



**CEREAL SYSTEMS INITIATIVE FOR SOUTH ASIA
MECHANISATION EXTENSION ACTIVITY
(CSISA MEA)**

**ACTIVITY REPORT
OCTOBER 2019- MARCH 2020**

This report is made possible through support provided by the United States Agency for International Development (USAID). The content and opinions expressed herein are those of the authors and do not necessarily reflect the views of USAID or the United States Government

April 2020

This report has been compiled as a result of collaboration between CIMMYT and iDE, prepared by the following authors:

Timothy David Russell, Ansar Ahammed Siddiquee, Syed-Ur-Rahman, Nur-A-Mahajabin Khan, Mahesh Gathala, PVL Bharathi, Syed Mahmudul Huq, Moksedul Alam Arafat, Khandakar Shafiqul Islam, Jeremy Davis, Md. Zahidul Islam, Masud Rana, Azahar Ali Miah, Rafiqul Islam, Abir Chowdhury, Meher Niger and many others.

Cover Credit© Nur-A-Mahajabin Khan, Ansar Ahammed Siddiquee

International Maize and Wheat Improvement Center (CIMMYT),
House 10/B, Road 53, Gulshan 2,
Dhaka 1213, Bangladesh

Table of Contents

ACRONYMS.....	v
Executive Summary.....	vii
I. Introduction	1
I.1 Background	1
I.2 Project Objectives and major interventions	1
I.3 Project Management Approach	3
I.3.1 Project management	3
I.3.2 CSISA MEA’s project approach – transition to a facilitative market systems approach	3
I.4 Area of Operations.....	4
I.5 Visitors.....	6
2. Results and Achievements	7
2.1 Strategic Objective 1: Competitiveness and efficiency of domestic and private sector-led agricultural machinery manufacturing boosted	7
2.1.1 Support private sector firms in the production, marketing, promotion and sales of priority agricultural machinery	7
Partnership with lead firms:.....	8
2.1.2 Facilitate initial trade and investment plans with international firms	9
John Deere	9
Participation in the US Trade Show	10
2.1.3 Develop and strengthen actors in agricultural mechanization.....	11
Market Ecosystem.....	11
Farmers Field Day (FFD) Method/Coaching:.....	11
Local Service Provider networks:.....	12
2.1.4 Facilitate access to finance to support the agricultural mechanization supply chain.....	12
2.2 Strategic Objective 2: Enhanced institutional capacity for agricultural mechanization through the development of skilled and youth workforce.....	13
2.2.1: Building capacity of lead firms through recruiting, training, and retain skilled labors	14
Developing a training program and identifying the trainers for training workers in the light engineering sector	14
Training for Farmers on Conservation Agriculture (CA):	15
Training for Mechanics:.....	15

2.2.3 Strategic Objective 3: Widespread uptake of resilient farming practices in communities impacted by Rohingya refugee crisis in South-Eastern Bangladesh.....	16
2.3.1 Intervention Develop and strengthen the agricultural and farm mechanization market system.....	17
2.3.2 Intervention Key gaps in high-yielding, profitable, and nutritious cropping systems systematically addressed.....	19
2.3.3 Scale-out sustainable intensification production management practices.....	20
2.3.4 Provide resilient, profitable, and nutritious farming systems through sustainable intensification and livestock integration	21
2.3.5 Collaborate with and support organizations active in agricultural market systems in target area	21
Training for the FAO’s partner (Shushilan) staff on high value crop production technology:.....	21
2.5 The Markets and Value Chain Group (MVCG).....	22
3. Project start-up activities.....	23
4. Activities for the coming Six Months.....	24
5 Challenges for the first six months of the project	25
Annex I	26
Annex 2.....	34
Annex 3.....	38
Annex 4.....	43

List of Figures:

Figure I. 1: Geographical locations of the project.....	5
Figure 2. 1 Education level of MSME owner.....	9
Figure 2. 2 Feasibility of possible structure by ASPEN Capital.....	13
Figure 2. 3 Geographical locations of the project in Cox’s Bazar.....	16
Figure 2. 4 Snapshot of MSME online entry screen.....	22

List of Tables:

Table 2. 1 Feed the Future Zone.....	11
Table 2. 2 A list of events and meetings and number of participants:.....	16
Table 2. 3 Summary findings of the constraints to mechanization, identified in the study.....	20
Table 3. 1 Major Recruitment status in CIMMYT.....	23
Table 3. 2 Major Recruitment Status in iDE.....	24

List of Photographs:

Photo 1, 2,3 &4.....	6
Photo 5, 6 &7.....	10
Photo 8.....	11
Photo 9.....	12
Photo 10,11,12 &13.....	15
Photo 14 &15.....	17
Photo 16 &17.....	18
Photo 18 &19.....	20
Photo 20.....	21

ACRONYMS

ADO: Agriculture Development Officer
AFP: Axil Flow Pumps
BRAC: Bangladesh Rural Advancement Committee
BDO: Business Development Officer
BITAC: Bangladesh Industrial and Technical Assistance Center
CSISA MEA: Feed the Future Bangladesh Cereal Systems Initiative in South Asia- Mechanisation Extension Activity
CSISA-MI: Cereal Systems Initiative in South Asia - Mechanisation and Irrigation
CA: Conservation Agriculture
CIMMYT: The International Maize and Wheat Improvement Center
CXB: Cox's Bazar
DAE: Department of Agriculture Extension
DFI: Development Finance Institutions
EOI: Expression of Interest
FAO: Food and Agriculture Organization
FBA: Farm Business Advisor
FFD: Farmer's Field Day
GT: Georgia Institute of Technology
HYV: High Yeild Variety
iDE: International Development Enterprise
iDQA: Internal Data Quality Assessment
INGO: International Non-Governmental Organization
IT: Information Technology
JVA: Joint Venture Agreement
KMP: Krishi Machine Porichiti
LE: Light Engineering
LSP: Local Service Providers
LPIN: Livestock Production for Improved Nutrition
MFI: Micro Finance Institution
NBF: Non-Bank Financial Institutions
NGO: Non-Governmental Organization
OHS: Occupational Health Safety
MCH: Medium Combine Harvester
MEL: Monitoring Evaluation and Learning
MDO: Mechanisation Development Officer
MSA: Market System Analysis
MSME: Micro, Small and Medium Enterprises
PTOS: Power Tiller Operated Seeder
PRQ: Premium Quality Rice
RDC: Rice and Diversified Crops Activity
SAAO: Sub Assistant Agriculture Officer
SHED: Society for Health Extension and Development
SKS: Shombhabbo Kreta Shomabesh (Meeting for Potential Buyers)
SME: Small and Medium Enterprises
SO: Strategic Objective
SPE: Special Purpose Entity
SPV: Special Purpose Vehicle
TOT: Training of Trainers

TVET: Technical and Vocational Education Training
US: United States
USA: United States of America
USAID: United States Agency for International Development
WFP: World Food Program

Executive Summary

Building on the successes of the CSISA-MI project the Feed the Future Bangladesh Cereal Systems Initiative in South Asia Mechanisation Extension Activity (CSISA MEA) began on 1st October 2019. It has three main objectives:

1. Increase the competitiveness and efficiency of domestic and private sector-led agricultural machinery manufacturing, assembly, use, and servicing
2. Enhance institutional capacity for agricultural mechanization through the development of skilled and youth workforce
3. Widespread uptake of sustainable intensification practices in Rohingya refugee impacted communities in South-eastern Bangladesh.

Through activities designed to meet these objectives, the activity will aim to address a number of challenges faced by the light engineering sector involved in the manufacture of agricultural machines and spare parts. These challenges were identified by a study commissioned by the project from the Bangladeshi company, Inspira. These include poor manufacturing processes, use of old and inefficient manufacturing equipment, limited supply of good quality materials, limited access to appropriate financial services and low levels of workforce skills.

Major activities during the reporting period included:

- Negotiating terms with 9 lead companies in the agricultural machinery import and manufacturing sector for the implementation of joint ventures. These will support machinery operator and mechanic training, promotion of the use of planting and harvesting machinery, establishment of dealerships for machines, the design of machine manufacturing processes and partnerships with national and international machinery investors. This work has included signing a non-disclosure agreement with John Deere, a USA base agricultural machinery company. It is anticipated that this will lead to provision of support for their investment plans in Bangladesh. The project also partnered with the Feed the Future Bangladesh Rice and Diversified Crops activity (RDC) in participating in the annual trade show that is sponsored by the American Chamber of Commerce.
- Collection of basic data on the products manufactured and size of 327 light engineering workshops in Bogura district, 91 in Khulna division (Jashore, Jhenaidah, Chuadanga and Khulna districts) and 25 in Dhaka Division (Faridpur, Rajbari and Gopalganj districts). From these 82 in Bogura and 15 in Jashore and Faridpur districts were selected as potential partners. They were selected using criteria such as size of company and engagement in manufacturing agricultural machinery or spare parts. Profiling of the selected companies revealed that the companies are largely owned by people with limited education and more than 40 years old. 63% wanted to improve the skills of their workforce. The income of skilled workers is three times that of unskilled workers.
- Identification of companies that want to work with CSISA MEA through the release of an expression of interest (EoI) letter. This was prepared and will be sent to all 97 of the selected companies
- Initiating, with the arrival of the training coordinator, PVL Bharathi in February 2020, work on identifying and selecting organizations that could provide training services to light engineering companies. Contacts have been made with government and NGO training institutions. To determine if there are other organizations capable of providing training services to unskilled light engineering workers an EoI letter was prepared and will be published in the national news media in April.
- Initiating design of new financial services modalities in partnership with the New York based financial services management company Aspen Capital.

- Providing support in the Feed the Future zone to machinery service providers (Local Service Providers - LSPs), to promote their services. This support is given through farmers meetings and field days, linkage meeting with other LSPs and links to machinery companies and government for machinery purchase subsidies. LSPs, mechanics and farmers have also continued to be provided with training in the use, repair and maintenance of farm machinery. A total of 243 LSPs received training in this reporting period of which 7 were women. These events also supported 92 entrepreneurs to become machinery LSPs during the reporting period. The promotional events also encouraged a number of LSPs to upgrade their businesses moving from small machines such as power tiller operated seeders (PTOS) and reapers to more complex and higher investment machines such as combine harvesters and rice transplanters. As a result, LSPs purchased 54 combine harvesters and 8 rice transplanters and as well as 54 PTOS and 24 reapers.
- Conducting promotional, linkage and training events in the Feed the Future zone. There were 31 events attended by 1,127 participants of which 226 were women.
- Establishing offices in Cox's Bazar and Bogura. The Cox's Bazar office will house a team of 15 consisting of agricultural and market development specialists as well as a machinery engineer. The Bogura office houses a team of 10 staff consisting of engineers and market development specialists. They will work with light engineering companies in Bogura to develop their skills and links to companies in the Feed the Future zone.
- Establishing the Cox's Bazar office. This required the transfer of office and staff from offices in the Feed the Future zone that were closed down (Barisal) or reduced in size (Faridpur). To establish the field activities a large number of meetings with partners such as the DAE, FAO, WFP, input and machinery supply companies and farmers were conducted. A study of farming and market systems was also conducted to gain an understanding of the constraints and needs of the current farming and market systems. From this a program of demonstrations and training events was designed. These focused on the introduction of new vegetable production techniques including new crops and varieties, new farm machinery including combine harvesters, rice transplanters, PTOS and fodder choppers. It also included the introduction and marketing of fodder choppers and forage maize to dairy farmers. In total 154 events were conducted attended by 1,213 participants of which 281 were women.
- Recruiting and orientating 6 engineers, a communications coordinator and an international training coordinator. Recruitment of an internationally recruited engineer and a market systems specialist failed to find suitable candidates. Instead nationally recruited staff will be recruited.
- Negotiating and preparation of an agreement with Georgia Institute of Technology (Georgia Tech) to become a CSISA MEA partner organization. This process will be completed in April 2020. This will allow CSISA MEA to access engineering and machine design support from Professor Jon Colton and Georgia Tech engineering post graduate students. They will also provide support with developing training programs for light engineering company staff and provide access to US based companies and institutions that could either invest in or support machinery manufacturing companies in Bangladesh.

In terms of coverage, during the six months period the coverage survey conducted by the Monitoring, Evaluation and Learning (MEL) team showed that 45,845 farmers adopted new technology as a result of project activities. This is 183% over the annual target. Further, new technology was applied on 13,067ha as a result of project activities.

Challenges for the project have been:

- Orientating staff who have been accustomed to a direct implementation approach to one that follows the market systems facilitative approach.
- Recruitment of staff, particularly international staff.

- Development of a work plan and a MEL plan which both reflect the objectives and approach of the project.

The restrictions on movement and work activities initiated by the Government of Bangladesh in March 2020 to reduce the spread of the COVID-19 virus will have a profound impact on the ability of the project to implement and monitor activities. Even so CSISA MEA will:

1. Implement measures which will support companies mitigate the impact of COVID-19 on their workforce and business
2. Complete the negotiation and start the implementation of joint venture agreements with at least 9 lead companies and with at least 20 MSMEs in the light engineering sector.
3. Develop, with support from Aspen Capital, financial service packages appropriate for lead firms, MSMEs in the light engineering sector and LSPs.
4. Initiate training programs in partnership with training service providers for MSME staff. This will include initiating an on-line live skills training program.
5. Initiate training programs in partnership with lead firms for machine operators, owners and mechanics
6. Complete agreements with Georgia Tech.

I. Introduction

I.1 Background

The Feed the Future Bangladesh Cereal Systems Initiative in South Asia Mechanization Extension Activity (CSISA MEA) follows on from one of the first market systems projects in Bangladesh, the CSISA MI project. This project supported companies' market machinery by conducting demonstrations and training machinery service providers. This created a demand for agricultural machinery for planting and harvesting crops. Companies responded to this by investing \$6.7 millions in imported machines and creating 3,474 machine owners known as Local Service Providers (LSP). They provided planting and harvesting services to 94,661 farmers. CSISA MEA as well as continuing to create demand for mechanized agriculture and training machine drivers and mechanics will address the challenges faced by agricultural machinery manufacturing companies. These restrict their capacity to meet a growing demand for new, labor saving agricultural machinery and to become competitive in both national and international markets.

These challenges are:

- Competition from imported spare parts and machines. These include four-wheel tractors and combine harvesters which are replacing the two-wheel tractors and threshing machines on which light engineering workshops depend for the bulk of their business.
- Upgrading the equipment used by foundries and machine manufacturers to enable them to match the quality of imported products and produce them as rapidly and efficiently. For this companies need finance.
- Conventional financing service such as banks charge high interest rates and require property to be mortgage to safeguard their loans. This discourages investments by small, family owned light engineering companies.
- The smaller companies do not specialize and larger companies make most of the components for machines themselves with little outsourcing of component production This limits the ability of companies and their staff to become skilled in any one activity and this adds further to the poor quality of work done.
- The manufacturing processes are not well designed and result in considerable inefficiencies.
- Labor is poorly trained and lacks basic skills
- The quality of steel used is very variable and equipment for testing metal quality is not readily available.

I.2 Project Objectives and major interventions

To address these constraints CSISA MEA has two strategic objectives (SOs):

SO1: Boost the competitiveness and efficiency of domestic and private sector-led agricultural machinery manufacturing, assembly, use, and servicing.	Agricultural machinery companies have stronger capabilities across supply chains, increasing efficiency, worker safety, productivity, and importing and manufacturing volume through support of US companies and local value chain activities. Over the life of the project, this will support \$5 million in new agricultural machinery sales and provision of mechanization services to 144,000 smallholder producers covering a total of 42,000 ha of land.
Year 1 target:	
<ul style="list-style-type: none">• \$260,242 in new sales to farms and firms (EG: 3.2-26)• \$50,000 in agriculture-related credit (EG:3.2-27) from national and international agencies• 23,000 smallholder producers receiving mechanization services (EG: 3.2-24) due to increased demand, covering a total of 6,500 Ha of land (EG: 3.2-25) through local service providers.	

SO1 will focus on resolving problems associated with financial services, factory layout and management and equipment supply. This will be done through partnerships with the private and public sector. For instance, CSISA MEA is forging a partnership with New York based Aspen Capital to develop novel financing through equity partnerships and asset-based financing. A partnership is also being forged with USA tractor giant John Deere to support the manufacture and assembly of machines in Bangladesh. Georgia Tech University from Atlanta, USA will be supporting companies design new machines, develop the manufacturing process for complex machines such as combine harvesters and rice transplanter and support companies to identify the most appropriate machines, factory layout and assembly lines. Under SO1 the project will support machine marketing companies promote labor-saving technology in farming communities and gain access to finance for their customers.

<p>SO2: Enhance institutional capacity for agricultural mechanization through the development of skilled and youth workforce.</p>	<p>Agro-machinery lead firms and supporting MSMEs have a skilled workforce and employment opportunities are created, emphasizing inclusion of youth and women. Over the life of the project, activities will result in 2,000 people (65% youth) gaining improved skills and income via private partnership-driven workforce development, and at least 2,000 new jobs in agricultural mechanization value chains (70% of which will benefit youth).</p>
<p>Year 1 target:</p> <ul style="list-style-type: none"> • Activities will result in 200 people (65% youth) gaining improved skills and income via private partnership-driven workforce development, and at least 240 new or improved job in agricultural mechanization value chains (70% benefiting youth). 	

SO2 will focus on raising the skills of the young men and women who compose the bulk of the workforce of small and medium agricultural machine manufacturing companies. This will raise the quality of the machines they manufacture and the efficiency of their production improving company competitiveness. Georgia Tech University will provide technical support to training service providers who will offer training services to machine manufacturing companies through business associations such as the Bangladesh Engineering Industry Owners Association. The project will also produce a series of “how to do” videos for use as training aids or reference material for workers in the industry. In addition the project will under this objective raise the skills of machine drivers and mechanics so that they can drive their machines efficiently and maintain them adequately.

SO3 The arrival of Rohingya refugees to South East Bangladesh created both challenges and opportunities for the communities living the vicinity of refugee camps. They created a huge demand for fresh vegetables and fruits and staple foods but also raised labor costs. To support these “host” communities respond to these challenges and take advantage of these new markets the CSISA MEA has a third strategic objective.

<p>SO3: Widespread uptake of sustainable intensification practices in Rohingya refugee impacted communities in South-eastern Bangladesh.</p>	<p>Rohingya-crisis-impacted communities will take up resilient farming practices, with 30,000 people (50% women and youth) participating in USG food security programs and 7,500 (30% women and youth) using improved management practices or technologies over the life of the project.</p>
<p>Year 1 target:</p> <ul style="list-style-type: none"> • Rohingya-crisis-impacted communities will take up resilient farming practices, 5,000 (30% women and youth) people using improved management practices or technologies on 500 ha of cropland in first year of the project. 	

1.3 Project Management Approach

1.3.1 Project management

Building upon the expertise and lessons learned from CSISA MI, the following partnerships has been developed to implement the project.

CIMMYT (Consortium lead): In addition to being responsible for the overall administration and financial management of the project CIMMYT is responsible for employing field staff with agricultural development and engineering skills. CIMMYT is also responsible for reporting to the donor on project progress, lessons learnt through implementation of the project and project impact. For this it employs a Monitoring, Evaluation and Learning (MEL) team that collects monitoring data, conducts surveys to evaluate project progress and conducts internal data quality assessments (iDQA) to ensure the data reported to USAID is accurate. CIMMYT is also responsible for maintaining and administering field offices (see below for location). From these offices CIMMYT and iDE field staff design, implement and supervise the training and technical support given to MSME in the light engineering sector, to machinery service providers (LSPs) and machinery dealers and to the farmers. This work is done in partnership with the Government and the Private sector

International Development Enterprises (iDE) was a partner in the implementation of the CSISA-MI project and is a key implementation partner for CSISA MEA. Their responsibility in CSISA MEA is to design and implement market-driven interventions in partnership with private sector firms. Within this project, iDE is playing a pivotal role in facilitating partnerships between US firms and Bangladesh based SMEs and larger firms for process, technology and market improvements and leading the financial inclusion component with a range of national and international partners, including the USA based financial services provider, Aspen Capital.

Georgia Institute of Technology (Georgia Tech) is CSISA-MEA's core sub-contracted educational partner. Georgia Tech provides a technologically focused education to undergraduate and graduate students in fields ranging from engineering, computing, and sciences, to business, design, and liberal arts. Within CSISA MEA, Georgia Tech is leading the efforts in the mechanization and industrialization activities and in the design and implementation of the apprenticeship program, as well as anchor US-based industry collaborations. Specifically, Georgia Tech has also been providing consultative services to CSISA-MEA for the design of training for light engineering MSME and for the design of products, processes and factories of these MSME.

The project organogram is presented in annex 4.

1.3.2 CSISA MEA's project approach – transition to a facilitative market systems approach

CSISA-MI created a demand for new labor saving agricultural machinery by directly implementing a program of promotional events at which the use and business value of new technology such as PTOS, Axil Flow Pumps (AFP) and Reapers was demonstrated to farmers. At these events customers for these machines were actively sought by project staff and linked to the local dealer selling the machines. Once purchased the new owners of machines, known by the project as Local Service Providers (LSPs), were given training in the use and maintenance of the machine and in business management by the project. The role of the machinery suppliers was to import the machine or purchase them from local suppliers if made in Bangladesh and sell them to the customers identified by the project. The project supported them by helping them prepare promotional materials including videos, posters and advertising hoardings.

CSISA MEA will transition into an approach where the project will not directly implement activities but always do this through agreements with companies. Where ever possible the project will support companies or institutions to provide training, technical advice, financial services, IT support and

business skills. The role of the project is to facilitate links between market actors and to be technical advisers. The aim is that by the end of the project the activities implemented by the companies will continue to be supported because they make business sense to the company. Project activities will largely involve tracking activities carried out by different client companies.

The project will continue the demand creation activities initiated in CSISA-MI but in this case the companies selling the machines will lead the promotion and training events with technical and financial support from the project. In addition to this, the project will support companies improve the capacity of the agriculture-based light engineering sector in Bangladesh to supply the machines and spare parts now demanded by farmers. This includes relatively advanced machinery such as combine harvesters, rice transplanters, four-wheel tractors and solar powered pumps. A feature of this will be the provision of grants to SMEs to obtain staff training services and technical advice and facilitate provision of financial services. This will be based on the specific needs of the SMEs as expressed in business plans / proposals prepared with support from the project. CSISA-MEA will provide technical advice to the training, technical and financial service providers.. In this, the first year of the project, some direct interventions will be required to initiate interest from the companies. This will include training and technical advice.

1.4 Area of Operations

The project has offices in:

- **Jashore and Faridpur**, where the main light engineering hubs in the Feed the Future zone are based.
- **Bogura**, the main light engineering centre outside of Dhaka and where many machine manufacturing companies in the Feed the Future zone obtain parts and components for the machines they make.
- **Cox's Bazar** is close to the farming community supplying farm products to the refugee camps

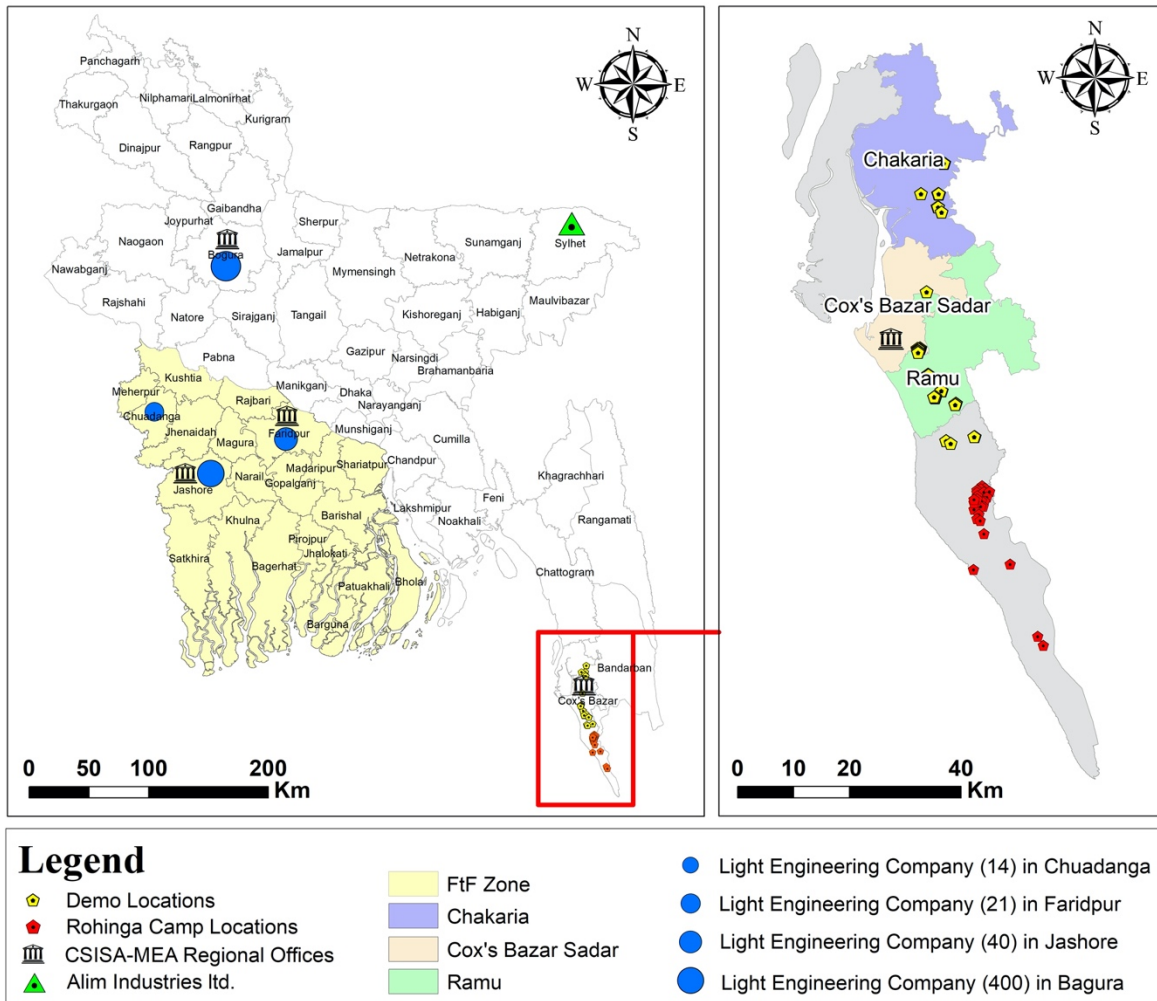


Figure I. I: Geographical locations of the project.

1.5 Visitors

- USAID Feed the Future Bangladesh mission visited Jashore on 18-19 December, 2019. The visit was led by Mr. Anar Khalil, Deputy Team Leader, Feed the Future Bangladesh. The visit had the objective of meeting the machinery manufacturing workshop and foundry owners to gain a better understanding of their needs and the support they could receive from USAID through the CSISA MEA project.
- **USAID Feed the Future Bangladesh mission visited Cox’s Bazar on 8 March, 2020.** The visit was led by Dr. Osagie Christopher Aimuwu, Deputy Office Director - Feed the Future Office of Economic Growth and Mr. Anar Khalil, Deputy Team Leader, Feed the Future Bangladesh. During the visit they met farmers, input suppliers, machinery company representatives and dealers and officials from the DEA and were able to discuss with them the work of the CSISA MEA and their challenges.
- **John Colton**, Engineering and engineering skills training consultant, Georgia University of Technology – August 2019. Support the preparation of the project annual work plan
- **Baljit Dhanjal**, Manufacturing systems specialist – November 2019
- January 2020, Assess manufacturing systems in Bogura and Jashore and provide an audit of manufacturing processes and deficiencies.
- **Jason Donovan, Social Scientist, CIMMYT, Mexico – November 2019 & January 2020.** Develop an understanding of the needs of the project for systems that generate information on the performance of the project and the lessons that can be learnt as CSISA-MEA is implemented.

Photo 1: Visiting Mohammad Ali’s Workshop in Jashore. Photo taken by: Abdul Khaleq



Photo 2: USAID team in field. Photo taken by: Arifur Rahman



Photo 3: Jason, Trent and Baljit at Engineering workshop, Photo taken by Meher Niger



Photo 4: Baljit and the team visiting training facility at TMSS, Bogura. Photo taken by Meher Niger

2. Results and Achievements

The following is a report on progress made with implementing activities planned in the work plan that was presented to USAID for approval in January 2020. Each heading is followed in italics by the summary given in the work plan of the activities planned. These are then followed by a report on what has been achieved to date.

2.1 Strategic Objective I: Competitiveness and efficiency of domestic and private sector-led agricultural machinery manufacturing boosted

2.1.1 Support private sector firms in the production, marketing, promotion and sales of priority agricultural machinery

CSISA MEA will select and enter into partnerships with at least six agricultural machinery and spare parts importing or manufacturing companies to support them to develop their businesses so that they are better able to give farmers improved access to labor-saving and income-generating technology.

Market systems Analysis

CSISA MEA commissioned a market systems analysis (MSA) of the agricultural machinery light engineering, manufacturing and spare parts industries, from Inspira, a Bangladeshi company.

The main findings from this study were:

1. The two primary sources for raw material in this sector are shipbreakers and scrap dealers, with all the respondents in Bogura and Jashore buying raw materials from within Bogura or Jashore. Materials are bought when needed and not necessarily when available at favorable prices.
2. Quality standard for machines manufactured are not available and quality perceptions are often based on comparisons with foreign products.
3. Demand for agri-machinery parts peak during January to March, and October to December
4. Although the industry is incredibly equipment dependent, there have been no significant upgrades made in terms of machines and equipment models used in the industry in the last decade
5. The machines used in engineering workshops are mainly imported from India and China but are almost always purchased from suppliers within Bogura or Jashore
6. While foundries will have a mix of skilled and unskilled workers, engineering workshops depend mostly on skilled labor
7. 74% of the engineering workshops sell on credit, 45% of their sales are made on credit and 35% claim to have had credit paid within 1 month
8. There are only verbal employment agreements between employee-employers, workers are paid on a weekly basis, the average weekly wage of a skilled worker is BDT 2,605 and for an unskilled worker BDT 1,514.
9. 31.9% of the workers are unskilled with youth representing 47% of the workforce in Bogura and 44% in Jashore. Female workers do not work in the manufacturing process but clean, carry and support their male colleagues.
10. Few safety and security measures exist in the workshops
11. Annual turn-over for 31% of companies is below 1 million BDT, 40% between BDT 1 to 5 million and 29% above BDT 5 million
12. The larger firms have the highest growth rate (7.2%) compared to the medium-sized firms (4.9%). The smallest companies only have a growth rate of 1%.
13. The industry is seeing sluggish growth figures owing to competition with foreign competitors for spare parts and machines, continued production of old machine designs and types such as threshers that will soon be replaced by combine harvesters.
14. Most businesses prefer to invest with their own equity rather than with loans and when they do take loans these are for small amounts taken from short periods from MFIs.

15. 86.7% of workshops do not have management plans, only 5.8% have it in written form and only 2.5% have business policies

The full report can be obtained from <https://csisa.org/wp-content/uploads/sites/2/2020/04/Market-System-Analysis-Inspira-2019.pdf>.

Partnership with lead firms:

CSISA MEA's private sector engagement strategy involves selecting and on-boarding key lead-firms for the implementation period in Year 1 and creating a pipeline of lead firms for subsequent years. The lead firm selection process followed these steps:

1. Selection of potential partners. This was based on those that the project had partnered with in the past, high-potential firms in the industry and firms who are approved vendors under the Government of Bangladesh's subsidy program
2. Issued a Request for Expression of Interest (Eoi)
3. Hold a co-design workshop with each of the interested firms
4. Sign a non-disclosure agreement
5. Sign an MoU agreeing to work together
6. Sign a Joint Venture Agreement (JVA) in which it is decided who will be responsible for implementing each activity within the agreement.

During this six months reporting period steps one to four have been completed for 9 companies. This includes holding the co-design workshops. The proposed shared activities elaborated during these workshops is presented in Annex 2.

Partnerships with Light Engineering Sector Companies

Basic data on the products manufactured and size of 327 light engineering workshops in Bogura district, 91 in Khulna division (Jashore, Jhenaidah, Chuadanga and Khulna districts) and 25 in Dhaka Division (Faridpur, Rajbari and Gopalganj districts) was collected. From these 82 in Bogura and 15 in Jashore and Faridpur districts were selected as potential partners using the following selection criteria:

1. Interested to work with CSISA-MEA
2. Active in Manufacturing
3. Manufacturing Agri Machinery/Spare Parts
4. Minimum 10 Employees
5. There exists an opportunity to engage women in the company workforce
6. Having a positive business growth trend and ambition
7. Member of a Manufacturer and / or Merchant Association
8. Have legal papers such as TIN or Trade License
9. Have limited access to Finance
10. Do not have a quality assurance standard

Light Engineering MSME Profiling:

After the database designing, the MEL team has started to collect in-depth MSMEs' information to create a bench mark and provide management with information about the light engineering sector. After the start of COVID-19 restrictions the team began collecting data by telephone. So far data from 95 MSMEs' has been collected.

Summary of MSME:

Among the 95 MSMEs, 95% are in manufacturing and retailing and only 6% are importers. Most of the owners are in the 41-60 years age group and 38% have only secondary school and below higher secondary school certificate. This indicates that light engineering company owners' have medium level education which is also important for designing training.

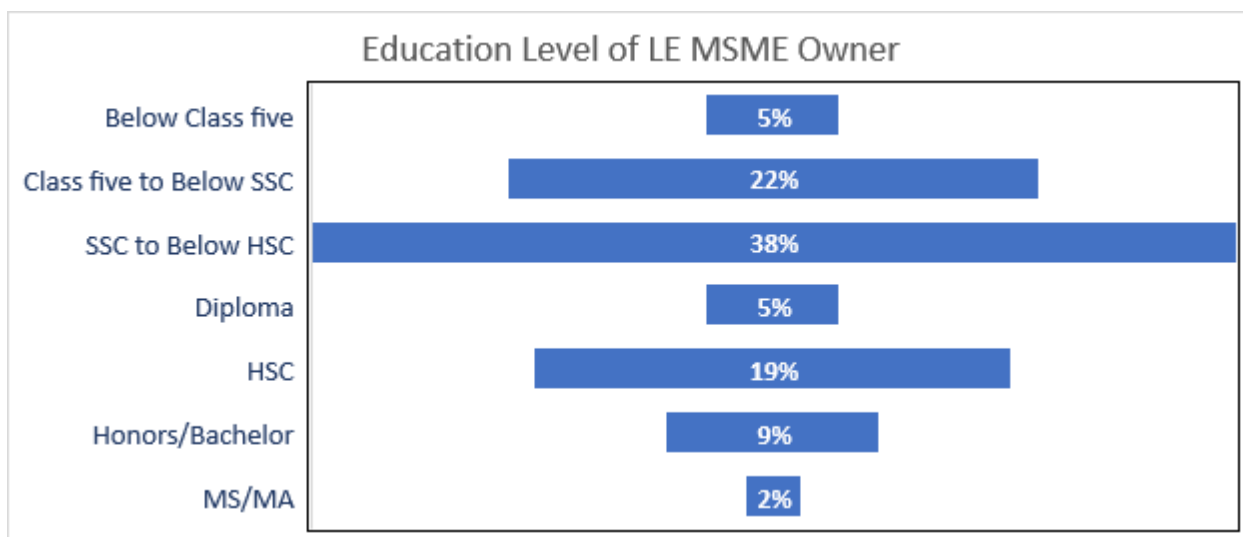


Figure 2. 1 Education level of MSME owner

Data also reveals that there is a huge wage gap between the income earned by skilled workers and semi-skilled and non-skilled labor. The average monthly wage is \$152 for a skilled labor, \$111 for a semi-skilled worker and \$55 for a no-skilled worker. This provides a strong incentive for unskilled workers to gain skills. Interestingly 63% of MSME owners want to send their workforce for skills training but 37% do not because they fear they will lose the workers if they become skilled. It is difficult for MSMEs to gain access to appropriate forms of finance due to difficult banking procedures and limited availability of loans for their sector. As a result, only 23% of the owners received loans from the formal financial institutions but 52% obtained loans from informal institutions (NGO/MFIs).

With access to finance being identified as a major barrier to the growth of their businesses, CSISA MEA facilitated four linkage workshops in the two regions between the enterprises and several financial institutions - banks, non-bank financial institutions and microfinance institutions - in both Jashore and Bogura. The financial sector representatives shared details about their current products and how they benefit the enterprises. Following the workshops, the financial service providers held follow-up meetings with the enterprises who had shown interest. Subsequently, many of them applied for loans to grow their businesses; the applications are currently going through due diligence and being assessed by the head branches of respective financial institutions.

2.1.2 Facilitate initial trade and investment plans with international firms

This intervention will focus on developing new investment in Bangladesh by selected manufacturers in the U.S. and international agricultural machinery industry, through partnerships with companies in Bangladesh. Efforts will focus first on increasing import and sales of smallholder appropriate farm equipment, and in later phases will focus on expanding the capacity for manufacturing and assembling agricultural machinery in-country.

John Deere

John Deere is a USA based world leader in agricultural machinery manufacturing with major tractor and combine harvester sales in India and other Asian countries. They are currently marketing tractors through an agent in Bangladesh and are interested in marketing their wheeled combine harvester which they currently sell extensively in northern India in Bangladesh. CSISA MEA has had several rounds of discussion with the John Deere regional team, including two meetings in January and early March resulting in the signing of a non-disclosure agreement. Possible areas for collaboration are:

- I. Assist John Deere representatives identify opportunities where CSISA MEA can support them enhance four-wheel tractor and combine harvester sales

2. Provide strategic business advice regarding (a) distributor and dealership networks, (b) locations where four-wheel tractors and non-track combines can be most effectively used (c) assist in raising awareness of John Deere products.

The next steps include signing a Memorandum of Understanding and co-creating a timeline of activities to achieve the targets set for Y1.

Participation in the US Trade Show

CSISA-MEA in partnership with the USAID Feed the Future Rice and Diversified Crops activity (RDC), participated at the 27th Trade Show. This was organized by the US Chamber of Commerce and was held from Feb 27-29. The event was an opportunity to highlight CSISA-MEA's multifaceted partnerships with US-based private companies in Bangladesh to a wide range of audience, including the Industries Minister Nurul Majid Mahmud Humayun, US Ambassador to Bangladesh Earl Miller, Chargé d'Affaires JoAnne Wagner, and USAID/Bangladesh Mission Director Derrick Brown. Other notable participants included Energy Pac as the distributor of John Deere tractors.



Photo of US Trade Show (clockwise):

Photo 5: US Ambassador meets CSISA MEA and RDC staff.

Photo 6: USAID Mission Director visits the CSISA MEA staff.

Photo 7: CSISA MEA staff at the Energy Pac / John Deere tractor stall. Photo taken by Meher Niger

2.1.3 Develop and strengthen actors in agricultural mechanization

In Year 1, CSISA MEA will build upon the previous phase's work, strengthening supporting actors in the agromachinery market ecosystem by reinforcing distribution, dealer, mechanic/repair, and rural mechanization service markets, including demand creation for these functions. As part of this, CSISA MEA will support technology adoption in target rural areas, build linkages for service providers to specialized equipment, conduct agronomic training, and promote resource-conserving practices whilst encouraging youth toward service provision (fleet or individual) with a variety of machinery. The project will build the capacity of supporting private sector actors, particularly their capacity to better generate demand and drive sales through awareness-raising activities and other marketing tactics targeted to smallholder farmers in the Feed the Future zone, who are the main consumer of machinery services.

Market Ecosystem

Summary of market actor support activities in the Feed the Future zone and Bogura:

Table 2. 1 Feed the Future Zone

Event Type	Event Type	Total Female	Total Male	Total Participants
Farmers' Training	4	17	106	123
FFD for Method /Coaching	8	174	406	580
LSP Training	11	7	236	243
Mechanic Training	2	0	26	26
Meeting	6	28	127	155
Grand Total	31	226	901	1127

Bogura

Event Type	Event Type	Total Female	Total Male	Total Participants
Workshop	1	1	30	31
Follow up Meeting	3	1	43	44
Grand Total	4	2	73	75

Coverage Survey Summary:

- Number of farmers adopting new technology: 45,845 which is 183% over annual target
- Area of land under new technology: 13,067 ha which is 183% over annual target

Farmers Field Day (FFD) Method/Coaching:

Farmers field days were conducted to show the benefits to farmers of using machinery for sowing (strip tillage, line sowing and zero tillage) using PTOS, wheat/rice harvesting using Reapers or Combine Harvester and rice transplanting using Rice Transplanters. These include reduced labor costs and higher grain yield through more rapid planting or harvesting resulting in earlier planting. In the case of the PTOS minimal tillage using a PTOS provides a mulch of crop residues which increases soil moisture and organic matter and this can also improve grain yield of subsequent crops. These field days encourage farmers to buy the planting and harvesting services offered by machinery LSPs and to encourage more people to buy the machines. Farmers, LSPs, Lead firms representatives and DAE representatives attended these events.



Photo 8: Farmers Field day (FFD) training on mechanized crop production at Barinagor, Jashore Sadar. Photo taken by Md. Sabuj,

Machinery promotion event and sale of machines to new LSPs

Krishi Machine Porichiti (KMP) is an awareness campaign event that promotes agricultural machinery. During the reporting period, 22 KMPs were held and through them 85 potential LSPs were identified. Shombhabbo Kreta Shomabesh (SKS) meetings are “persuasion events” where potential customers meet with machine supplier companies, Dealer and MFI representatives, SAAO and LSPs. The goal is to facilitate a space in which private companies can work to convert potential customers into actual customers. 24 of these SKS events were conducted. As a result of this work **92 LSPs were established by the project in this six months reporting period** 2 of which were women. In this reporting period LSPs purchased **54 PTOS, 54 combine harvesters, 8 rice transplanters and 24 reapers.**

Local Service Provider networks:

Towards the end of CSISA-MI, the project facilitated the formation of LSP networks. The purpose of these networks is to allow the project to support the network members plan their businesses and provide them with training. They also allow members to exchange market and other business information and form service provision alliances. Initially

these LSPNs meeting were only attended by project staff and PTOS, Reapers or Axil Flow Pumps owners. A total of 10 LSP Network (LSPN) have been developed (Jhenaidah-2, Magura-1, Narial-1, Faridpur-1, Rajabri-1, Jashore-2, Khulna-1 and Meherpur-1) with a total membership of 212 LSPs (average 21 LSPs in each LSPN). They held 28 meetings during this reporting period of which 5 were attended by company representatives with their dealers, mechanics and spare-parts shop owners and DAE extension staff (SAAOs).



Photo 9: Linkage meeting between Farmers and LSP at Jhenaidah. Photo taken by Md. Azad

2.1.4 Facilitate access to finance to support the agricultural mechanization supply chain

The private sector firms and LSPs in Year 1 will require facilitated access to capital in order to implement agreed-upon initiatives within the JVAs and support packages. Financing will be required for:

- *Investment by lead firms in the purchase, import, distribution and sale of subsidized and non-subsidized machinery*
- *Purchase of agricultural machines by LSPs*
- *Capital equipment purchases or manufacturing process improvements by manufacturers of agricultural machines or spare parts*

CSISA MEA’s access to finance objectives could be distilled into three broad areas:

1. Enable companies to invest in new manufacturing machinery, equipment, tools, factory layouts and manufacture of new types of agricultural machinery and equipment
2. Allow companies selling agricultural machines and equipment to use their capital and bank finance to expand their businesses and invest in new machines, production facilities and support services for customers
3. Make machines more affordable and accessible for LSPs to start or expand agricultural mechanization service businesses

To design financial services which address these objects the project will contract a New York based financial services consulting firm call Aspen Capital. They will design financial services that will:

- Reduce risk on a portion of current outstanding \$70+ million in customer (LSP) financing on the balance sheet of lead firms
- Provide financial reporting by LPSs, lead firms and MSMEs to make them more “bankable”
- Identify legal, regulatory and tax impediments to mobilizing private capital - creating a major impact on availability/affordability of capital
- Structure financing vehicles in Bangladesh (SPV), US SPE and transactions to reduce Bangladesh legal, regulatory and tax frictions

The access to finance structure being researched by ASPEN Capital following their visits to Bangladesh in August and November is intended to bridge the enormous financing gap in scaling the project’s supply chain by mobilizing a significant amount of capital from domestic and international development finance institutions (DFIs), banks, non-bank financial institutions (NBFIs), and the capital markets.

The preliminary commercial structure below (“A2F Structure”) has the potential to finance the purchase of agricultural machinery by local service providers, and large agricultural manufacturing equipment by manufacturers, assemblers and importers to boost sustainable agricultural production, generate income or save farm labor.

ASPEN Capital is currently exploring the feasibility of one possible structure (graphic below) of the SPV from legal, tax and regulatory perspective.

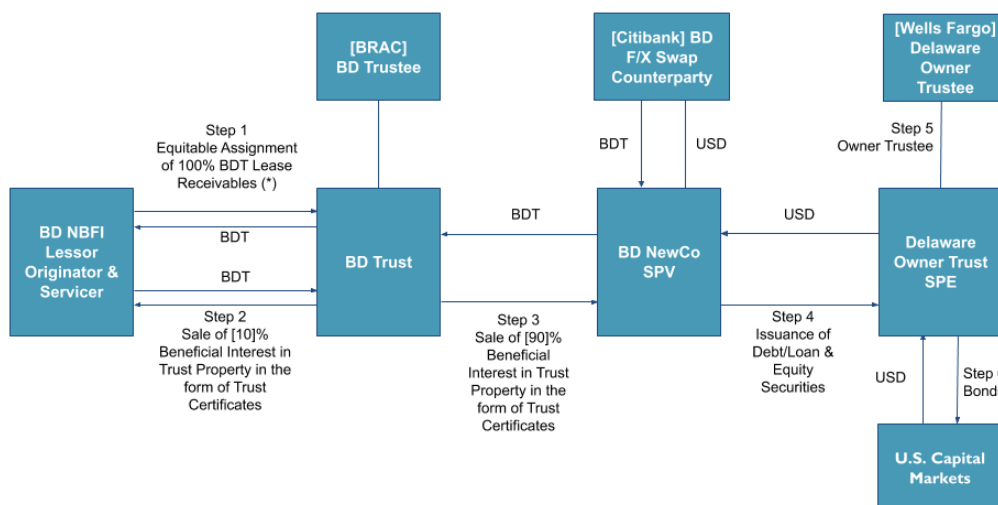


Figure 2. 2 Feasibility of possible structure by ASPEN Capital

2.2 Strategic Objective 2: Enhanced institutional capacity for agricultural mechanization through the development of skilled and youth workforce

Sub objective 2 will support the development of a skilled, knowledgeable, and enthusiastic workforce to service the Bangladesh agricultural machinery sector in the Feed the Future zone and the broader market. This will include all major components of the value chain, including importing, manufacturing, retail, machinery service provision to farmers, and repair and spare parts markets. With limited ability to attract, train and retain reasonably educated employees, businesses in the industry, from lead firms to microenterprises, suffer from a mismatch between labor needs and labor force qualifications. To overcome these challenges, CSISA MEA will support the training and professional development of current and potential employees and skilled labor that growing agriculture machinery enterprises need. In year 1, this will include development of in-house training

capacity, and in subsequent years, establishment of centers for technical and transferable skill trainings. Throughout this SO, emphasis will be placed on engaging with and providing opportunities for, women and youth.

2.2.1: Building capacity of lead firms through recruiting, training, and retain skilled labors

By developing a recruitment strategy and establish an internal training unit, firms will be capacitated so that they can recruit, retain, and train their staff. The support will be enhanced, based on specific objective 1. Specific support on HR management, training, distribution, promotion, sales, and marketing will be provided to the selected firms. In the project locations CSISA MEA has facilitated TOT for project staff and different technical trainings for mechanics, SMEs and private sector representatives.

Developing a training program and identifying the trainers for training workers in the light engineering sector

With the arrival of the project training coordinator, Ms. PVL Bharathi, in February 2020, work began on identification of organizations, companies, government training institutes and NGOs, who could provide training services. A study of organizations available for this type of work was conducted in Jashore in March. Key training service providers have been identified as TMSS, a national NGO, and BTAC, part of the Ministry of Industry, in Bogura and RRF, a regional NGO, in Jashore. Contact has also been made with Practical Action and BRAC as they have been implementing programs designed to develop the skills of workers in the light engineering sector. To determine if more organizations are available who could provide training services a request for EoI in working with CSISA MEA was prepared for publication in the national media.

Identification of training needs has also been sought through data collected from surveys of the 97 companies shortlisted for work with the project and visits made by project to light engineering companies in Bogura (November 2019) and Jashore / Faridpur (February 2020). Based on this training material has been sought, particularly videos that could be circulated amongst companies.

Training for CSISA MEA staff in training techniques and managing training programs:

BRAC provided 5 days training for 16 CSISA MEA staff in November 2019 at BRAC learning Center in Jashore on the basic concept, tools and techniques of training to enhance the capacity of trainers/facilitators to managing training courses effectively and efficiently for training workers in the light engineering sector.

2.2.2 Develop and deploy LSPs and mechanic training programs in collaboration with lead firms

CSISA MEA will build upon the previous phase's work to build the strength of the agricultural machinery market by reinforcing distribution, dealer, mechanic/repair, and rural mechanization service markets, including building capacity and demand for these functions. This increased demand will, in turn, generate rural employment and entrepreneurship opportunities and, consequently, the demand for competent workforce training. SO2 therefore covers the workforce development aspects of these efforts

Local Service Provider (LSP) training:

A total of 243 LSPs were trained including 7 women on machine operations and calibration, safety of machine operation and machine maintenance. The training also included a business expansion part where participants learn about the whole business cycle of their services and the best ways of dealing with customers.



Photo 10: LSP training on Reaper and rice transplanter at Dumuria, Khulna; Photo taken by Md. Atikuzzamman



Photo 11: LSP training on Mechanical Rice Transplanter at Hasimpur, Jashore. Photo taken by Mustafa Kamrul Hasan

Training for Farmers on Conservation Agriculture (CA):

Farmers training on conservation agriculture (CA) was facilitated in Jashore, Jhenaidah, Meherpur, Magura, Khulna, Faridpur, Rajbari, and Narail districts. A total of 123 farmers participated in the training including 17 women.



Photo 12&13: Farmers training on conservation agriculture in Barinagar, Jashore. Photo taken by Shabuj Biswas,

Training for Mechanics:

CSISA MEA trained 26 mechanics in the Jashore region, in how to repair, use and maintain PTOS and reapers. This training emphasised the function, assembly and dismantling of parts of these machines.

2.2.3 Strategic Objective 3: Widespread uptake of resilient farming practices in communities impacted by Rohingya refugee crisis in South-Eastern Bangladesh

Strategic Objective 3 activities will work to equip communities in Southeastern Bangladesh with more sustainable farming practices that will increase productivity and profitability. These practices will include improved agronomy and sustainable intensification, combined with emphasis on scale-appropriate agricultural mechanization. The activity will also support the overall agricultural marketing system by addressing value chain constraints and strengthening target input and output markets

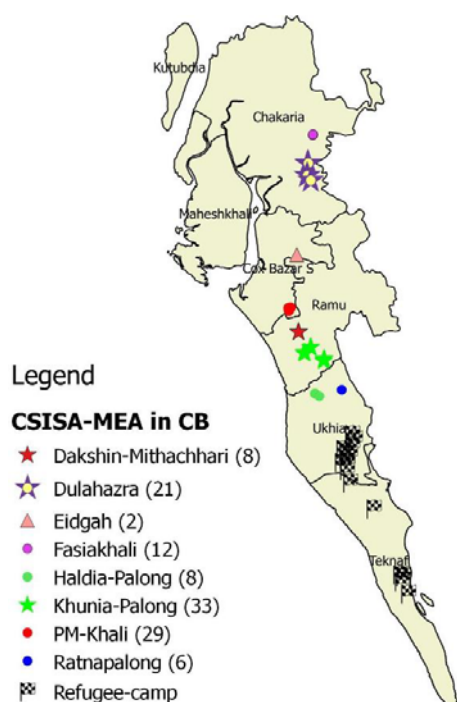


Figure 2. 3 Geographical locations of the project in Cox's Bazar

Cox's Bazar is a new working geography for the CSISMEA team. It was therefore essential to establish an office with a full technical team in a very short time. At the same time it was necessary to develop a good understanding of the local farming and marketing systems. To do this a study was conducted through interviews with farmers (male and Female), output buyers, input sellers, mechanics, dealers, local service providers, DAE officers and ING/NGOs. To do this CSISA MEA conducted 27 introductory and community planning meeting attended by 603 (F-135) farmers in coordination with DAE and FAO. These meetings were largely with farmers groups established by the DAE and FAO. A strong partnership was developed with the DAE through 5 meetings attended by 143 DAE personnel.

Table 2. 2 A list of events and meetings and number of participants:

Events	Number Events	Number Participants		
		Female	Male	Total
Awareness and community planning meeting	27	135	468	603
Activity sharing meeting with DAE	6	8	89	97
Farmers' training	4	31	65	96
Meeting with FAO	6	2	42	44
Private sector & dairy association linkage meetings	2	0	40	40
ToT for FAO's partners	2	12	36	48
Fodder Chopper demonstrations	2	29	60	89
Rice transplanter demonstration	3	44	60	94
Farmer participatory research rice-vegetable rotations	6	0	6	6
High value stress tolerant vegetable demonstration	12	2	10	12
Intercropping demonstration with maize	16	3	13	16
Conservation agriculture demonstrations	18	0	18	18
Raising healthy rice seedling demonstration	20	7	13	20
Vegetable production technology demonstration	30	8	22	30
Total	154	281	942	1213

2.3.1 Intervention Develop and strengthen the agricultural and farm mechanization market system

The project will seek to further develop agricultural market systems and create positive systemic change in the Cox's Bazar region. CSISA MEA will support and engage local service providers (LSPs) and farm business advisers (FBAs), and identify and enter into joint venture agreements (JVAs) with agricultural input suppliers and agricultural machinery companies to strengthen their capacity and their engagement with farmers and entrepreneurs in the target area.

Private Sector Support

In the first three months of the CSISA MEA involvement in Cox's Bazar district a close working collaboration was developed with both government (principally DAE), international organizations (FAO and WFP), the USAID Livestock Production for Improved Nutrition (LPIN) project and most importantly with the private sector. This collaboration involved the demonstration of new vegetable varieties, fodder maize, machines and crop production technology which was totally new to farmers in Cox' Bazar district. This not only resulted in increased awareness of this technology but also in sales for the companies making the machines and in the establishment of a marketing presence them in Cox's bazar.

Support for input supply companies

Through consultation with farmers and partners cropping systems and potential yield gaps were identified. This information was used by CSISA MEA technical staff to design new cropping systems which have the potential to give farmers greater crop production and profit. These included high value-vegetable production systems that can replace lower value rice-rice systems and are designed to meet the high demand for these crops created by the presence of the Rohingya refugee camps in Cox's bazar district.



Photo 14: Community interaction at Chakaria, Cox's Bazar. Photo taken by Arifur Rahman



Photo 15: Improve agronomic management practices for summer Tomato. Photo taken by Moksedul Arafat

These new vegetables based cropping systems were demonstrated in both traditional vegetable producing areas (12 demonstrations) and areas that use a predominately rice based cropping system (46 demonstrations, including 6 lentil demonstrations). These demonstrations were conducted in collaboration with private agro-seed companies (Syngenta, Lal Teer, EON), the DAE and the FAO in Chakaria, Ramu, Sadar and Ukhia Upazila. The demonstrations showed not only new crop varieties but new pest management methods such as the use of pheromone traps, spacing, fertilizer management and practices such as tomato pruning and staking (see photo 15 above). A further 16 demonstrations were conducted to show the advantages of intercropping vegetables such as amaranthus, beans and potatoes with maize.

CSISA MEA also supported EON Seeds Ltd. (agent in Bangladesh for the USA company Monsanto) organize a community-level farmers' meeting in Cox's Bazar Sadar, where they provided cucumber seeds to farmers for demonstration. In total, seven meetings were conducted with 10 agricultural input company representatives, dealers, retailers and farmers' groups with the objective of linking farmers to seed retailers.

Combine Harvesters

A method demonstration on combine harvester use was led by ACI Motors in Pekua, Cox's Bazar. Subsequently applications for subsidies were lodged by three entrepreneurs with the DAE. These applications were approved, payments were made to ACI Motors and three combine harvesters were delivered to these entrepreneurs in time for the boro harvest in April.



Photo 16&17: Field demonstration of combine harvester by ACI company. Photo taken by Rowshan Anis

Rice Transplanters

The project also supported ACI Motors conduct 3 rice transplanter demonstrations. These were attended by 104 farmers of which 44 were women.

Fodder Choppers and Maize Shellers

In collaboration with DAE and the USAID Feed the Future Bangladesh LPIN activity CSISA MEA supported RK Metal and Janata Engineering organize two demonstrations of mini, electric engine powered, maize shellers and fodder chopper machines. These demonstrations were attended by 89 maize and dairy/cattle farmers of which 30 were women. The demonstrations resulted in the sale of an RK Metal fodder chopper and a Janata Engineering maize sheller. As a result of this intervention both companies are now actively establishing dealership networks in Cox's Bazar district and CSISA MEA is negotiating agreements with them to support the demonstration of the machines and train the buyers in their use and maintenance.

Promotion of PTOS

More than 20 demonstrations were conducted showing farmers the advantages of directly sowing maize, lentil and soybean into rice stubble using a PTOS. This is a totally new concept for farmers in Cox's bazar.

Support for crop marketing

In order to enhance last-mile connectivity, the project facilitated the development of 15 Farm Business Advisors (FBAs). FBAs are entrepreneurs who go door-to-door and field-to-field, supporting farmers to grow crops. They then link the growers to buyers. This has resulted in 10 output buyers being linked with FBAs.

2.3.2 Intervention Key gaps in high-yielding, profitable, and nutritious cropping systems systematically addressed

Mostly the activities under this intervention will help understand the farming and cropping systems in CXB. This will enable an interaction with other organization in the area to know the activities carried out by them, also the activities will feature meetings with various farmers groups and other USAID projects to collaborate where applicable.

At the start of the CSISA MEA intervention in Cox's Bazar a study was conducted of existing agricultural practices and mechanized services in Sadar, Ramu, Pekua, Chakaria and Moheshkhali upazilas of Cox's Bazar district. The study was conducted through interviews with farmers, output buyers, input sellers, mechanics, dealers and local service providers along with DAE officers and INGO/NGOs. The report on this study can be found through this web link <https://csisa.org/wp-content/uploads/sites/2/2020/05/Coxs-bazar-Rpt-on-Ag-Systems-Mech.pdf>

Key finding from the survey were:

Agriculture

- In the CSISA MEA working area only 25% land produces more than 3 crops a year whereas. 54%¹ areas land used for double crops
- Coastal areas household agricultural practice traditional crop production methods whereas inland household tend to use more intensive cropping systems and modern technologies. As a result, Inland households gain greater revenue from crop sales than coastal households.
- Farmers have limited access to inputs and appropriate technology such as seed of HYV and salt tolerant rice varieties and as a result often use only retained seed carrying seed borne diseases.
- Water resource management is one of the major challenges in Cox's Bazar, with salinity and flash flooding often reducing crop production. Access to irrigation from surface water is limited and technology for doing this such as the low lift axel flow pump is not available.
- Instead of field crop cultivation most coastal households focus on vegetable production. Providing access to training and inputs for vegetable gardening should be an important focus of the CSISA-ME interventions. Inland much of the land is "high land" with potential for year-round vegetables and fodder maize production.

Market access

- The main road infrastructure is in relatively good condition but there are few tarred secondary and tertiary roads. Households with agricultural production travel 30-60 minutes to sell agricultural goods or purchase inputs.

¹ Information source Deputy Director office, DAE, Cox's Bazar

Access to Finance

- Many farmers in this area rent land from absentee land lords. As a result, they do not have the land tenure documents required to obtain loans from banks. As a result, most farmers obtain loans from MFIs and informal sources at high interest rates and with unfavorable loan repayment conditions.



Photo 18 & 19: CA based mechanization in rice-fallow system, Sadar Cox's Bazar. Photo taken by: Abdur Razzak

Table 2. 3 Summary findings of the constraints to mechanization, identified in the study.

Problems Identified	Underlying Causes
Lack of access to power thresher, reaper, PTOS, and mechanical weeder	<ul style="list-style-type: none"> - Lack of skilled operators - Low investment in technologies due to lack of appropriate and affordable financial products and services
Difficulty of access to mechanic services	<ul style="list-style-type: none"> - Skilled mechanics are not available - Spare parts, especially of quality, not available - Available spare parts are highly priced - Lack of awareness and knowledge about farm machinery
Lack of knowledge on advanced farm machinery	<ul style="list-style-type: none"> - Lack of awareness on the machinery - Little promotional efforts from the private sector - Limited demonstrations by government agencies
The weak supply chain of machinery	<ul style="list-style-type: none"> - The private sector does not see enough commercial viability - Limited dealers in the region

2.3.3 Scale-out sustainable intensification production management practices

Under this intervention, activities will be carried out facilitate farmers' use of appropriate adaptations of conservation agriculture (CA) and agronomic practices based on the principles of sustainable intensification. This intervention will work closely with other USAID IPs and international organizations in Rohingya crisis affected communities to ensure proper collaboration to efficiently use resources to ensure better return on the inputs from CA based activities. This intervention differs from 3.1 in that it focuses primarily on agronomic management and technological advances that can benefit farmers, whereas 3.1 focuses more broadly on market intervention systems.

In Cox's Bazar, the predominant cropping systems are rice-rice and rice-fallow systems. The rice-rice system is very labor, water, and energy-intensive and not very profitable. Land that is not used in the dry season after the monsoon season rice crop was shown in trials and demonstrations to be suitable for the production of low water demanding dry season crops such as lentil, soybean, mustard and maize. Vegetables, grown on small plots, using irrigation from surface water, could be grown on this land and provide farmers with a good income. This experience was gained from 12 trials and 6 demonstrations conducted in collaboration with the DAE and the FAO and for PTOS line sowing with Janata Engineering and RK Metal.

2.3.4 Provide resilient, profitable, and nutritious farming systems through sustainable intensification and livestock integration

Under this intervention, the core focus is to assist farmers in Rohingya crisis affected communities through the introduction of alternative farming systems options that integrate livestock to increase resilience, profitability, and nutrition.



Photo 20: Fodder chopper demonstration at Sadar CXB. Photo Taken by Arifur Rahman

The Rohingya refugee crisis has raised the demand for dairy products in Cox's Bazar district. In response, CSISA MEA is working with 200 dairy farmers to support them produce fodder for their cattle. Supply of fodder with a high nutritional value is considered to be the main constraint on milk production. Fodder crops such as fodder maize, sorghum and millets as well as napier grass are being considered. The use of electric motor driven fodder choppers were demonstrated by RK Metal and Janata engineering with CSISA MEA

support to 89 farmers including 30 women. This resulted in the sale of two fodder choppers.

2.3.5 Collaborate with and support organizations active in agricultural market systems in target area

CSISA MEA's holistic and enabling approach will require collaboration with government agencies, associations, and other relevant bodies to ensure their buy-in and maximize synergies. Associations and agencies that will be of utmost importance for this intervention. Activities in this intervention therefore focus on achieving synergies and avoiding duplication with other ongoing relief and development efforts through formalization of practical but high-level partnerships that will assist in successful implementation of Interventions 3.1-3.3.

Training for the FAO's partner (Shushilan) staff on high value crop production technology:

During discussions with FAO they requested training from CSISA MEA on the production of six high value vegetable crops for their partner staff. The first batch of training was held on 15th March at the district training center, Cox's Bazar. A total of 28 participants including 5 female from Ramu and Cox's Bazar Sadr attended the training. The 2nd batch of training was held at SHED training center, Ukhyia, for 22 participants including 7 women, from Teknaf, Ukhyia & Ramu Upazilas.

2.4 CSISA MEA Database Development

After finalizing the activity plan in January 2020 the MEL team began to design and develop the CSISA-MEA database with support from a data base consultant. This has resulted in the design of a SharePoint based online database that will collect data from field offices. It also has an Microsoft Access based

version which can be accessed through desktops. This will allow the user to see the day to day progress of the project. This database is not limited to indicator reporting, it also includes beneficiary

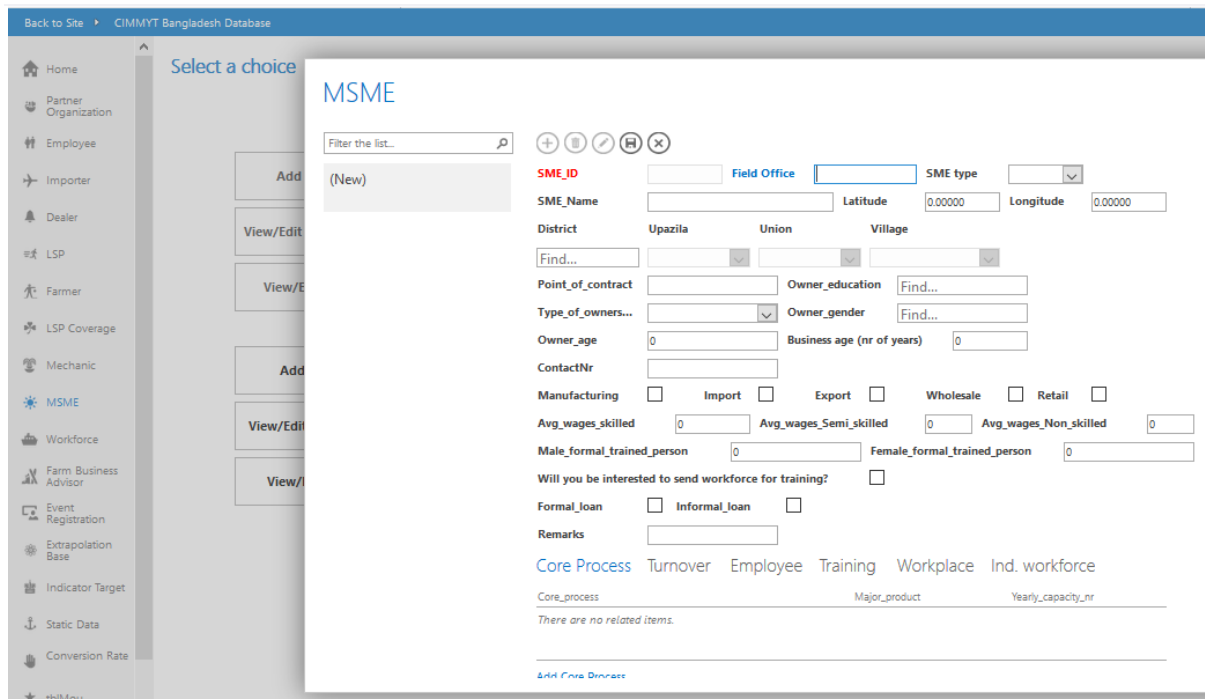


Figure 2. 4 Snapshot of MSME online entry screen

mapping, answering option of customized queries and crossed linked with other analytical tool like Power bi Bing and google map. The system is designed to include data entry and data access restrictions to ensure only authorized users can access and modify the data. The data is also backed up to a local laptop and to a OneDrive cloud.

2.5 The Markets and Value Chain Group (MVCG)

The CIMMYT Mexico based Markets and Value Chain Group (MVCG), comprised of teams based in Latin America, East Africa and South Africa, forms part of CIMMYT's Socio Economics Program (SEP). The MVCG applies critical thinking to understand how development interventions can more effectively engage with the private sector (more impact, fewer resources, less time), with the ultimate aim to advance rural development goals related to food security, poverty reduction and gender equity:

The MVCG has the potential to support CSISA-MEA with research functions in the following ways:

Inputs to project activities

- Framework and tools for design of business strategies and investment plans that consider costs and benefits of different investment options such as importing versus own production of parts and overall marketing environment
- Inputs to the design of data collection tools such as cost tracking and inventory control, training materials and project activities that incorporate current thinking in SME development and the building (expansion) of markets for support services (agro-dealers, banks)
- Practical research on questions of critical importance for the design and refinement of project activities, including consumer demand for agricultural machinery, business models for scaling machinery sales, and costs/benefits of investment options

Inputs to project learning

- Regular dialogue (including data collection over time) with project stakeholders to track their needs, strategies and challenges for expanding/improving business operations
- Design and implementation of research that explores issues critical for project's impact pathway, including capacity of SME manufacturing businesses to invest in (and benefit from) changes in product design, worker relations, manufacturing processes, inter-business coordination and collaboration, and marketing innovation
- Provide structured thinking and dialogue regarding the various important and complex issues that shape project implementation and achievements. These include gender equity in project implementation, options for improved worker relations, innovation capacity and willingness, options for new business models and scaling pathways under intensive market competition.

Support to project implementation team

- Support M&E by iDE and CIMMYT on tracking changes in SME manufactures and marketing environment, contribution of CSISA MEA to these changes, and overall relevance of the changes for stakeholders
- Provide critical reflection (from a business development and marketing perspective) on project implementation and its relevance for stakeholders
- Facilitate dialogue and shared understanding (and encourage synergies in implementation) between iDE and CIMMYT implementation teams on the complex issues that shape the project's impact pathway (and options for increased impact)

3. Project start-up activities

Office establishment

New offices were established in Bogura and Cox's Bazar for 10 staff in Bogura and 15 staff in Cox's Bazar. At the same time the CSISA-MI office in Barisal was closed and the CSISA-MI office in Faridpur was reduced in size. Vehicles, office furniture and office equipment from these offices was transferred to the new offices in Bogura and Cox's Bazar. The CSISA-MI office established in the BARI regional research station in Jashore and the Dhaka office remained unchanged. The renting of new office space and the movement of staff and equipment was a time consuming process that occupied the project in the early stages of project start up.

The Faridpur office has 3 staff members, a coordinator, an engineer and a driver. iDE do not have staff based in Faridpur and now manage all their operations in the Feed the Future zone from the CSISA-MEA office in Jashore

The only additional equipment purchased in this reporting period has been for regional office based staff and offices. This was 25 laptops and 15 tablets purchased by iDE for their staff.

Staff recruitment

See CSISA MEA staff organogram in annex 4

CIMMYT

Almost all staff in the activity were retained from the CSISA-MI project.

Table 3. 1 Major Recruitment status in CIMMYT

Name of Position/s	Recruitment Status
International Recruitment	
Training Coordinator	PVL Bharathi - started February 2020
National Recruitment	
Communication Coordinator	Nur-A-Mahajabin Khan started March 2020
Training Coordinator	Syed Mahmudul Huq is assigned 50% to CSISA MEA

Engineers	5 has been recruited (1 from CSISA MI)
MEL Officer	1 has been hired (2 from CSISA MI)

iDE

Table 3. 2 Major Recruitment Status in iDE

Name of Position/s	Recruitment Status
Field Coordinator (FC)	1
Officer Market Development (OMD)	3
Intervention Manager	1
Evidence and Analytic Specialist	1

Recruitment for internationally recruited Industrial Engineer and Inclusive Market Systems Specialist failed to attract suitable candidates. These positions will be recruited as nationally recruited staff with revised job descriptions. Advertising for an internationally recruited Inclusive Market Systems Specialist with a revised job description has been initiated.

4. Activities for the coming Six Months

The restrictions on movement and work activities initiated by the Government of Bangladesh in March 2020 to reduce the spread of the COVID-19 virus will have a profound impact on the ability of CSISA-MEA to implement and monitor activities. The project will implement activities that will reduce the impact of these restrictions. These are:

1. Making a safe environment for workers in MSMEs by providing equipment and grants to allow the establishment of washing stands and to allow the regular disinfecting of the work place.
2. Providing grants for the payment of workers' salaries and to purchase materials for the manufacture of parts and machines after COVID-19 restrictions are lifted. These provisions will allow MSMEs to survive the epidemic as viable businesses
3. Establishing a system of on-line live training. This will require the provision of multi-media sets consisting of TV, 4G receiver, speakers and cabling
4. Support for lead firms to establish a network of mobile mechanics.
5. Support to LSPs to enable them to obtain permissions to travel along major roads so that they can provide land preparation, planting and harvesting services

Despite these restrictions the project considers it possible to complete some major activities during the coming six months. These are:

1. Support project staff transform the project approach from one based on direct intervention through local NGOs to one based on support for key market actors to implement production and marketing activities. This will be done through provision of on-line training programs and a reorganization of regionally based staff responsibilities and activities.
2. Implement joint venture agreements with 9 agricultural machinery manufacturing and marketing lead firms. These will support them establish dealerships for their machines, promote the use and value of new agricultural machine technology, train machine drivers and mechanics in the use and maintenance of machines and the production and distribution of spare parts. There will be a particular emphasis in this six months period on rice transplanters, seeders (power tiller and four-wheel tractor drawn) and combine harvesters. The JVAs will also support companies develop joint venture programs with regional machine manufactures and international machinery companies to manufacture agricultural machines and their spare parts.
3. For Cox' Bazar region JVAs with 5 agricultural input supply and crop procurement lead firms input supply as well as machinery marketing companies will be developed. These will support

companies establish dealerships, product promotion campaigns and dealer and farmer training and advisory services.

4. Establish Joint venture agreements with 35 SMEs to support them upgrade their manufacturing processes and equipment, improve the skills of their workforce, manufacture the next generation of planting and harvesting machinery and link them to new national and international markets.
5. Support SME companies develop business plans and seek support for their implementation from the project, investors and banks. This will require the contracting of companies who offer business development training and links to technical support, markets and finance. The workshops where this training will be given and plans presented will be conducted after COVID-19 restrictions are lifted.
6. Initiate the MSME training program. This will involve reaching agreements with training service providers to train the work force and management of agricultural machinery and parts manufacturers. This will require the provision of multi media equipment to partnering companies so that they can receive on-line live training from remotely based trainers as well as developing face to face practical training for company staff. Training material, curriculum, guides and training in their use will all have to be done by project staff and project partner organizations. Implementation of face to face training will not be possible until the COVID-19 restrictions have been lifted.
7. Support Aspen Capital and other national and international financial services companies develop financial services that are appropriate for agricultural machinery marketing companies, manufacturers and machinery service providers. This will include encouraging national and international companies to invest in the machinery manufacturing companies.
8. Complete an agreement with Georgia Tech to provide engineering advice, training and technology development support. This support will be led by Professor Jon Colton and will include funding for post graduate research and development support for the project.

5 Challenges for the first six months of the project

1. Transformation of the project approach from one which depended on conducting intervention through NGO field staff to a market actor driven approach where the project role is to support market actors implement activities has been difficult. This requires a major change in work mode and work skills for the team inherited from the CSISA-MI project.
2. Recruitment of staff, particularly international staff, to work in Bangladesh is very challenging. Apart from the recruitment of the training coordinator, recruitment of staff such as an industrial engineer and a market systems specialist have not been possible. These posts will most likely be filled by nationally recruited staff who will be supported by international short term consultants.
3. Development of a work plan and MEL plan which both reflect the objectives and approach of the project has been difficult. The initial attempts produced plans and approaches that more closely reflected the approach taken to implement the CSISA-MI project than CSISA MEA.

Annex I

Proposed Cost-shared Activities with Lead Firms

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
The Metal (Pvt.) Ltd.	<ul style="list-style-type: none"> - Provide improved machinery sales and marketing training, inclusive of inventory and management, (through business development services providers) reaching a minimum of 35 dealers, sub dealers and retailers - Implement machinery demonstration and demand creation events in the Feed the Future zone 	<ul style="list-style-type: none"> - Link existing franchises developed under RDC with potential machine purchasers - Evaluate and make recommendations for improvements in operational, mechanic, and business training modules focused on combine harvesters - Establish dealership presence in Cox's Bazar 	<ul style="list-style-type: none"> - Financial advisory support (through Aspen Capital) to improve supply chain credit risk assessment process and reduce payment delinquencies². - Develop a minimum of 15 spare-parts retailers (inclusive of spare parts sales and dealer points) through novel co-investment strategies (including dealers who also sell spare parts) to purchase, stock, and maintain sufficient inventories of spare parts for 	<ul style="list-style-type: none"> - Facilitate engagement with Oggun Tractor to assess the feasibility of manufacturing tractors using off-the-shelf parts - Conduct a joint rapid market assessment and analysis of current manufacturing operations to determine potential viability of entering or expanding into promising machinery/assembly and/or spare parts production - Based on above, if deemed feasible, develop a strategy and business plan to grow existing manufacturing/ assembly of machinery and/or spare parts - Facilitate linkages with supply firms (i.e. foundries, metal, and parts manufacturers) to produce quality materials and/or complete spare parts to be stocked and sold through machinery retailers

² To include: assessment of current retail financing practices and recommendations on changes to reduce default and increase recovery in their retail finance portfolio - both legacy portfolio and new originations, in addition explore ways to sell legacy retail finance portfolio as well as new originations via securitizations or similar techniques

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
	with in-kind or direct support from machinery value chain market actors, with emphasis on service providers and dealers.		prioritized machinery types - Through Aspen Capital and in collaboration with the USAID-funded Rice and Diversified Crop (RDC) activity, pilot an asset-based financing model	
Alim Industries Ltd.	<ul style="list-style-type: none"> - Facilitate high-caliber sales training for staff - Promotional campaign for rice transplanters 	<ul style="list-style-type: none"> - Develop entrepreneur business models to support trans planter adoption (e.g. support LSPs to coordinate seedling production by farmers and seedling growers or develop local agents who find customers for LSP and seedlings for farmers) - Link LSPs to find customers and to 	<ul style="list-style-type: none"> - Financial advisory support (through Aspen Capital) to improve supply chain credit risk assessment process and reduce payment delinquencies³. 	<ul style="list-style-type: none"> - Conduct a joint rapid market assessment and analysis of current manufacturing operations to determine potential viability of entering or expanding into promising machinery/assembly and/or spare parts production - Based on above, if deemed feasible, develop a strategy and business plan to grow existing manufacturing/ assembly of machinery and/or spare parts - Facilitate linkages with supply firms (i.e. foundries, metal, and parts manufacturers) to produce quality materials and/or complete spare parts to be stocked and sold through machinery retailers

³ To include: assessment of current retail financing practices and recommendations on changes to reduce default and increase recovery in their retail finance portfolio - both legacy portfolio and new originations, in addition explore ways to sell legacy retail finance portfolio as well as new originations via securitizations or similar techniques

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
		<p>support training in raising seedlings is very important as this is currently an aspect of rice transplanter use which is not done well.</p> <p>- Evaluate and make recommendations for improvements in operational, mechanic, and business training modules</p>		
Haychem Bangladesh		<p>- Develop their business training package for LSPs: Clarify and fully articulate a company and / or dealer validated business model (inclusive of training calendars to match cropping cycles) to sustain investment in training machinery service providers as part of</p>		

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
		<p>efforts to boost initial machinery sales and after sales services.</p> <p>- Identify mechanisms whereby lead firms or machinery dealers can be trained as master-trainers to advise and / or directly train at least 50 initial machinery service providers through independent or 1:1 matched investment as part of improved business cases to support machinery sales</p>		
Janata Engineering	- Facilitate high-caliber sales training for staff		Financial advisory support (through Aspen Capital) to facilitate access to equity capital to allow Janata to purchase capital equipment that will expand their capacity to produce	<p>- Conduct a joint rapid market assessment and analysis of Janata's current manufacturing operations to determine potential viability of entering or expanding into promising machinery/assembly and/or spare parts production, including combine harvesters</p> <p>- Based on the above, if deemed feasible, develop a strategy and business plan to enter or expand</p>

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
			both large volumes and high quality machines	manufacturing /assembly of machinery and/or spare parts, including combine harvesters. This could include support for the manufacture of a combine harvester through a joint venture with other companies who provide finance, parts and designs.
ACI Motors	<ul style="list-style-type: none"> - Advertising campaign for promotion and adoption of rice transplanters - Facilitate demand creation events for targeted machinery 	<ul style="list-style-type: none"> - Develop seedling production entrepreneur business models to support transplanter adoption 		
Energypac	<ul style="list-style-type: none"> - Support firms and dealers involved in distribution and sales of John Deere products through (a) advertising campaigns, (b) demonstration and 		<ul style="list-style-type: none"> - Financial advisory support (through Aspen Capital) to improve supply chain credit risk assessment process and reduce payment delinquencies⁴. - Develop a minimum of 15 spare-parts 	

⁴ To include: assessment of current retail financing practices and recommendations on changes to reduce default and increase recovery in their retail finance portfolio - both legacy portfolio and new originations, in addition explore ways to sell legacy retail finance portfolio as well as new originations via securitizations or similar techniques

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
	<p>demand creation activities, (c) additional activities to support rapid and profitable business expansion</p> <p>- Provide improved machinery sales and marketing training, inclusive of inventory and management, (through business development services providers) reaching a minimum of 35 dealers, sub dealers and retailers involved in machinery distribution and sales</p>		<p>retailers (inclusive of spare parts sales and dealer points) through novel co-investment strategies (including dealers who also sell spare parts) to purchase, stock, and maintain sufficient inventories of spare parts for prioritized machinery types</p> <p>- Through Aspen Capital and in collaboration with the USAID-funded Rice and Diversified Crop (RDC) activity, pilot an asset-based financing model</p>	

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
Abedin Equipment	<ul style="list-style-type: none"> - Facilitate demand creation events - Advertising campaign for promotion and adoption of rice transplanters - Provide improved machinery sales and marketing training, inclusive of inventory and management, (through business development services providers) reaching a minimum of 35 dealers, sub dealers and retailers 	<ul style="list-style-type: none"> - Develop entrepreneur business models to support transplanter adoption (e.g. support LSPs to coordinate seedling production by farmers and seedling growers or develop local agents who find customers for LSP and seedlings for farmers) 		<ul style="list-style-type: none"> - Conduct a joint rapid market to determine potential viability of entering into machinery assembly over next 3 to 5 years - Based on above, if deemed feasible, develop a strategy and business plan to enter machinery manufacturing /assembly
Agro Machinery Industries	<ul style="list-style-type: none"> - Facilitate demand creation events 	<ul style="list-style-type: none"> - Develop the capacity of dealers in sales and marketing in Cox's 	<ul style="list-style-type: none"> - Strengthen existing partnership with Krishi Bank by facilitating linkages 	<ul style="list-style-type: none"> - Conduct a joint rapid market assessment and analysis of current manufacturing operations to determine potential viability of entering or

	Marketing/ Promotion/ Sales	Value Chain Integration/ Networking/ Embedded services	Access to Finance	Assembling/ Manufacturing/ Product Design
		<ul style="list-style-type: none"> - Train at least 15 distributors and / or machinery dealers in Cox's on inventory management and financing for priority machinery 	<p>between AMI, KB, and potential buyers</p> <ul style="list-style-type: none"> - Financial advisory support (through Aspen Capital) to improve supply chain credit risk assessment process and reduce payment delinquencies⁵. 	<p>expanding into promising machinery/assembly and/or spare parts production</p> <ul style="list-style-type: none"> - Based on above, if deemed feasible, develop a strategy and business plan to grow existing manufacturing/ assembly of machinery and/or spare parts - Facilitate linkages with supply firms (i.e. foundries, metal, and parts manufacturers) to produce quality materials and/or complete spare parts to be stocked and sold through machinery retailers
RK Metal	<ul style="list-style-type: none"> - Establish a dealership network in Cox's Bazar - Promotion of thresher, maize sheller and fodder chopper machines in Cox's Bazar 			<ul style="list-style-type: none"> - Conduct a joint rapid market assessment and analysis of current manufacturing operations to determine potential viability of entering or expanding into promising machinery/assembly and/or spare parts production - Based on above, if deemed feasible, develop a strategy and business plan to grow existing manufacturing/ assembly of machinery and/or spare parts

⁵ To include: assessment of current retail financing practices and recommendations on changes to reduce default and increase recovery in their retail finance portfolio - both legacy portfolio and new originations, in addition explore ways to sell legacy retail finance portfolio as well as new originations via securitizations or similar techniques

Annex 2



EXPRESSION OF INTEREST TO Participate in the Feed the Future Bangladesh Cereal Systems Initiative for South Asia Mechanization and Extension Activity (CSISA MEA) AS A TRAINING SERVICE PROVIDER

CIMMYT and iDE are partnering on the USAID-funded Agricultural Mechanization and Manufacturing Extension Activity (CSISA MEA) project to boost the productivity, competitiveness and efficiency of domestic agricultural machinery and machine parts manufacturing by supporting companies to build their manufacturing capacity, improve quality of manufacturing practices, improve workforce skills, increase workplace safety and strengthen agriculture machinery market systems.

If you think you would be interested to partner with us in building the capacities of light engineering sector, we request that you submit an expression of interest, by furnishing the required information; please forward your EOI to the following address marking on top “**TRAINING SERVICE PROVIDER**”:

Ansar Ahammed Siddiquee
Project Manager, CSISA MEA
CIMMYT Bangladesh
House 10/B, Road 53
Gulshan 2, Dhaka 1213
Bangladesh
Email: a.siddiquee@cgiar.org

Following the submission of your expression of interest, we shall invite short-listed institutes for a meeting in April 2020 which will be done through an on-line conference using WhatsApp, Skype or similar platform. The purpose of the online meeting will be to discuss the potential scope of collaboration between CSISA MEA and your institute. We request you to kindly submit the expression of interest with a brief description of the experience of your organization as a training services provider, a list and description of the experience and skills of the trainers you would provide and how you would propose to provide the specified training. Please send this with a financial proposal covering your costs (training venue, food, accommodation, training modules, training materials) by **April 30, 2020**.

Only those organizations able to provide skills training to workers in the light engineering sector will be considered.

Thank you for your interest in a partnership with CIMMYT and iDE under the USAID-funded CSISA MEA project and we look forward to hearing from you soon.

Expression of Interest for selection of Training Service Provider	
Title of service	Engagement of training institute to train workforce and management in light engineering sector covering greater Jashore and Bogura.
Source of funding	USAID funded CSISA MEA project
Brief description of assignment	<p>The objective of the service is to build the demand-based occupational skill of the targeted workforce by competency-based practical training and theoretical orientation. The providers should offer the following services solely or in collaboration with others:</p> <p>a) Prepare training schedule; training modules and manual; necessary supportive training materials and aids;</p> <p>b) Conduct training at a location to be determined in coordination with the light engineering companies, students and CSISA MEA;</p> <p>c) Arrange boarding/lodging of trainees in case residential training courses are needed;</p> <p>d) Ensure a good proportion of theory and practical learning;</p> <p>e) Maintain the attendance particulars of trainees and provide the details to the project team;</p> <p>f) Establish contacts with potential trainers and invite them for need-based expert sessions;</p> <p>g) Arrange certification tests and re-test if some trainees are not successful in first attempt;</p> <p>h) Fulfill non-negotiable requirements such as pre and post evaluation, course completion report with the details including training approaches, number of trainees, lessons learnt, trainees' knowledge and skill gains.</p> <p>I) Prepare an annual work-plan and submit to the project.</p> <p>The service duration shall be for two years initially covering definite trainees from selected SMEs.</p>
Physical facilities required	At least a 40 capacity training room with clean restrooms, LCD projector, White board, Engineering Workshop with machines in a good working condition (please fill annexure-1), dining space, hostel for inhouse trainings.
Expertise support	Well experienced trainers; an established linkage with external subject specific experts and a dedicated team
Broad topics to be covered	<p>For company workers</p> <ol style="list-style-type: none"> 1. Basic skills required to make agricultural machinery such as welding, lathing, metal bending and painting

	<ol style="list-style-type: none"> 2. Basic skills required for foundry workers 3. Specific processes of machining and operating machines commonly found in agricultural machinery factories, spare parts and machine component fabricators and foundries 4. Mathematics and measuring skills 5. Basic computer literacy 6. Automated Specialized equipment 7. Quality testing 8. Safety & health <p>For General shop management for owners and company managers:</p> <ol style="list-style-type: none"> 1. Quality testing 2. Safety & health 3. Computer literacy including use of CAD software 4. Accountancy skills 5. Business planning skills 6. 6 S's for Factory Organization for factory owners 7. Standards and certification
Submission of financial proposal	Submit a financial proposal in the format provided in the annexure-2.
Last date of submission	April 23, 2020

Please fill the numbers against the machinery available in your workshop

Type of machine	Numbers
CNC lathe	
CNC Milling (VMC)	
CNC Drill	
Conventional lathe	
Milling machine	
Shaper machine	
Conventional Drill	
Grinding machine	
Boring machine	
Welding machine (Gas, Arc, TIG, MIG & Spot)	
Any Other (Please specify)	

Format for submitting financial proposal

Description	Estimated cost Year 1			Estimated cost Year 2		
	Number	Unit cost	Total cost	Numbers	Unit cost	Total Cost
Week-long residential courses						
Courses for 6-8 weeks at 2 hrs. per day in a 5-day week or as per the institute's plan						
Special courses for senior management						
Any other (please specify)						

Annex 3

Expression of Interest to

Participate in the Feed the Future Bangladesh Cereal Systems Initiative for South Asia Mechanization and Extension Activity (CSISA MEA)

Dear Mr.

CIMMYT and iDE are partnering on the USAID-funded Agricultural Mechanization and Manufacturing Extension Activity (CSISA MEA) project to boost the productivity, competitiveness and efficiency of domestic agricultural machinery and machine parts manufacturing by supporting companies to build their manufacturing capacity, improve quality of manufacturing practices, improve workforce skills, increase workplace safety and strengthen agriculture machinery market systems.

The project is not in a position to provide your company with direct financial support but it can provide technical assistance and facilitate links to training and financial services, and support you in accessing new markets for your products.

We wish to collect some information about your organization, to determine if the profile of your company is a good match with the objectives of the CSISA MEA project.

If you think you would be interested in working with the CSISA MEA project to further develop your company, we request that you submit an expression of interest, by completing and returning the documents listed below. The documents can be written in either Bangla or English and should not take you more than an hour to complete

Following the submission of these documents, we shall invite short-listed firms for a meeting in April 2020 which will be done through an on-line conference using WhatsApp, Skype or similar platform. The purpose of the online meeting will be to review your EOI responses and discuss the potential scope of collaboration between CSISA MEA and your firm. We request you to kindly submit the expression of interest and the required documents attached to this email by **April 12, 2020**.

Thank you for your interest in a partnership with CIMMYT and iDE under the USAID-funded CSISA MEA project and we look forward to hearing from you soon.

Best regards,

Zaheed

The Expression of Interest Information should follow these guidelines:

A. Writing guide: Answers to questions below can be in Bangla or English

B. Submission process: The EOI can be submitted either electronically to zislam@ideglobal.org in pdf format or by hard copy to the Field Coordinator in the CSISA MEA Hub Office in your region.

C. SME profile: Please circle answers or write in the answers, as applicable

Name of workshop: _____

Type of workshop: Machine Shop Foundry Plastic parts manufacturing capacity

Company has metal testing facilities Yes No

Company has access to metal testing facilities nearby
elsewhere in Bangladesh Yes No Yes No or

Year of establishment: _____

Does your company have a trade license Yes No

Proprietorship of the business: Own Paternal Partnership

Ownership of the workshop's land: Own Rented

Membership of business-related association:

Name of the association: _____

Your position in the association: _____

Human resources:

Number of staff: _____

Ratio of male to female staff: _____

Number of staff within each age range

Less than 15 years: _____

Between 15-29: _____

Between 30-40: _____

Greater than 40: _____

For the following items, please give answers in a few words. Please add or delete information as appropriate.

What are the products that you produce?

From where do you obtain raw materials?

How many and what type of machines/tools do you use?

What is your power supply source, any backup energy support?

Do you have a warehouse or storage facility?

Yes No

How do you keep financial records?

Number of dealers [] retailers[] or sales agents []

Do you supply parts to other companies- who are they?

Business coverage areas (Upazila/District)

Do you export machines or spare parts? If so, what products, to which countries and for how many years?

D. Partnership experience: Have you ever worked before with a development project? If yes, briefly tell about this

E. Targets for 2020-21: for the following items, tick the answer or fill in the information by writing.

a) Change in Production volume over last 5 years: no change Increase by 1.5 times
 Double Triple

- b) Buy parts or machines (check all that apply): from within your region
 from national companies throughout Bangladesh buy International
- d) Manufacture new agriculture machinery or spare parts? Yes No
- e) Assemble agriculture machinery from separate components supplied by other companies?
 Yes No
 Some components manufactured by other companies some manufactured by my company
- f) Do you have a business relationship with large national companies to
 make assemble both sell agricultural machinery?
- h) Do you have activities to protect worker health safety and security? Yes No
- i) Have you recently invested in New machines Human resources development
 New tools Other
 Infr structure development
- k) Source of new investment: Own or family money Loan from bank
 Loan from NGO New partner Credit sales
 Other

F. Priority issues for the SME: Tick the below items that are important for your company to develop in 2020-21:

- Meeting national Bangladesh standards (BDS)
- Meeting international standards, e.g., ISO 9001, (ISO, Chinese, USA, EU)
- Company includes a foundry (metal casting)
- Company includes plastics processing machinery
- Company includes new metal working machinery (machine tools, welding, etc.)
- Company develops Countrywide supply chain (sales agent, own sales center, dealership, franchise)
- Company develops Link with international supply chain for agricultural machinery e.g., with Tata, John Deere, Agco, etc., in India, China, Thailand, USA, EU, Japan, South Korea, etc.
- Company gains Access to international markets, e.g., export to India, Nepal, China
- Ability to Modify or retrofit the machines or spare parts (if required) before selling them to the customers

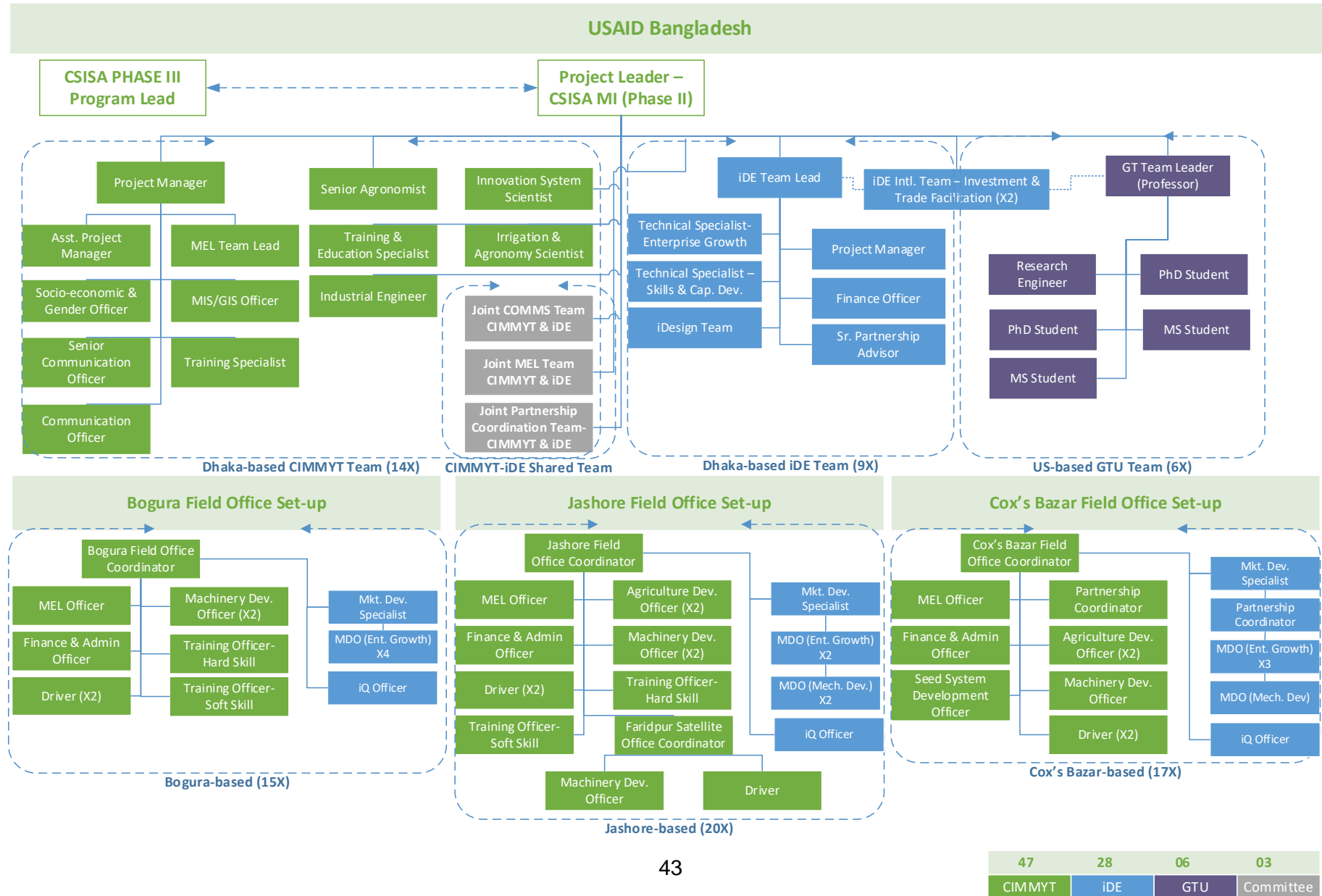
Willingness to build your workforce's capacity through training program

- Allow your workers time off during the workday for training
 - Allow your workers to receive a full-time (short course) training outside of their work location
 - Pay their wages during their full-time training period
 - Allow your workers to be trained as trainers for your company's workers
 - Allow your workers to be trained as trainers for workers from other companies
 - Provide space in your factory for training activities
 - Provide equipment in your factory for training activities
 - Allow workers from other companies to train at your factory
 - Pay money for your workers' training
-
-

H. Challenges and overcome plan: What types of are challenges you facing in manufacturing and selling agricultural machineries and spare parts? Briefly describe your plan to overcome these challenges to reach your 2020-21 target.

I. Support needs: What support might you need from the project to reach your goals and why is it needed? Please note the project cannot provide your company with financial support but it can provide technical advice and links to training services, financial services and to markets

Annex 4



47	28	06	03
CIMMYT	iDE	GTU	Committee