসল তোলার পর থেকে আমন ধানের চারা রোপনের কাজ শুরু হওয়া পর্যন্ত সময় জমি পতিত থাকায় এই সময়ও কৃষি মজুরদের কোন কাজ থাকে না। এই কারণে এপ্রিল-মে মাসেও আর একটি মৌসুমী মঙ্গা দেখা দেয়। এপ্রিল-মে মাসের মঙ্গার চেয়ে সেপ্টেম্বর-নভেম্বর মাসের মঙ্গা তীব্রতর হয়। খাদ্য নিরাপত্তা নিশ্চিতকরণ ও পুষ্টির চাহিদা পূরণে মঙ্গা একটি বড় সমস্যা। মঙ্গাপীড়িত অধিকাংশ মানুষ অনাহারে-অর্ধাহারে দিন কাটায়। তাছাড়া তারা চরম অপুষ্টিতেও ভোগে এবং শিশুরাই সবচেয়ে বেশি এই অপুষ্টির শিকার হয়।

নিবিড় ফসল চাষাবাদ পদ্ধতি উদ্ভাবন

বর্ণিত অবস্থার প্রেক্ষাপটে কৃষি জমির সর্বোত্তম ব্যবহারের মাধ্যমে ফসলের উৎপাদনশীলতা বাড়িয়ে মঙ্গা দূরীকরণ তথা খাদ্য সংকট নিরসন, কৃষকদের অর্থনৈতিক উন্নয়ন এবং কৃষি মজুরদের বছরব্যাপী কাজের নিশ্চয়তা বিধানের উপর কৃষি গবেষণা ফাউন্ডেশন গুরুত্ব আরোপ করে। তৎপ্রেক্ষিতে কৃষি গবেষণা ফাউন্ডেশনের আর্থিক ও কারিগরি সহায়তায় বঙ্গবন্ধু শেখ মুজিবুর রহমান কৃষি বিশ্ববিদ্যালয় (বিএসএমআরএইউ) এবং রংপুর-দিনাজপুর রুরাল সার্ভিস (আরডিআরএস) যৌথভাবে একটি গবেষণা প্রকল্প বাস্তবায়ন করে। বঙ্গবন্ধু শেখ মুজিবুর রহমান কৃষি বিশ্ববিদ্যালয়ের কৃষিতত্ত্ব বিভাগের অধ্যাপক ড. মোঃ মঈনুল হক এ গবেষণা কর্মকান্ডে মূখ্য গবেষক হিসাবে নেতৃত্ব দেন। মে ২০০৯ থেকে মে ২০১১ এই দুই বছর মাঠ পর্যায়ে ব্যাপক পরীক্ষা-নিরীক্ষার মাধ্যমে বৃহত্তর রংপুর এলাকায় চাষাবাদের উপযোগী একটি নিবিড় ফসল চাষাবাদ প্যাকেজ/প্রযুক্তি উদ্ভাবন করা হয়।

উদ্ভাবিত নিবিড় ফসল চাষাবাদ প্রযুক্তির সংক্ষিপ্ত বিবরণ

- নিবিড় ফসল চাষাবাদ পদ্ধতি উদ্ভাবনের লক্ষ্যে গবেষণা প্রকল্পটি পাঁচটি জেলার ৯ টি উপজেলায় বাস্তবায়ন করা হয়। উপজেলাগুলো হলো: গাইবান্ধা জেলার সাদুল্লাহপুর উপজেলা, রংপুর জেলার গঙ্গাচড়া ও সদর উপজেলা, নীলফামারী জেলার কিশোরীগঞ্জ ও সদর উপজেলা, লালমনিরহাট জেলার কালিগঞ্জ ও সদর উপজেলা এবং কুড়িগ্রাম জেলার ফুলবাড়ী ও সদর উপজেলা। এই গবেষণা কার্যক্রমের সঙ্গে ১০০ জন কৃষক সম্পৃক্ত ছিলেন।

- কৃষকের জমিতে সরেজমিনে পরীক্ষা-নিরীক্ষার মাধ্যমে প্রচলিত ফসল বিন্যাসের চেয়ে একটি নিবিড় ও উন্নতর ফসল বিন্যাস উদ্ভাবন করা হয়।
- এ এলাকায় বেশি প্রচলিত ফসল বিন্যাস হলো: খরিফ-২ মৌসুমে দীর্ঘমেয়াদী আমন ধান আবাদ এবং তার পর রবি মৌসুমে নাবী আলু/গম আবাদ।
- নিবিড় ফসল চাষাবাদ পদ্ধতিতে ২টি ফসল যথা: দীর্ঘ মেয়াদী আমন ধান ও একটি রবি ফসল (প্রধানত আলু/গম) এর পরিবর্তে ৩টি ফসল যথা: স্বল্প মেয়াদী আমন ধান-আগাম আলু/গম-মুগ কলাই আবাদ পদ্ধতি উদ্ভাবন করা হয়। নিবিড় ফসল বিন্যাসে সময় মত রবি ফসল আবাদ এবং একটি বাড়তি ফসল (গ্রীষ্মকালীন মুগ) আবাদের লক্ষ্যে প্রচলিত দীর্ঘ মেয়াদী আমন (স্বর্ণা অথবা বিআর-১১) এর পরিবর্তে আগাম আমন জাত বিইউ ধান-১ ও বাড়তি ফসল হিসাবে বিইউ মুগ-৪ আবাদ করা হয়। স্বল্পমেয়াদী মুগ (বিইউ মুগ-৪) মার্চ-এপ্রিল মাসে বপন করে মে মাসের মধ্যে ফসল তোলা হয় এবং জুলাই মাসের শেষার্ধে স্বল্প মেয়াদী আমন ধান বিইউ ধান-১ রোপণ করে অক্টোবর মাসের মধ্যে ধান কাটা হয়। অক্টোবর মাসের মধ্যে আমন ধান কাটার পর আগাম আলু/গম আবাদ করা যায়। আগাম আলু চাষ করে অধিক ফলন ও প্রিমিয়াম মূল্য পাওয়া যায়। আলু/গম তোলার পরেও গ্রীষ্মকালীন মুগ আবাদের জন্য যথেষ্ট সময় থাকে।
- উদ্ভাবিত নিবিড় ফসল চাষাবাদের জন্য ফসল বিন্যাসের অন্তর্ভূক্ত সকল ফসল চাষাবাদে আধুনিক চাষাবাদ পদ্ধতি অনুসরণ করাতে হবে। সুপারিশকৃত ফসল বিন্যাসের অন্তর্ভূক্ত বিইউ ধান-১, আলু/গম ও বিইউ মুগ-৪ চাষাবাদে এ সকল ফসলের জন্য অনুমোদিত মাত্রায় বীজ/চারা ও সার ব্যবহার করতে হবে। ফসলের রোগ-বালাই, পোকা-মাকড় সময়মত দমনসহ সকল প্রকার অন্তবর্তীকালীন পরিচর্যা করতে হবে।

নিবিড় ফসল চাষাবাদ প্রযুক্তির সুফল ও আর্থ-সামাজিক অবস্থার উন্নয়নে অবদান

উদ্ভাবিত নিবিড় ফসল চাষাবাদ পদ্ধতিতে প্রচলিত পদ্ধতির তুলনায় নিম্নোক্ত সুবিধাদি রয়েছে:

১. ধানের ফলন ৮.৪ শতাংশ, আলুর ফলন ১৯.২ শতাংশ এবং গমের ফলন ১৩ শতাংশ বৃদ্ধি পায়।

২. হেক্টর প্রতি ৬৬৭ কেজি মুগ ডাল বাড়তি ফসল হিসাবে পাওয়া যায়। বাড়তি ফসল আবাদের দরুন ফসল আবাদের নিবিড়তা বৃদ্ধি পায়।

৩. প্রচলিত পদ্ধতির তুলনায় এ পদ্ধতিতে হেক্টর প্রতি ৭৭,৪৬৬/- টাকার নীট মুনাফা অর্জিত হয়।

৪. রবি ফসল আলু/গম আবাদের পর বাড়তি ফসল মুগ ডাল আবাদের জন্য কৃষি শ্রমিকদের হেক্টর প্রতি ১২২ শ্রম ঘন্টা কর্ম-সংস্থানের সুযোগ সৃষ্টি হয়।

৫. প্রচলিত ফসল বিন্যাসে এপ্রিল-মে মাসে কৃষি শ্রমিকদের হাতে কোন কাজ থাকে না। নতুন ফসল বিন্যাসে ফসল আবাদের নিবিড়তা বৃদ্ধি পায় বলে সারা বছরব্যাপী কৃষি শ্রমিকরা কাজের সুযোগ পায়। তাই উদ্ভাবিত নতুন ফসল চাষাবাদ প্রযুক্তি কর্মসংস্থান সৃষ্টি, দরিদ্র কৃষক ও কৃষি শ্রমিকদের খাদ্য নিরাপত্তা নিশ্চিতকরণ ও জীবনযাত্রার মানোন্নয়নের জন্য দারুণ ফলপ্রসূ।

BSMRAU/RDRS/KGF পরিচালিত গবেষণার মাধ্যমে উদ্ভাবিত আগাম ও স্বল্প মেয়াদী উচ্চ ফলনশীল আমন ধান-আলু/গম-মুগ এর সমন্বয়ে গঠিত এ উন্নতর ও নিবিড় ফসল আবাদ পদ্ধতি মাঠ পর্যায়ে দ্রুত সম্প্রসারণ করা একান্ত প্রয়োজন। এ পদ্ধতির সফল ও দ্রুত বাস্তবায়ন উত্তরাঞ্চলে শস্য আবাদের নিবিড়তা ও উৎপাদনশীলতা বৃদ্ধি এবং কর্মসংস্থান সৃষ্টির মাধ্যমে মৌসুমী মঙ্গা প্রতিরোধ ও কৃষকদের জীবনযাত্রার মানোন্নয়নে কার্যকর ভূমিকা রাখবে মর্মে আশা করা যায়।

NATP-WB এর অর্থায়নে KGF এর CGP গবেষণা প্রকল্পের ফলাফলভিত্তিক প্রযুক্তি প্রফেসর ড. মোঃ মঈনুল হক এর নেতৃত্বে BSMRAU তে ২০০৯-২০১১ সনে বাস্তবায়ন করা হয়।

III. D. Workshops/Trainings/Coordination Meetings and Reveiws

For the proper management and timely implementation of programs, Krishi Gobeshona Foundation (KGF) used to conduct training, workshop, coordination meeting, expert consultation, review workshop etc. So far KGF conducted 23 activities of this kind during January to December 2013. In 2013 nine workshops and consultation meetings on harnessing the potential of hill agriculture were conducted to formulate research programs on Hill Farming to boost the livelihood of hill people. Two consultation workshops were organized in Barisal addressing research agenda for agriculture of coastal region of Bangladesh. The objective of these workshops were to stocktaking of problems and opportunities of agricultural technologies (including indigenous one) for enhancing agricultural productivity and to develop appropriate research project addressing most promising issues. Participants from NARS institute, DAE, DLS, DOF, BWDB, BADC universities, farmers and NGO participated in the workshop. Two annual review workshops on CGP 2nd call project under NATP, expert evaluation of full research proposal, project launching and inception workshop and training workshop on financial management and procurment of KGF BKGET funded projects were also conducted.

During the year 2013 KGF organized a total of four one week training workshops which were conducted at international standard in the BRAC Centre on climate change and remote sensing-GIS issues on agricultural production. The objective of these training/workshops were to gain an understanding on science and process of climate change, its impact on agriculture with special emphasis on physics and physiology of impact on crop processes and assessing research need and state of the art of developing research project on climate change and agricultural production. A total of 71 trainees from NARS institutes and universities participated in the training workshops. Moreover, three training workshops on research proposal preparation and scientific report writing for scientists of all NARS institutes were organized in the BARC Centre, Rajendapur, Gazipur. A total of 87 NARS scientists were trained with the objective to develop skill in preparation of good research proposal and writing scientific reports. A list of trainings workshops/meetings organized under KGF is given below:

SL No.	Name of Training/ Workshop/ Meeting	Date, duration and venue held	Objectives for holding training/ workshop/ meeting	Target participants with no.	For Training only		Output achieved with likely outcomes
					Training contents	Name of resource speakers	
1	Workshop on Net Working on Climate Change	15 January 2013 Conference Room-1, BARC, Farmgate, Dhaka- 215	To organiz a Climate Change Networking Group of NARS and Agricultural Universities	50 participants fron NARS institutes and universities attended the workshop			Discussion on the possible areas of climate change and formation of working groups.
2	Training Workshop on Research Proposal Preparation and Scientific Report Writing	February 09-13, 2013 BRAC-CDM, Rajendrapur, Gazipur	To improve the skill of the research scientists for writing/preparing quality research project proposal in different sub-sectors of agriculture and to improve scientific Report writing	30 participants (Mid-level scientists of all NARS institute)	Role of research in economic and agricultural development, Ten easy mistakes and lesson learned in research planning and implementation, Concept of Research, elements of scientific research, research planning, Planning research project: identifying needs: SWOT analysis, Problem Analysis, project preparation etc.	1. Mr. Andrew Jenkins, Impact Assessment Unit, BRAC 2. Dr. F. J. Zapata Arias, Advisor, BRAC 3. Mr. Hasan Shareef Ahmed, Chief, Editing & publication, BRAC 4. Mr. Nil Rattan Haldar, Sr. Program Manager, BRAC 5. Dr. Fakir Md. Yunus, Research Associate, BRAC 6. Mrs. Jane Jenkins, English Language Expert.	Skill of the scientists in project proposal and report writing will be improved

3	Expert Consultation on Addressing Research Agenda for Hill Agriculture	February 14-15, 2012 RARS, Hathazari, Chittagong	The objective of the workshop: -Stock taking of the problems and opportunity of agricultural production in three hill districts of Chittagong Hill Tracts. -Stock taking of the agricultural technologies (including the indigenous ones) that are being used or can potentially be used. -Develop appropriate research project to address most pressing issue(s).	30 participants from CVASU, BARI, BRRI, BWDB,BADC, DAE, DOF, DLS, SRDI, Specialists and KGF Experts	-	-	- Listed the problems of Chittagong Hill Tracts. - Outline of the consultation meeting (position paper) was prepared by KGF in consultation with different stakeholders - Participants brought discussion/talking points/hints for problem identification/ research proposal framing.
4	Consultative Workshop on Hill Agriculture	RARS, BARI, Hathazari, Chittagong 16 March, 2013	To discuss research agenda on hill districts for commission research	Experts and scientists of BAU, CDB, Bomang Raja, DAE, SRDI, BARI, SRDI and KGF	-	-	Designed and developed research programs on hill districts for commission research
5	Expert Evaluation of Full Research Proposals under CGP 3rd Round of Call under BKGET funding	07, 16 and 23 February, 2013 BARC Conference BARC, Farmgate, Dhaka-1215	Presentation on the Full Research Proposal by the PIs of CGP 3rd Call projects	TAC members of KGF	-	-	Selection of Research proposal for CGP 3rd Call projects with highest evaluation points
6	Consultation Meeting on Hill Agriculture	RARS, BARI, Hathazari, Chittagong 04 April, 2013	To discuss the development of research programs on Hill Agriculture	Experts and scientists of CDB, Bomang Raja, DAE, SRDI, BARI, SRDI and KGF	-	-	Developed and refined research programs on Hill Agriculture for commissioned research and formed working group comprising scientists and experts of different stakeholders
7	Consultation Meeting on Hill Agriculture	RARS, BARI, Hathazari, Chittagong On 25 April, 2013	To discuss the development of research programs on Hill Agriculture	20 experts and scientists of CDB, Bomang Raja, DAE, SRDI, BARI, SRDI and KGF	-	-	Developed and refined research programs on hill agriculture for commissioned research and formed working group comprising scientists and experts of different stakeholders
8	Training Workshop on Research Proposal Preparation and Scientific Report Writing	May 11-16, 2013 BRAC-CDM, Rajendrapur, Gazipur	To improve the skill of the research scientists for writing/preparing quality research project proposal in different sub-sectors of agriculture and to improve scientific report writing	30 participants (Mid-level scientists of all NARS institute)	Role of research in economic and agricultural development, Ten easy mistakes and lesson learned in research planning and implementation, Concept of Research, elements of scientific research, research planning, Planning research project: identifying needs: SWOT analysis, Problem Analysis, project preparation etc.	1. Mr. Andrew Jenkins, Impact Assessment Unit, BRAC 2. Dr. F. J. Zapata Arias, Advisor, BRAC 3. Mr. Hasan Shareef Ahmed, Chief, Editing & Publication, BRAC 4. Mr. Nil Rattan Haldar, Sr. Program Manager, BRAC 5. Dr. Fakir Md. Yunus, Research Associate, BRAC 6. Mrs. Jane Jenkins, English Language Expert.	Skill of the scientists in project proposal and report writing will be improved

9	Training Workshop on Crop Physiology and Climate Change	22-27 June, 2013 BRAC-CDM, Rajendrapur, Gazipur	To gain an understanding on science and process of climate change, its impact on agriculture with special emphasis on physics and physiology of impact on crop processes and assessing research need and state of the art of developing research project on climate change and agricultural production.	26 participants from NARS and universities	Concept of Climate Change and its Impact on Agriculture, Simulation: Calibration, Validation and Application in Resources Management and Climate Change, Proposal on Climate Change Impacts on Agriculture: Case Studies for Bangladesh	1. Dr. Dinesh Chandra Uprety, Emeritus Scientist, and Leader of South Asian and Indian program on CO_2 research and technology at Indian Agricultural Research Institute, Delhi, India	Trainees acquired knowledge on concept of climate change and its impact on agriculture, Simulation: Calibration, Validation and Application in Resources Management and Climate Change, Proposal on Climate Change Impacts on Agriculture: Case Studies for Bangladesh.
10	Project Launching and Inception Workshop of BKGET funded projects	June 29, 2013 Conference Room-I, BARC, Dhaka-1215	Presentation of 10 BKGET funded project	50 participants NARS institutes, DAE, BARC, Universities and KGF experts	-	-	Presentation and discussion on the CGP projects and launching the project
11	Training Workshop on Modeling Climate Change Impact on Bangladesh Agriculture	27July -03 August, 2013 BRAC-CDM, Rajendrapur, Gazipur	To gain an understanding on science and process of climate change, its impact on agriculture with special emphasis on physics and physiology of impact on crop processes and assessing research need and state of the art of developing research project on climate change and agricultural production.	30 participants from NARS and universities attended the workshop	Application in Resources Management and Climate Change, INFOCROP & DSSAT Concepts and Application, Project Proposal on Climate Change Impacts on Agriculture: Case Studies for Bangladesh	Dr. Naveen Kalra, Eminent Scientist & Head (Crop Nutrition), TATA Chemicals, India 3. Prof. Dr. Abdul Hamid, Director (P&E), KGF	Trainees acquired knowledge on concept of climate change and its impact on agriculture, Simulation: Calibration, Validation and Application in Resources Management and Climate Change, INFOCROP & DSSAT Concepts and Application and on hand practice on simulation and modeling and Proposal on Climate Change Impacts on Agriculture: Case Studies for Bangladesh.
12	Training Workshop on Hill Agriculture Commission Research project	17-18 August, 2013 HARS, BARI, Khagrachari	To discuss the refinement of research programs on hill agriculture	Experts and scientists of CDBSRDI, BARI, SRDI and KGF	-	-	Developed and refined research programs on hill agriculture for commissioned research and formed working group comprising scientists and experts ofdifferent stakeholders
13	Training Workshop on Research Proposal Preparation and Scientific Report Writing	August 24-29, 2013 BRAC-CDM, Rajendrapur, Gazipur	To improve the skill of the research scientists for writing/preparing quality research project proposal in different sub-sectors of agriculture and to improve scientific report writing	27 participants (Mid-level scientists of all NARS institute)	Role of research in economic and agricultural development, Ten easy mistakes and lesson learned in research planning and implementation, Concept of Research, elements of scientific research, research planning, Planning research project: identifying needs: SWOT analysis, Problem Analysis, project preparation etc.	1. Mr. Andrew Jenkins, Impact Assessment Unit, BRAC 2. Mr. Nil rattan Haldar, Sr. Program Manager, BRAC 3. Dr. Fakir Md. Yunus, Research associate, BRAC	Skill of the scientists in project proposal and report writing will be improved

14	Consultation Workshop on Research and Development Program for Enhancing Productivity of Coastal Floodplain Agriculture	31 August, 2013 RARS, BARI, Rahamatpur, Barisal	To discuss the development of research programs on Coastal Floodplain Agriculture	40 experts and scientists of CDB, DAE, SRDI, BARI, BRRI, PSTU and KGF	-	-	Presentation concept note and discussion on research and development programs on Coastal Floodplain Agriculture for commissioned research and formed working group comprising scientists and experts of different stakeholders
15	Work Plan Presentation Workshop on Harnessing the Potential of Hill Agriculture	September 21, 2013 Parjaton Motel, Bandarban	To present Work Plan on Harnessing the Potential of Hill Agriculture	70 participants from NARS institutes, SAU, BSMRAU, BARC, PJP attended the workshop	-	-	Presentation and discussion on work plans on Harnessing the Potential of Hill Agriculture and finalization of research programs
16	Training Workshop on Application of GIS and Remote Sensing in Crop Production and Natural Resources Management	November 02-07, 2013 BRAC-CDM, Khagan, Savar, Savar	To improve the skill of the research scientists for writing/preparing quality research project proposal in different sub-sectors of agriculture and to improve scientific Report writing	15 participants from NARS and universities attended the workshop	Introduction to RS & understanding GIS, Use of GIS and RS in Agriculture of Bangladesh: Present Status and Prospect, Introduction to Arc GIS software: Arc Map, Arc Catalog, Arc Toolbox, Introduction to image analysis software (ERDAS Imagine), Raster and Vector GIS, Scale, resolution and temporal aspect of spatial data, Visualization of spatial data, projection of spatial data etc.	1. Prof. Dr. Md. Rafiqul Islam, Deptt. of Agronomy, BSMRAU, Salna, Gazipur 2. Mr. M. A. Aziz Patwary, Deptt. of Meriology. 3. Mr. Shishir Choudhury	Participants developed Skill 0n the theory and practice on GIS and Remote Sensing Technology
17	Coordination Workshop on Harnessing Potential on Hill Agriculture Commission Research	27, December, 2013 RARS, BARI, Hathazari, Chittagong	To discuss the development of research programs on hill agriculture	30 experts and scientists of CDB, SRDI, BARI, SRDI, BSMRAU, SAU and KGF	-	-	Discussed research programs on hill agriculture for commissioned research and formed working group comprising scientists and experts of different sta Keholders
List of Workshops/Trainings/Meetings organized under KGF NATP fund:							
18	Training Workshop on testing, validation and up scaling of cotton-rice inter-cropping in Chittagong Hill districts	Cotton Development Board (CDB) Research Station, Balaghata, Bandarban 14 March, 2013	To discuss method of conducting field experimentation on hill and method of data collection	CDB officers and Field Assistants	-	-	Participants gathered knowledge on method of conducting field experimentation on hill and method of data collection enable them to conduct research in hill districts.
19	Review Workshop on testing, validation and up scaling of cotton-rice inter-cropping in Chittagong Hill districts	Hotel Sangu, Bandarban 30 March 2013	To improve productivity of Jhum agriculture through introducing new HYV of rice, cotton and other crops	Secretary, Ministry of Agriculture, Executive Chairman, BARC, Executive Director, CDB, Bomang Raja, DAE, SRDI, BARI, SRDI, KGF and Farmers	-	-	Discussed the result of testing, validation and up scaling of cotton-rice intercropping in Chittagong Hill districts and developed future programs for Jhum cultivation for augmenting socio-economic condition of hill people.

20	Coordination Workshop of CGP Phase-II (2nd Call) Projects	April 13, 2013 BARC Conference Room-I, Farmgate, Dhaka-1215	To review the progress of 2nd year's Half yearly Reports of CGP Phase-II (2nd Call) Projects	50 participants (PIs and KGF professionals) attended the workshop	-	-	Reviewed the 2nd year's Half Yearly progress of the 14 CGP Phase-II (2nd Call) Projects under implementation
21	Workshop on Sesame Marketing	June 03, 2013 Royal Hotel Conference Hall, Khulna	To explore the possibility of sesame marketing in Bangladesh	70 participants from BARI, DAE, BKBL, KU, NGO, KGF, Farmers	-	-	Presented papers on the possibility of Sesame cultivation and Marketing in Bangladesh by Khulna University under the project C-CA-113
24	2nd Annual review workshop on CGP Phase-I (2nd round Call) research projects	June 15-16, 2013 Conference Room-I, BARC, Dhaka-1215	Review the 2nd Annual Progress Report of CGP Phase-I (2nd round Call) projects under implementation	115 participants from NARS, DAE, DLS, BARC, World Bank, PIUs, NATP and Coordinators, PCU PIs and CIs of CGP Phase-I (2nd round Call) projects	-	-	Reviewed and Evaluated 2nd Annual Progress Reports of 21 research projects of CGP Phase-I (2nd round Call) projects under implementation
25	2nd Annual review workshop on CGP Phase-II (2nd round Call) research projects	09 October, 2013 Training Room, BARC, Dhaka-1215	Review the 2nd annual progress of CGP Phase-I I(2nd round Call) projects under implementation	100 participants from NARS, Universities, DAE,, BARC, PIUs, NATP and Coordinators, PCU PIs and CIs of CGP Phase-II (2nd round Call) projects	-	-	Reviewed and Evaluated 2nd Annual Progress reports of 14 research projects of CGP Phase-II (2nd round Call) projects under implementation
27	3rd Coordination Workshop of CGP Phase-I (2nd Call) Projects	December 13, 2013 Training Room, Farmgate, Dhaka-1215	To review the progress of 2nd year's Half yearly Reports of CGP Phase-II (2nd Call) Projects	40 participants (PIs and KGF professionals) attended the workshop	-	-	Reviewed the 2nd year's Half Yearly progress of the 14 CGP Phase-II (2nd Call) Projects under implementation

IV. GOVERNANCE, FINANCE AND AUDIT :

A. Governance:

KGF operates under the overall guidance and supervision of the Board and General Body of the Foundation. During the reporting period Board had meetings for reviewing project proposals, reviewers' reports and approving projects and providing necessary guidelines for effective implementation of the CGP projects and operation of KGF. Some of the Board members were kind enough to remain present during the Review Meetings and Workshops organized for the CGP implementation.

During the period, 4 Board meetings, and 2 AGM and 1 an EGM were held for providing strategic policy direction to KGF operations and management. The 6th AGM for the year 2012 was held on 24 January.2013 and 7th AGM for the year 2013 was held on 22 February 2014 and also an EGM was held on the same day. In the general meetings annual budget, finanacial expenditures and audit repots were approved.

B. Financial Progress of KGF:

(i) KGF NATP fund: Annual and supplementary (revised) budget and financial progress.

(ii) KGF BKGET fund: Annual budget and financial progress

This is in reference to the KGF Memorandum and Articles of Association clause no. 18 (page no.-11) and clause no. 78-89 (page no.-20). It was inter-alia indicated that the General Body approved the annual budget and supplementary budget with

expenditure of the NATP and BKGET funded programs.

(i) National Agricultural Technology Project (NATP): Phase-I fund:

Annual and supplementary (revised) budget and financial progress for the year 2012-2013: Under NATP: Phase-I project for FY: 2012-2013, the ADP allocation was Tk.1020.00 lakh and revised budget allocation was Tk. 976.07 lakh. Financial progress of KGF unit under NATP Phase-1 was 95.69% against RADP (supplementary budget). The budget and expenditure were approved by the General Body.

NATP fund: ADP budget and expenditure for the FY: 2013-14:

The budget allocation for ADP 2013-14 was kept by PCU/MoA at Tk. 2255.00 lakh. Financial progress of KGF unit under NATP Phase-1 was Tk. 498.86 lakh up to January 2014. The proposed RADP, which was the actual requirement of KGF was Tk. 1144.00 lakh for FY 2013-14. The progress up to January 2014 was 44% based on proposed RADP. The budget and expenditure for the FY 2013-14 are shown in Annex-2.

(ii) Bangladesh Krishi Gobeshona Endowment Trust (BKGET) fund:

Financial progress: Budget and expenditure for the year 2013, 2014 and 2015: KGF received a pay order for Tk. 500 lakh for the 1st instalment from the BKGET on 01.08.2012 against an annual (2012-13) allocation of Tk. 1000 lakh. KGF Board meetings held in August and December 2012 provided strategic guidance for implementation of KGF programs under BKGET (Trust) fund. So, upon approval of the KGF Board in December 2012. KGF actually started implementation of programs under the Trust fund mainly from 2013 January. Financial progress under KGF BKGET fund for the year 2013 was Tk. 714.40 lakh and progress was about 71% (up to January 2014).

The annual budget (2014-15) recommended by the Board was Tk. 2200 lakh. Annual budget and progress for the 2013 were placed and approved by the General Body. BKGET funded budget and progress for the year 2013, and 2nd year annual budget (2014 and 2015) are shown in Annex-3 & 3(i).

C. Audit Report:

KGF Audit: NATP Fund:

(i) KGF NATP fund for FY 2011-2012 audited by FAPAD:

(ii) KGF NATP fund for FY 2011-2012 audited by M/s. J.U. Ahmed & Co. appointed by PCU.

(iii) KGF NATP fund accounts for FY 2011-12 audited by M/s. Rahman Mostafa Alam and Co. appointed by KGF.

(iv) Appointment of Audit Firm for FY 2012-13 for auditing both KGF NATP & KGF BKGET funded expenditures.

Accounts & audit function of the foundation is regulated in accordance with clause no.78-89 of Memorandum and Articles of Association of KGF. As per function of the foundation, the General Body approved balance sheet for FY 2011-12 audited by M/s. Rahman Mostafa Alam and Co. The report is given in the Annex-4.

(i) KGF NATP fund for FY 2011-2012 audited by FAPAD:

As per requirement of the Govt. fund, Foreign Aided Project Audit Directorate (FAPAD) audited the Project Financial Statements of KGF NATP Unit for the financial year (FY) ended 2011-12. During the course of audit examination for FY 2011-12, the audit team made 04 numbers of observations and those were settled. FAPAD also completed audit for FY 2012-13 without any objection/observation. But the final report is not yet available.The audit report for FY 2011-12 was approved by the General Body.

(ii) KGF NATP fund for FY 2011-2012 audited by M/s. J.U. Ahmed & Co. appointed by PCU:

As per requirement of the Project Co-ordination Unit (PCU), M/s. J.U. Ahmed & Co. audited the project financial statements of KGF NATP Unit for the financial year (FY) ended 2011-12. During the course of audit examination for FY 2011-12, the audit team made 34 numbers of observations including mostly CGP projects and those were settled. All the audit observations were settled through the exist meeting. The audit report for 2011-12 was approved by the General Body.

J.U. Ahmed & Co. also audited the KGF accounts for FY 2012-13 with some observations mostly for CGP projects. An exit meeting was held on 11 February, 2014 settling all the observations.

(iii) KGF NATP fund accounts for FY 2011-12 audited by M/s. Rahman Mostafa Alam & Co. appointed by KGF:

As per requirement of the KGF, M/s. Rahman Mostafa Alam & Co. has audited the Project Financial Statements of KGF NATP unit for the financial year (FY) ended 2011-12. As per the KGF Memorandum and Articles of Association clause no. 18 (page no.-11) the General Body approved the Audited Accounts given in Annex-4 audited by M/s. Rahman Mostafa Alam and Co. for FY 2011-12. During the course of audit, the audit team made some minor suggestions which were taken care of properly. The audited accounts for FY 2011-12 were approved by the General Body of KGF.

(iv) Appointment of Audit Firm for FY 2012-13 for auditing both KGF NATP & KGF BKGET funded expenditures:

Accounts & Audit function of the foundation shall be regulated in accordance with clause no.78-89 of Memorandum and Articles of Association of KGF. As per function of the foundation, the General Body approved the appointment of M/s. Rahman Mostafa Alam and Co. as auditor and the lump sum remuneration was Tk.1.24 lakh for auditing FY 2011-2012 expenditures.

As per recommended of the 36th Board it was proposed to approve reappointment of M/s. Rahman Mostafa Alam & Co. as an auditor for auditing FY 2012-13 expenditures of NATP, and also for auditing 2012 and 2013 BKGET funded expenditures (up to December 2013), at a lump sum cost of Tk.1.24 lakh plus 20% additional fees for auditing BKGET expenditures. The General Body approved their remuneration at Tk.1,48,800.00 (One lakh forty eight thousand & eight hundred only) including Tax &VAT for auditing FY 2012-13 both KGF NATP & KGF BKGET funded expenditures.

V. KEY LESSONS LEARNED AND WAY FORWARD

Since beginning of KGF activities initiated in early 2009, it has passed about five years. This is indeed a short period of time for a newly established organization. However, documentation of the lessons learned in implementation of the programs/projects during this period is very important for improvement of its management and thereby making this organization more effective. The lessons learned during the revious years were reported in the past progress report of KGF. Based on the lessons learned earlier, some improvements had already been made upon guidance of the Board. However, a few lessons that we learned as a complementary to the existing ones are given below:

- **Rationalization of Audit:** Currently annual audit for NATP is being done by four agencies, viz. FAPAD, PCU appointed Audit Firm, World Bank audit team and KGF audit firm. This caused unnecessary harrasement of the scientistis/PIs of CGP research projects through repeated visitis by audit teams at different times of the year. Realizing the situation rationalization of audit to CGP research locations could be considered to be done by one audit team only.

In order to allow the CGP scientists to concentrate on their research activities, it is suggested to rationalize the annual audit visits in the field level by only one agency namely FAPAD or KGF audit firm. Different audit firms could only investigate and examine auditable accounts in KGF office, BARC Complex, Dhaka.

- **Improvement in NATP fund release and financial management system:** Under the existing financial management system, the PIUs are solely responsible for GoB fund release and PA fund authorization by Mininstry of Agriculture (MoA) and the Mininstry of Finance (MoF). PCU plays no positive coordinating role. As a result GoB fund release and PA fund authorization and availability of fund took place at different times for the PIUs. The weaker PIUs suffer in getting fund timely. PCU can take a positive role coordinating the fund release and PA authorization process for all PIUs.

VI. LIST OF THE ANNEXES:

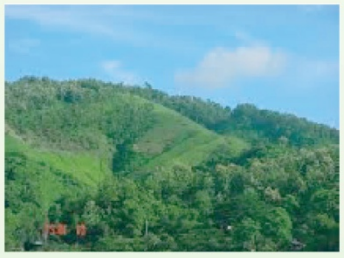
Annex-1	Commissioned Research Program (CRP) under KGF BKGET fund
Annex-2	Financial Progress for the Financial Year 2013-2014 under KGF NATP Fund
Annex-3	Revised Annual Budget and Financial Progress for the Financial Year 2013 Statement of Expenditure (SOE) up to January under KGF BKGET Fund
Annex-3(i)	Approved Annual Budget for the Year 2014 and 2015 under KGF BKGET Fund
Annex-4	Audited Accounts Report: Rahman Mostafa Alam & Co. Ltd. for Financial Year: 2011-12
Annex-5	The KGF Organanogram
Annex-6	List of Members of General Body and Board of Directors of KGF
Annex-7	List of the KGF Expert Professionals

Annex-1

Commissioned Research Program (CRP) under KGF BKGET Fund

Harnessing the potential of Hill Agriculture: Enhancing Crop Production through Sustainable Managment of Natural Resources

A Research Proposal

Implementing Organizations

Bangladesh Agricultural Research Institute, Joydebpur, Gazipur
Bangabandhu Sheikh Mujibur Rahman Agricultural University, Gazipur
Cotton Development Board, Kharmarbari, Krishi Khamar Sarak, Dhaka
Sher-e-Bangla Agricultural University, Dhaka

Duration: Phase 1:5 years
June 2013

Krishi Gobeshona Foundation
AIC Building, BARC Complex, Farmagte, Dhaka 1215

KGF BKGET Funded CRP

Summary of Commissioned Research Program (CRP): Hill Agriculture

Upon approval of concept notes by the KGF Board, project proposals had been prepared through consultative process for commissioned R&D areas on (i) Hill agriculture in three Hill districts of CHT (ii) Network on Climate Change in Agriculture (NCCA): Project on Crop modeling and mitigation measures (iii) Southern region costal floodplain agriculture; (iv) Drought prone agriculture in north west region (v) Haor Agriculture in Kishoregonj and Sunamgonj districts

Upon several consultation meetings with heads of institutions and all relevant stakeholders in the hill region of Chittagong Hill Tract (CHT), a project document had been prepared. The Hill Agriculture Program is designed to contribute to improved natural resource management, greater agricultural productivity and enhanced food security in the hills. Impacts are sought in areas of (i) rainwater harvesting and watershed management, (ii) natural resources management (environmental, in particular improving soil fertility and deducting soil erosion), (iii) improving crop productivity by generating, delivery and adoption of improved production technologies, and (iv) value chain development and linking farmers with market. While much of the focus will be on agricultural production, income and livelihood will be targeted for which activities and impact will go beyond agricultural production. Sustainable production in the hills will require effective linkage of farmers with market. Development of value chain will receive special attention in the program.

The program is designed to be implemented building partnership among the key NARS institutions, agricultural universities and selected non-government research institutions in the country. Scientists participating in the program are highly motivated, adequately trained and well experienced in research on hill farming. With administrative support from their respective institutions and technical & financial assistance from KGF, the group will engage in implementing the program. Activities will concentrate on crops, soils, water and watershed management, capacity enhancement and development of market linkage. With progress of basic works, scientists working on agro forestry, livestock and fisheries will join the team. Five institutions (BARI, BSMRAU, CDB, SAU and SRDI) will initiate implementing the program. Selected non-government organizations and the Department of Agricultural Extension (DAE) will be involved in technology dissemination.

Concept note and activities of CRP Hill Agriculture project was approved by the KGF Board on 27 December 2012. CRP Hill Agriculture project is going on at 3 hill districts of CHT. There are 5 components in CRP: Hill Agriculture project. About Tk. 4000 lakh was approved for five years by the KGF Board for CRP: Hill Agriculture project. Summary of 5 components are given bellow.

KGF BKGET funded CRP Hill Agriculture

Project: Harnessing the Potential of Hill Agriculture
Project Location: Bandarban, Khagrachari and Rangmati
Duration 5 years: July 2013 to June 2018

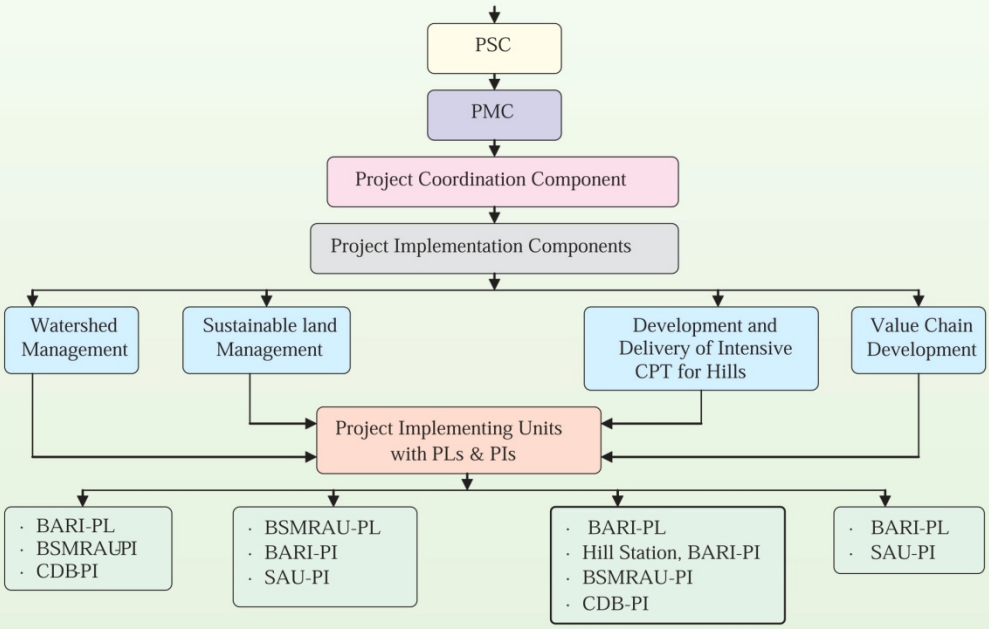
Component with Implementing Institute	Objectives	Coordinator, Component Leader (CL) & Principal Investigator (PI)	Approved Budget	
			Total	1st year
I: Watershed Management for Sustainable Agricultural Production **Implementing Institute:** BARI, Joydebpur, Gazipur 1701	1. Selection, delination and characterization of watersheds in selected locations of Bandarban, Rangamati and Khagrchhari districts for increasing crop production through crop intensification 2. Development and management of watersheds for augmenting surface water for developing irrigation facility and domestic uses	**CL: Dr. Md. Mohabbat Ullah,** PSO, HARS, Khagrachari **PI:** 1. Prof. Dr. Md. Rafiqul Islam, BSMRAU 2. Mr. Mong Sanue Marma, SSO, Cotton Research Station, Balaghata, Bandarban	Total Tk. 707 lakh	Total Tk. 333.41 lakh
II: Sustainable Land Management **Implementing Institute:** BSMRAU, Salna, Gazipur 1706	1. To study the soil properties (Physical, chemical and hydrological) of selected watersheds to gain understanding of and make decision tool for developing sustainable soil management strategies 2. To manage and enhance soil fertility for sustainable agriculture in the uplands 3. To create awareness among the farmers and adoption of sustainable land management in the hills and valeys	**CL: Prof. Dr. AJM Sirajul Karim,** Soil Science Dpt., BSMRAU, Gazipur **PI:** 1. Prof. Dr. Alok Kumar Paul, Department of Soil Science, SAU, Sher e Bangla Nagar, Dhaka -1207 2. Dr. Monoranjan Dhar, PSO, RARS, Hathazari, Chittagong	Total Tk. 801 lakh	Total Tk. 168.14 lakh
III: Development and Delivery of Intensive Crop Production Technologies for Hill Agriculture **Implementing Institute:** BARI, Joydebpur, Gazipur 1701	1. Validating and up scaling of improved technologies for production enhancement 2. To improve jhum system for enhancing production and reducing environmental degradation 3. To conduct strategic and applied research for developing appropriate crop production technologies suitable for upland and valleys 4. Adoption of improved cropping systems and management practices for sustainable production in the hills	**CL: Dr. Mohammad Amin,** CSO, RARS, BARI, Hathazari, Chittagong **PI:** 1. Prof. Nasimul Bari, Agronomy Department, BSMRAU, Salna, Gazipur 2. Dr. Zulfiqur Ali Fircz PSO, Hill Agricultural Station, Ramgarh, Khagrachari 3. Dr. Md. Farid Uddin, Additional Director, CDB, Khamarbari, Dhaka 4. Dr. M.A. Rouf SSO, Hill Agricultural Research Station, Khagrachari	Total Tk. 1490 lakh	Total Tk. 284.19 lakh
IV: Entrepreneurship and Value Chain Development for linking farmers with market **Implementing Institute:** BARI, Joydebpur, Gazipur 1701	1. To develop value added products and entrepreneurs for income generation and poverty reduction 2. To develop market/ value chain and linking hill farmers with markets 3. To develop value chain of selected vegetables and fruits grown in the hills 4. To identify and promote quality product and preservation of vegetables and fruits through local technology	**CL: Dr. Md. Jamal Uddin,** SSO, RARS, BARI, Hathazari, Chittagong **PI:** Prof. M. Mizanul Haque Kazal, Department of Rural Development Economics, SAU, Sher e Bangla Nagar, Dhaka-1207	Total Tk. 143 lakh	Total Tk. 36.56 lakh

	5. To produce manure and high value crops as business enterprise for raising farm income 6. To follow-up action for entrepreneurs and impact assessment of their business enterprises			
V: Program Coordination **Implementing Institute:** KGF, Dhaka	To coordinate implementation of activities of four components of the project providing financial assistance, developing human resources and improving knowledge and skill of farmers	**Coordinator:** Dr. Md. Abdul Jalil Bhuyan, Coordinator, KGF and former DG, BRRI	Total Tk. 763 lakh	Total Tk. 155.28 lakh
Total			Tk. 3904 lakh	Tk. 977.58 lakh

Project Coordination Component (PCC)

Out of five (5) components of this Hill Research Project under the Commissioned Research Program (CRP), the first four will be directly involved in project implementation and the 5th one (PCC) will be involved in providing management and coordination support for other four components. This 5th component (PCC) will be under direct administrative control of KGF and will act as bridge between KGF and Project Implementation Units (PIUs) of other four components. Four public sector organizations (BARI, BSMRAU, SAU and CDB), 4 component leaders, 12 principal investigators (PIs) including 4 component leaders, several scientific and support staff will be involved in the implementation of project activities. Under this component, KGF will establish and operationalize a Project Coordination Unit (PCU) at Khagrachari, CHT to support, coordinate and facilitate implementation of this project through four components and 12 Project Implementation Units (PIUs) of four organizations under the guidance of the Project Steering Committee (PSC) and Project Management Committee (PMC). KGF will also hire on contractual basis a full time Project Coordinator for running the PCU. The PCU would, with input from different components and implementing units consolidated Project Annual Work Plan and Budget for approval by PMC/PSC. Besides, holding regular coordination meeting, project inception workshop, conducting concurrent M&E, providing technical support through contractual expert services, organizing training programs and compiling half yearly, annual implementation progress and completion report of the project, documentation, communication and awareness building on key findings of the project are some of the key functions of PCU.

A. Organizational and Management Structure of the Commissioned Research Program (CRP): Harnessing the Potentials of Hills: Enhancing Crop Production through Sustainable Management of Natural Resources.



B. Management Structure of the Commissioned Research Program (CRP)

(I) Project Management Committee (PMC) Composition

1. Director (RM)/ (P&E), KGF	Chairman
2. Project Component Leaders	Member
3. Project Sub- Component PIs	Member
4. Project Coordinator	Member Secretary

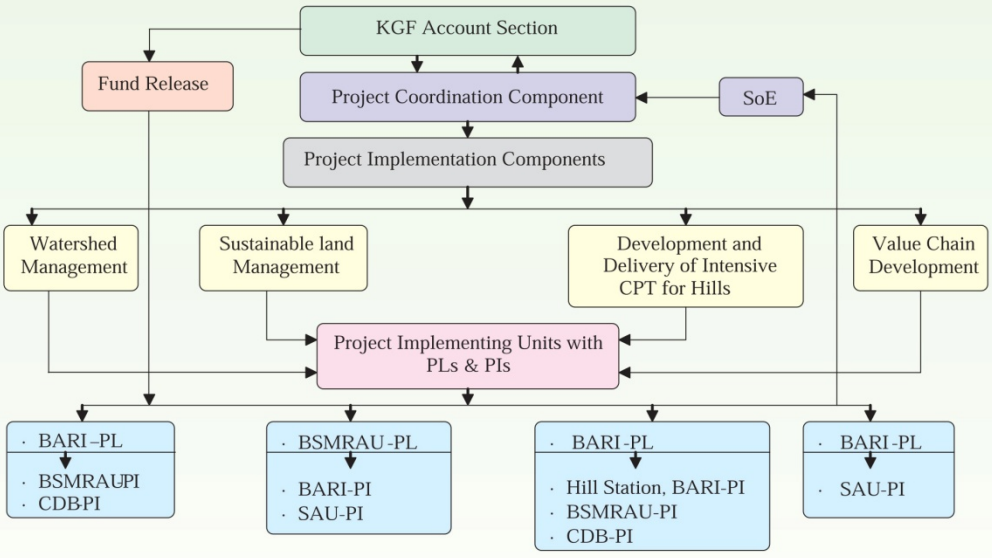
ToR
1. Review implementation Progress of the Project
2. Suggest solutions of problems encounter by the implementing organization.
3. Committee will meet once in every three/six months.

(II) Project Steering Committee (PSC) Composition

1. Executive Director, KGF	Chairman
2. Head/Authorized representative of implementing organizations	Member
3. Director (RM)/ (P&E), KGF	Member
4. Project Component Leaders	Member
5. Project Sub- Component PIs	Member
6. Project Coordinator	Member Secretary

ToR
1. Provide technical and management guidance for proper implementation of project activities.
2. Provide appropriate solutions to technical and financial problems encountered by any implementing organization.
3. Committee will meet at least once in each project year.

C. Fund Management for Hill Research under CRP



Financial Progress for the Financial Year 2013-2014 under KGF NATP Fund
Budget Allocation Vs Statement of Expenditure(SOE) upto January 2014

(In lakh taka)

Code	Particulars	ADP: 2013-2014			* RADP: 2013-2014			Expenditure:2013-2014 (up to January 2014)			** % of Exp.
	A. Revenue Component	**RPA**	**GOB**	**Total**	**RPA**	**GOB**	**Total**	**RPA**	**GOB**	**Total**	
4500	Salary of officers										
4600	Pay of establishment	76.80	3.20	80.00	37.67	2.04	39.71	42.56	1.72	44.28	
4700	Allowances	24.00	1.00	25.00	11.77	0.64	12.41	4.78	0.19	4.97	
4800	Supply & services	318.32	12.68	331.00	156.15	8.08	164.23	72.93	2.17	75.10	
	CGP Programme	1,765.00	-	1,765.00	900.43	-	900.43	368.73	-	368.73	
4900	Repair and maintenance	26.88	1.12	28.00	13.19	0.71	13.90	3.93	0.16	4.09	
5900	Grans/Credit	-	-	-	-	-	-	-	-	-	
6600	Lum Grant	-	-	-	-	-	-	-	-	-	
	Sub Total A:	***2,211.00***	***18.00***	***2,229.00***	***1,119.21***	***11.47***	***1,130.68***	***492.93***	***4.24***	***497.17***	
	B. Capital Component										
6800	Asset acquisition	13.00	4.00	17.00	6.38	2.55	8.92	1.63	0.06	1.69	
	CGP - Equipment	9.00	-	9.00	4.41	-	4.41	-	-	-	
	Sub-Total B:	***22.00***	***4.00***	***26.00***	***10.79***	***2.55***	***13.33***	***1.63***	***0.06***	***1.69***	
	Grant Total (A+B):	**2,233.00**	**22.00**	**2,255.00**	**1,130.00**	**14.00**	**1,144.00**	**494.56**	**4.30**	**498.86**	**44%**

* Proposed RADP allocation:
RPA=1130.00 + GOB =14.00 Total =1144.00
* * NATP progress 44% based on proposed ADP

Revised Annual Budget and Financial Progress for the Financial Year 2013
Statement of Expenditure (SOE) up to January under KGF BKGET Fund

Fig. in Lakh Tk.

Sl. No.	Line Items	Approved Budget	Revised Budget	Expenditure upto January 2014
1.	**Program Cost**			
1.1	**Research Grants Program:**	460.00	460.00	
	(a) Competitive Grants Program (CGP)			129.95
	(b) Commissioned Research Program (CRP)			133.69
	(c) Action research and outreach pilot programs including preparation management, review and M&E cost, etc.			10.02
1.2	**Capacity Building Program(CBP)**:			
	(a) Human **capacity (HRD Program):** Training/ Workshops by national/international resource person/ consultant/ experts perdiem, remuneration, fees, airfare, lodging and others cost.	110.00	160.00	157.34
	(b) Commissioned research	180.00	145.00	108.40
	(c) **Preparation of Strategic Plan & other Documents**: by National/ International experts/consultants/resource persons fees including logistics support and printing cost, etc.	50.00	35.00	31.53
	1. Sub-total of Programme Cost:	**800.00**	**800.00**	**570.92**
2	**Operational Support Cost**			
2.1	(a) National/international Linkage development programme with KGF: attending workshops, trainings, consultative meetings, visits etc.	60.00	20.00	10.88
	(b) Technical & Financial Performance: Monitoring/review/ evaluation, etc.	10.00	5.00	0.83
	(c) Printing, publication, documents & video production etc.	20.00	5.00	3.91
	(c) **Salaries:**,Salaries, allowances, service benefits, Tax/VAT payments, etc. for KGF experts/fellows/managers and support services staffs, fees, remuneration of contractual services & other staff etc.	85.00	125.00	104.40
2.2	(a) **General Operating Cost:** (utilities, hiring of vehicles, repair & maintenance/ renovation, supply & services, TA/DA and other costs, etc.)	16.00	36.00	21.84
	(b) Audit fees/financial /technical services etc.	5.00	5.00	1.24
	(c) Contingency / Any other Misc. Cost (As per need)	4.00	4.00	0.38
	2. Sub-total of Operational Support Cost:	**200.00**	**200.00**	**143.48**
(1+2)	**Total Budget and Expenditure (Taka in lakh)**	**1000.00**	**1000.00**	**714.40**
	Progress upto January 31, 2014			**71.44%**
	(As per need, line-item costs may be adjusted within the Total)			

Trust fund grants (Tk.1000 lakh) will be utilized as per objectives of the BKGET Clause iv no.7 (page-10) and the provisions of the Memorandum of KGF.

Annex-3(i)

KRISHI GOBESHONA FOUNDATION

Approved Annual Budget for the Year 2014 and 2015 under KGF BKGET Fund

Fig. in Lakh Tk.

	Sources of Fund / Head of Income	Approved Budget	%	Fund Received	Remarks
	Proposed Grants from BKGET	**2200.00**			*

	Line Item/ Head of Expenditures	Approved Budget		Expenditure	
1	**Programme Cost:**				
1.1	**Research grants program:** (a) CGP, (b) Commissioned Research Program (CRP), (c) Action research and Outreach Pilot programs including preparation of the documents, management, review, M&E cost, etc.	1060.00	48.18		
1.2	**Capacity Building programe:**				
	(a) **Human capacity (HRD Program):** Skill enhancement of scientists and R&D partners, National/International training/workshops/meetings/ visits etc.; National/International resource person/consultant/ experts perdiem, remunaration,fees, airfare, lodging and others cost; Linkage development program with KGF and R&D partners	200.00	09.09		
	(b) **Institutional capacity enhancement:** i) Strengthening/ creation of research facilities/renovation, etc for NARS, ii) KGF capacity improvement: Office rent, procurement of KGF equipments, computer, vehicles, goods and logistics support and services, hiring of services and facilities etc. for KGF	200.00	09.09		
	(c) i) **Preparation of plan & other documents:** National /International experts/consultants/resource persons fees for different studies; including logistics support and printing, publication, documents & video production cost, etc.	150.00	6.82		
	(d) Technical & Financial Performance: Monitoring/review/evaluation etc	40.00	1.82		
	1. Sub-total of Program Cost:	**1650.00**	75.00		
2	**Operational Support Cost:**				
2.1	(a) **Salaries:** Salaries of KGF experts/fellows/managers/ advisors and support services staff fees; (b) Remuneration of contrctual services & other staff etc.	295.00	13.41		
	(c) Allowances: Allowances service benefits, Tax/VAT payments, etc. of KGF experts/staff	125.00	5.68		
2.2	(a) **General operating cost:** Utilities, hiring of vehicles, repair & maintenance/ renovation, suppply & services, TA/DA and other costs etc, Audit fees/financial /technical services etc.	90.00	4.09		
	(b) Contingency /Any other Misc. cost (As per need)	40.00	1.82		
	2. Sub-total of Operational Support Cost:	**550.00**	25.00		
(1+2)	**Total Budget for the Year 2014 and 2015**	**2200.00**	100.00		

(As per need, line-item costs may be adjusted by the ED, KGF within the Total)

* Trust fund grants (Tk. 2200 lakh) will be utilized as per objectives of the BKGET Clause iv no. 7 (page-10) and the provisions of the Memorandum of KGF.

Rahman Mostafa Alam & Co.
Chartered Accountants

INPACT INTERNATIONAL

Auditors' Report
of
Krishi Gobeshona Foundation

Introduction

We have audited the accompanying financial statements of **Krishi Gobeshona Foundation** (the company") which comprise the statement of financial position as at **June 30, 2012**, and the statement of comprehensive income and statement of Cash flow for the year then ended, and a summary of significant accounting policies and other explanatory information disclosed in notes 1 to 10 and Annexure A to C" "

Management's responsibility for the financial statements

Management of the company is responsible for the preparation and presentation of these financial statements in accordance with the Company Act, 1994 and other applicable laws and regulations. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatements, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditors' responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Bangladesh Standards on Auditing (BAS). Those standards require that we comply with relevant ethical requirements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements, prepared in accordance with the notes of these financial statements give a true and fair view of the company's affairs as **at June 30, 2012** and its financial performance and its cash flows for the year then ended comply with the Companies Act, 1994 and other applicable laws and regulations.

We also report that:

a) we have obtained all the information and explanations which to the best of our knowledge and believe were necessary for the purposes of our audit and made due verification thereof;

b) in our opinion, proper books of account as required by law have been kept by the company so far as it appeared from our examination of these books; and

c) the statement of financial position and statement of comprehensive income dealt with by the report are in agreement with the books of account and returns;

Dated : Dhaka
May 30,2013

Rahman Mostafa Alam & Co.
Chartered Accountant

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Chittagong Office : Taher Chamber (2nd Floor), 10 Agrabad C/A, Chittagong, Bangladesh. Phone : 725314, E-mail : rmactg@gmail.com

Rahman Mostafa Alam & Co.
Chartered Accountants

Krishi Gobeshona Foundation (KGF)

National Agricultural Technology Project (NATP)
Project ID:084078, IDA Credidt No. 4386-BD (KGF Unit)
Statement of Financial Position
As on June 30, 2012

Particulars	Notes	Amount in Tk.	
		30.06.2012	30.06.2011
ASSETS :			
Non current assets			
Property, Plant and Equipments	4	16,226,297	16,142,474
Current assets			
Cash and cash equivalents	5	4,305,975	1,449,233
		20,532,272	**17,591,707**
Fund & Liabilities :			
Fund Account	6	20,532,272	17,591,707
		20,532,272	**17,591,707**

The annexed notes from 1 to 10 and annexure "A to C " form an integral part of these financial statements.

Director Finance, KGF

Executive Director, KGF

Signed in terms of our separate report of even date.

Dated : Dhaka
May 30, 2013

Rahman Mostafa Alam & Co.
Chartered Accountants

Rahman Mostafa Alam & Co.
Chartered Accountants.

Krishi Gobeshona Foundation (KGF)

National Agricultural Technology Project (NATP)
Project ID:084078, IDA Credidt No. 4386-BD (KGF Unit)
Statement of comprehensive income
For the year ended June 30, 2012

Particulars	Notes	Amount in Tk.	
		2011-2012	2010-2011
Income :			
Grant Income	6	88,598,329	75,849,750
Total Income		**88,598,329**	**75,849,750**
Expenditure :			
Services	7	8,095,796	8,386,000
Traning	8	2,361,136	2,717,000
Operational Cost	9	13,190,931	10,224,408
CGP Grants	10	64,950,466	54,522,342
Total Expenditure		**88,598,329**	**75,849,750**

The annexed notes from 1 to 10 and annexure "A to C" form an integral part of these financial statements.

Director Finance, KGF

Executive Director, KGF

Signed in terms of our separate report of even date.

Dated : Dhaka
May 30, 2013

Rahman Mostafa Alam & Co.
Chartered Accountants

Rahman Mostafa Alam & Co.
Chartered Accountants

Krishi Gobeshona Foundation (KGF).

Statement of Cash Flow

For the year ended June 30, 2012

Particulars		Amount in Taka	
		June 30,2012	June 30,2011
A.	**Cash flows from operating activities**		
	Fund Received during the year	91,538,894	71,357,708
	Grants and other operating expenses paid	(88,598,329)	(75,849,750)
		-	-
	Net cash provided by operating activities	**2,940,565**	**(4,492,042)**
B.	**Cash flows from investing activities**		
	Acquision of property, plant and equipment	(83,823)	(184,000)
	Net cash used in investing activities	**(83,823)**	**(184,000)**
C.	**Cash flows from financing activities**	-	-
D.	**Net increase / (decrease) in cash and cash equivalents**	**2,856,742**	**(4,676,042)**
E.	Cash and cash equivalents at the beginning of the year	1,449,233	6,125,275
F.	**Cash and cash equivalents at the end of the year**	**4,305,975**	**1,449,233**

Director Finanance, KGF

Executive Director, KGF

Rahman Mostafa Alam & Co. Dhaka

Rahman Mostafa Alam & Co.
Chartered Accountants

KRISHI GOBESHONA FOUNDATION (KGF)
Notes to the Financial Statement
For the Financial Year Ended June 30, 2012

1.00 BACKGROUND OF THE COMPANY

The Krishi Gobeshona Foundation (KGF) was established by the Govt. of the People's Republic of Bangladesh in 2007 under the Companies Act 1994 having Reg. No. E-684(05)07 dated September 19, 2007. The Foundation is an Association not for profit within the meaning of the section 28 of the said Act.

The Foundation is set with its own General Body to manage the Competitive Grants Program (CGP) under the National Agricultural Technology Project (NATP) with independence, objectivity and transparency. The General Body and the Board of Directors have representative members from Government, Bangladesh Agricultural Research Council (BARC), eminent persons of Agricultural Research and Development under National Agricultural Research System (NARS), Consultative Group on International Agricultural Research (CGIAR), Agricultural Extension Service and Agricultural Universities/Academic Institutes, NGO's relevant Foundations/ Financial Institutions, Economists/Rural Development Practitioners, Agribusiness Entrepreneurs and Private Sectors or Individuals.

1.2 OBJECTIVE & ACTIVITY OF KGF:

KGF is responsible for management and implementation of the Competitive Grants Program (CGP) with objectivity and transparency. CGP is a sub-component of the research component of the National Agricultural Technology Project (NATP), Phase-1 financed by the World Bank and IFAD. KGF through its CGP seeks to develop a more Pluralistic research system by opening the CGP to the NARS institutes, universities, other research institutes, NGO's and private sector organizations. Agricultural research and development projects funded under CGP require having location-specific, pre-identified high priority area, multi-disciplinary approach short or medium term duration, demand driven, immediate benefit and problem-solving criteria. KGF funds the CGP projects that are crucial to bridge the yield gaps, respond to pre-identified problems and address other demand-based issues for improving productivity and farm income. Major focus is on-farm applied and adaptive research, including marketing, socio-economic aspects and value addition.

3.00 Information on Financial Statements

(a) Components of Financial Statements

Financial Statements comprise of:

(i) Statement of Financial Position;

(ii) Statement of Comprehensive Income;

(iii) Statement of Cash Flow; and

(iv) Notes to the Financial Statements.

(b) Responsibility for Preparation and Presentation of Financial Statements

The responsibilities of the management are preparation and presentation of the Financial Statements.

(c) Reporting Period

The report covers the period from 1 July 2011 to 30 June 2012

3.01 Significant Accounting Policies

(a) The Financial Statements of the "Foundation" has been prepared under Historical Cost convention in accordance with Bangladesh Accounting Standards (BAS) and Provisions of the Companies Act 1994 and other applicable laws and rules of Bangladesh

(b) Income was recognized to the extent of amount paid for expenses.

(c) The Financial Statements are expressed in Currency of Bangladeshi Taka (BDT)

(d) No depreciation charged on fixed assets during the Financial Year 2011-2012.

			Amount in Taka	
			30.06.2012	30.06.2011
4	**Property, Plant and Equipments:**			
	Opening balance at cost		16,142,474	15,958,474
	Add: Addition during the year		83,823	184,000
			16,226,297	**16,142,474**
	Less: Adjustment during the year		-	
			16,226,297	**16,142,474**
	Less: Accumulated Depreciation		-	-
	Written Down Value (WDV)		**16,226,297**	**16,142,474**
	Details have been shown in annexure-A.			
5	**Cash and cash equivalents:**			
	Pubali Bank Ltd. A/C 1820901028529		-	-
	Pubali Bank Ltd. A/C 1820901028514		4,305,975	1,449,233
	Total:		**4,305,975**	**1,449,233**
6	**Fund Account**			
	Opening Balance		17,591,707	22,083,749
	Add: Fund Received during the period	6.1	91,538,894	71,357,708
			109,130,601	**93,441,457**
	Less : Transferred to Grant income		88,598,329	75,849,750
			20,532,272	**17,591,707**
6.1	**Fund Received during the year:**			
	Received from GOB	6.1.1	638,894	553,214
	Received from RPA	6.1.2	90,900,000	70,804,494
			91,538,894	**71,357,708**
6.1.1	**Received from GOB**			
	Revenue		750,000	225,000
	Capital		150,000	75,000
	GOB Fund		-	450,000
			900,000	**750,000**
	Less: Refund to GOB		261,106	196,786
			638,894	**553,214**
6.1.2	**Received from RPA**			
	Received during the year		90,900,000	70,000,000
	Other sources		-	804,494
			90,900,000	**70,804,494**

Rahman Mostafa Alam & Co. Dhaka

Rahman Mostafa Alam & Co.
Chartered Accountants.

		Amount in Taka	
		30.06.2012	30.06.2011
7	**Services :**		
	Expert Salary	8,095,796	8,386,000
		8,095,796	**8,386,000**
8	**Traning /Workshop &CGP Related Expense :**		
	CGP Sitting / Meeting/ Entertainment	287,795	-
	CGP Workshop	1,487,131	115,750
	CGP Review expense	586,210	1,747,750
	CGP Evaluation fee	-	853,500
		2,361,136	**2,717,000**
9	**Operational Cost:**		
	Pay of Support / Contructual Core staff	5,959,064	3,906,259
	Allowance / Bonus	379,968	389,828
	Conveyance / TA/DA	796,303	521,224
	Gas,Fuel & Oil etc	700,207	410,359
	Office Supplies & Consumable Stationary	351,474	482,923
	Promotion & Advertisement	279,510	276,166
	Sitting Allowance	61,000	72,597
	Entertainment	139,593	263,377
	Hiring of Vehicles	483,386	247,696
	Consultancy / Contractual Service	-	13,950
	Computer Accessories	87,090	189,639
	Miscellaneous Operational Cost	196,787	347,990
	Board Meeting Expense	572,928	540,615
	Telephone / Mobile bill	115,503	67,406
	Office Repair & Maintainance	824,447	189,171
	Car Repair & Maintainance	340,581	356,552
	Other Repair & Maintainance	22,722	196,419
	Postage bill	22,650	25,419
	Travel & Tours	347,540	140,036
	Overtime	399,673	296,035
	Internet bill	105,600	113,950
	Retaintion / Remunaration fees	34,608	197,180
	Bank Charge	1,264	800
	Insurance Premium	168,844	199,491
	Electricity bill	166,938	344,112
	Security Service	202,212	61,055
	Audit fee	171,750	343,500
	Printing and Publication	259,289	30,659
		13,190,931	**10,224,408**
10	**CGP Grants :**		
	First Round 1st phase:	3,725,923	9,919,197
	First Round 2nd phase:	5,527,687	14,985,570
	2nd Round 1st phase:	34,141,675	29,617,575
	2nd Round 2nd phase:	21,555,181	-
		64,950,466	**54,522,342**

Details have been shown in annexure-B.

Rahman Mostafa Alam & Co. Dhaka

Rahman Mostafa Alam & Co.
Chartered Accountants.

Annexure-A

Krishi Gobeshona foundation

Property, Plant and Equipments Schedule
For the year ended June 30. 2012

Particulars	COST				Rate of Dep.	DEPRECIATION				Written Down Value as on 30.06.2012
	Cost as on 01.07.2011	Addition for the year	Adjustment	Value at Cost as on 30.06.2012		Balance as on 01.07.2011	Charge during the year	Adjustment	Total dep. As on 30.06.2012	
Vehicles (Jeep-1, Micro Bus-2)	11,172,795	-	-	11,172,795		-	-	-	-	11,172,795
CGP Equipment	257,742	-	-	257,742		-	-	-	-	257,742
Computer & Accessories	1,842,668	-	-	1,842,668		-	-	-	-	1,842,668
Multimedia Projector	143,190	-		143,190		-	-	-	-	143,190
Office Equipments	462,978	-	-	462,978		-	-	-	-	462,978
Furniture & Fixtures	521,196	36,523	-	557,719		-	-	-	-	557,719
Electric Equipments	572,771	-	-	572,771		-	-	-	-	572,771
Misc. Materials & Equipments	1,169,134	47,300	-	1,216,434		-	-	-	-	1,216,434
Total	**16,142,474**	**83,823**	-	**16,226,297**		-	-	-	-	**16,226,297**

*** No depreciation has been charged on fixed assets.

Rahman Mostafa Alam & Co. Dhaka

Rahman Mostafa Alam & Co.
Chartered Accountants

Annexure- B

		Amount in Taka	
		30.06.2012	30.06.2011
First Round 1st phase:			
SL No.	Project Code :		
1	C-VI-025	322,716	267,000
2	C-VI-006	669,420	474,420
3	C-S-144	187,819	455,176
4	C-CA-117	53,998	642,400
5	C-CC-129	-	302,208
6	C-S-132	(142,068)	-
7	C-FM-163	-	395,200
8	C-PHT-175	184,746	187,475
9	C-FPE-049	212,526	367,000
10	C-FPE-054	30,525	386,380
11	C-FPE-055	179,252	456,250
12	C-HV-202	140,009	-
13	L-HM-219	361,719	272,100
14	L-DD-232	251,250	702,500
15	L-HM-214	-	513,204
16	SE-MSC-266	-	340,209
17	C-SPM-092	185,080	320,325
18	C-SPM-096	-	427,562
19	SE-MSC-279	-	218,762
20	SE-MSC-285	180,025	301,006
21	SE-MSC-287	186,500	459,200
22	F-SE-291	95,975	513,765
23	F-DD-240	-	398,601
24	C-HV-197	-	265,160
25	C-HF-103	178,038	318,160
26	C-HF-104	162,200	324,400
27	C-PHT-179	149,219	302,800
28	C-HV-194	136,974	307,934
		3,725,923	**9,919,197**

		Amount in Taka	
		30.06.2012	30.06.2011
First Round 2nd phase:			
SL No.	Project Code :		
1	C-VI-010	-	793,314
2	C-S-149	336,560	743,200
3	C-S-150	-	578,200
4	C-S-135	208,700	834,800
5	C-FPE-051	337,719	712,549
6	C-FPE-052	108,722	785,400
7	L-HM-227	247,800	784,000
8	LFF-231	-	517,275
9	SE-PP-264	121,410	943,500
10	C-FPE-063	399,132	798,192
11	C-PHT-186	296,326	380,600
12	C-FPE-033	517,011	191,350
13	C-VI-015	57,271	797,000
14	C-CA-113	88,571	440,951
15	C-CA-116	-	254,810
16	C-S-156	442,579	777,226
17	C-FM-173	361,890	670,330
18	C-PHT-177	365,767	335,845
19	SE-PP-262	118,500	367,500
20	C-CA-109	-	891,600
21	C-S-161	379,905	599,699
22	C-S-162	177,644	1,296,889
23	C-FPE-01(SP)	962,180	491,340
		5,527,687	**14,985,570**

Rahman Mostafa Alam & Co.
Chartered Accountants

		Amount in Taka	
		30.06.2012	30.06.2011
2nd Round 1st phase:			
SL No.	Project Code :		
1	C-7.12	2,900,000	1,839,500
2	C-6.9	3,318,000	2,430,000
3	C- 5.5	1,319,100	1,106,000
4	C-2.20	2,410,300	1,764,500
5	CC -25.1	1,066,000	1,332,500
6	C - 11.1	849,000	502,500
7	C -6.8	3,381,700	1,944,000
8	C -13.2	726,600	909,500
9	C -3.1	763,200	1,272,000
10	NR -15.22	1,475,400	687,000
11	NR -16.15	1,475,500	692,500
12	C -4.9	1,009,200	728,000
13	C -4.1	2,487,675	1,778,175
14	L -17.4	853,200	1,422,000
15	C -1.12	2,037,800	1,678,000
16	C- 9.6	600,000	750,000
17	L-20.4	1,271,100	2,118,500
18	C -2.11	1,316,000	1,645,000
19	C-1.21	1,450,500	1,450,500
20	L-18.4	544,000	680,000
21	L-19.2	1,852,400	1,852,400
22	F- 22.1	1,035,000	1,035,000
		34,141,675	**29,617,575**
2nd Round 2nd phase:			
SL No.	Project Code :		
1	C-12.1	1,992,150	-
2	C-7.6	1,282	-
3	C-7.9	1,501,020	-
4	C-1.11	2,450,000	-
5	C-8.14	518,500	-
6	C-5.2	1,254,600	-
7	F--21.20	2,296,800	-
8	L-17.1	558,000	-
9	L-19.7	1,054,500	-
10	C-1.26	1,912,500	-
11	CC-25.2	1,300,000	-
12	C-1.2	651,000	-
13	C-1.27	1,365,300	-
14	C-2.19	901,000	-
15	C-4.5	897,300	-
16	L-17.14	814,284	-
17	C-CA-113	798,000	-
18	C-HF-103	426,345	-
19	E-PC-179	635,500	-
20	C-S-161	227,100	-
		21,555,181	**-**

Krishi Gobeshona Foundation Unit (KGF)

Band Reconcilation Statement (RPA) as on 30 June 2012

Pubali Bank Limited, Farmgate Branch, Dhaka

Current Account No. 1820901028514

Annexure - C

Particulars					Amount Tk.	Remarks
Balance as per Cash Book as on 30.06.2012					4,305,975.00	
Add: Cheques issued but not presented to the bank:						
SL No		Account No.	Date	Amount Tk.	Subsequent Clearance Date	Remarks
1	No.	8107633	19.02.12	8,500.00	27.05.13	
2	No.	1700303	03.04.12	8,925.00	20.01.13	
3	No.	1375229	30.05.12	112,621.00	02.07.12	
4	No.	1375257	12.06.12	18,000.00	14.08.12	
5	No.	1275258	12.06.12	13,500.00	07.11.12	
6	No.	1375262	19.06.12	447,000.00	03.07.12	
7	No.	1375264	19.06.12	522,000.00	10.07.12	
8	No.	1375275	20.06.12	108,722.00	03.07.12	
9	No.	1375276	25.06.12	101,975.00	03.07.12	
10	No.	1375277	25.06.12	1,829,700.00	10.09.12	
11	No.	1375278	25.06.12	434,300.00	01.10.12	
12	No.	1375279	25.06.12	399,000.00	08.07.12	
13	No.	1375280	25.06.12	21,913.00	15.07.12	
14	No.	1375281	25.06.12	19,125.00	05.07.12	
15	No.	1375282	25.06.12	36,778.00	03.07.12	
16	No.	1375283	25.06.12	15,420.00	10.07.12	
17	No.	1375284	25.06.12	161,930.00	02.07.12	
18	No.	1375285	25.06.12	7,700.00	15.07.12	
19	No.	1375293	28.06.12	133,488.00	03.07.12	
20	No.	1375294	28.06.12	43,711.00	03.07.12	
21	No.	1375296	28.06.12	469,031.00	09.07.12	
22	No.	1375297	28.06.12	122,609.00	11.07.12	
23	No.	1375299	28.06.12	2,995.00	03.07.12	
24	No.	1375300	28.06.12	20,096.00	03.07.12	
25	No.	1476401	30.06.12	1,111,440.00	28.08.12	
26	No.	1476402	30.06.12	1,225,000.00	11.07.12	
27	No.	1476403	30.06.12	998,700.00	17.09.12	
28	No.	1476404	30.06.12	7,800.00	09.07.12	
29	No.	1476405	30.06.12	35,100.00	05.08.12	
30	No.	1476406	30.06.12	35,100.00	05.08.12	
Total				8,472,179.00		
Balance as per Bank Statement					12,778,154.00	

Rahnuma Mostafa Alam Dhaka Co.

Krishi Gobeshona Foundation Unit (KGF)

Bank Reconcilation Statement (GoB) as on 30 June 2012

Pubali Bank Limited, Farmgate Branch, Dhaka

Current Account No. 1820901028529

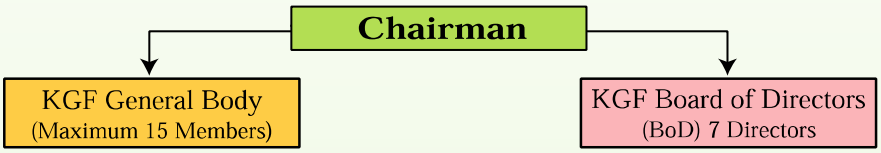
Annexure- C

Particulars					Amount Tk.	Remarks
Balance as per Cash Book					-	-
Add: Cheques issued but not presented to the bank:						
SL No		**Account No.**	**Date**	**Amount Tk.**	**Subsequent Clearance Date**	**Remarks**
1	No.	8077688		678.00	15.07.12	
2	No.	8077696		17,229.00	03.07.12	
3	No.	8077699		19,012.00	03.07.12	
4	No.	8077700		261,106.00	15.07.12	
Total				**298,025.00**		
Balance as per Bank Statement				**298,025.00**		

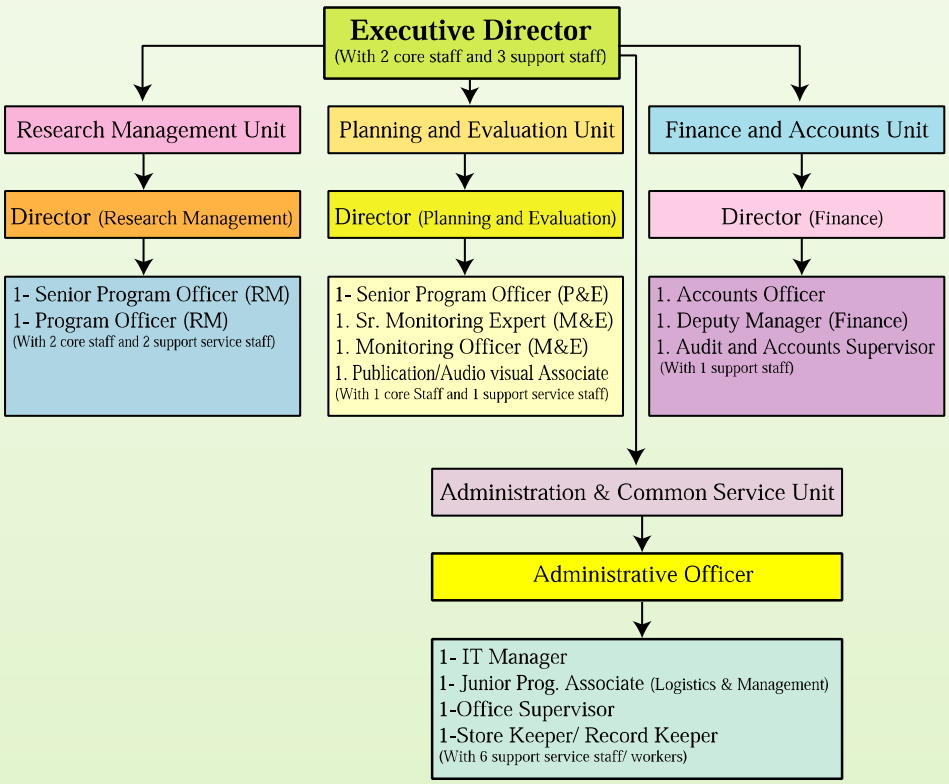
Annex-5

The KGF Organogram

A. Policy and Guidanance:



B. Program Management and Implementation:



Annex-6

List of Members of General Body and Board of Directors of KGF

(As per provisions in the KGF Memorandum and Articles of Association)

Sl. No	General Body (Not exceeding 15 members)	Sl. No	Board of Directors (7 members to be selected)
01.	Dr. Wais Kabir (up to Dec.2013) Dr. Md. Kamal Uddin (January 2014 onward) Chairman, KGF and Executive Chair man, BARC Farmgate, Dhaka-1215. Tel: 9135587 (O), 8150009 (Res.), Mob: 01713-118907	1.	Dr. Wais Kabir (up to Dec.2013) Dr. Md. Kamal Uddin (January 2014 onward) Chairman, KGF and Executive Chairman, BARC Farmgate, Dhaka-1215. Tel: 9135587 (O), 8150009 (R es.), Mob: 01713-118907
02.	Dr. Mahabub Hossain Former Director General, BIDS and former Head of Social Sciences Division, IRRI Tel: 9881265 Ext. -3152, Mob: 01714-078866	2.	Dr. Mahabub Hossain Former Director General, BIDS and former Head of Social Sciences Division, IRRI Tel: 9881265 Ext. -3152, Mob: 01714-078866
03.	Director General, DAE Khamarbari, Farmgate, Dhaka-1215 Tel: 9140857 (O)	3.	Director General, BARI Joydebpur, Gazipur Tel: 9252715 (O)
04.	Director General, BARI Joydebpur, Gazipur Tel: 9252715 (O)	4.	Director General, BRRI Joydebpur, Gazipur 9263815(O)
05.	Director General, BRRI Joydebpur, Gazipur 9252736(O), 9263642(Res.)	5.	Dr. M. Asaduzzaman Former Research Director, BIDS, Sher -e-Bangla Nagar, Dhaka-1207 Tel: 8118920, Mob: 01711-595066
06.	Director (Animal Health and Admin), DLS, Khamarbari, Dhaka Tel: 9117736 (O),	6.	Mr. Mohammad Masum Chairman, Supreme Seed Company Ltd. 10 Gareb E-Newas Avenue Sector-13, Uttara, Dhaka-1230. Tel: 8951823/ 8951830 (O), Mob: 01711 -521630
07.	Prof. Dr. Md. Hazrat Ali, Treasurer Sher-e-Bangla Agricultural University (SAU), Sher-e-Bangla Nagar, Dhaka-1207 Tel: 8619355 (Res.), Mob: 01714 -396906 Residence: Tower Building, 8/BU, Dhaka	7.	Dr. Syed Samsuzzaman Executive Director, North Bengal Institute of Development Studies (NBIDS) House no.-47, Road no.-2, Islambag R. K. Road, Rangpur Tel: (0521) 62893, Mob:01715 -002336
08.	Prof. Dr. M. Aminul Islam Former DG, BFRI & Professor BAU 5/A Regent Tower , 133/1, Outer Circular Road, Mogbazar, Dhaka Tel: 8050828, Mob: 01938 -849120		
09.	Dr. M. Asaduzzaman Former Research Director BIDS, Sher -e-Bangla Nagar, Dhaka-1207 Tel: 8118920, Mob: 01711 -595066		

Sl. No	General Body (Not exceeding 15 members)	Sl. No	Board of Directors (7 members to be selected)
10.	Mr. Mohammad Masum Chairman, Supreme Seed Company Ltd. 10 Gareb E-Newas Avenue Sector-13, Uttara, Dhaka-1230. Tel: 8951823, 8951830 (O), Mob: 01711 -521630		
11.	Dr. Syed Samsuzzaman Executive Director, North Bengal Institute of Development Studies (NBIDS) House no. -47, Road no.-2, Islambag R. K. Road, Rangpur Tel: (0521) 62893 , Mob:01715-002336		
12.	Prof. Dr. Shah -e-Alam, Professor of Plant Breeding and Genetics Department, BAU, Mymenshingh-2202 Mob:01713-311332 Residence: House: 66/C Flat :B -5, Road 6-A, Nazir Road, Dhaka Cantonment, Dhaka		
13.	Dr. Craig A. Meisner, Country Director WorldFish Centre, Bangladesh and South Asia Bangladesh Office, House 22B, Road 7, Block -F, Banani, Dhaka 1213 Tel: (+880 -2) 881 3250,881 4624, Fax : 881 1151 Email : worldfish-bangladesh@cgiar.org		

Annex-7

List of the KGF Expert Professionals

Chief Executive: Dr. M. Nurul Alam, Executive Director (ED), KGF.

Sl. No.	Name and Designation (Technical and Financial Management)
01.	Dr. Nurul Islam Bhuiyan, Director (Research Management).
02.	Prof. Dr. Abdul Hamid, Director (Planning & Evaluation).
03.	Dr. Rahim Uddin Ahmed, Sr. Program Officer (Planning & Evaluation).
04.	Dr. Md. Abdur Razzaque, Sr. Program Officer (Research Management).
05.	Dr. Mohibul Hasan, Sr. Technical Expert (Monitoring & Evaluation).
06.	Mr. Suvash Chandra Halder, Technical Expert (Monitoring & Evaluation).
07.	Mr. Md. Salat Ahmed, Deputy Manager (Finance).
08.	Mr. Mehedi Hasan, Administrative Officer.

www.kgf.org.bd

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