

**Training Course  
on  
Climate Smart Agriculture**

**23-27 September 2018**

**Course Completion Report**



**National Agriculture Training Academy (NATA)  
Ministry of Agriculture  
[www.nata.gov.bd](http://www.nata.gov.bd)**

**Training Course  
on  
Climate Smart Agriculture**

**23-27 September 2018**

**Course Management**

**Course Adviser** : Dr. Md. Abu Sayeed Miah  
Director General (In-charge)  
NATA, Gazipur

**Course Coordinator** : Dr. Md. Mayen Uddin  
Deputy Director (Food Technology)  
NATA, Gazipur

**Asst. Course Coordinator** :

Nilufa Akter  
Senior Assistant Director  
NATA, Gazipur

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## Course at a glance

Agriculture is main force of Bangladesh economy which is completely dependent on the mercy of nature. Agriculture of Bangladesh is repeatedly affecting by different natural calamities every year. Now a days this natural calamities are becoming as more extreme as frequent due to climate change. As a result climate change risk and vulnerability in Bangladesh is increasing day by day. Vulnerable area of Bangladesh Agriculture is saline water intrusion, soil salinity, drought, flood, flash flood, uneven rainfall etc. which will hamper food production and food security. There is no alternative to shifting our farming from conventional agriculture to climate smart agriculture to combat these challenges and to ensure food security.

Climate smart extension, research and development plan is very essential to fight this challenge. Climate smart development in institutional and personnel level is very important to achieve this goal. To develop efficient man power on climate smart agriculture is essential. This module can play vital role to develop personnel on this issue.

### Course objectives:

1. To improve participant's skills in designing and implementing climate smart agriculture in their own jurisdiction.
2. To develop advanced knowledge and idea on to increase their various aspects of climate variability and change
3. To develop knowledge of personnel working in agriculture sector for mitigation and adaptation to climate change to ensure sustainable productivity.

**Target population :** officers of different organizations under Ministry of Agriculture.

**Duration of each session:** 60 minutes.

### Prerequisites of the course:

- To attend in the training class in time;
- To be present at least 99% of the classes otherwise certificate may not be awarded;
- Maintain the norms in dormitory and cafeteria;
- Absent from any session is not allowed without prior permission from the course coordinator even in case of emergency
- Enthusiastic to learn and share ideas in training session

### Training Methods & Materials:

Lecture, Discussion, Exercise, Group Work, Case study Briefing, individual exercise.

**Sports & Recreation:** There is a playground, a tennis court and a volley ball court in NATA campus. So the participants can avail the opportunity to play sports in that areas.

There is also a recreation room with color T.V in the dormitory. The daily newspapers are also available in the recreation room for the participants.

## **Concluding Session**

**Feedback from the participants:** The training was demand driven. The topics were very contemporary. The resource persons were topic relevant experts, knowledgeable and veteran. So resource speakers' selection was undoubtedly accurate to cope up with the time demand topics. There was an ample scope to get introduced and exchanged ideas between the officers of different organizations under the Ministry of Agriculture. The time management of that training was definitely excellent. Moreover, residential facilities were better. A 3 members' mess committee was built among the participants upon their choice. The training was carried out well with strong discipline. They got the Wi-Fi facilities in the dormitory. The internet connection in PC was interrupted sometimes due to the problems in submarine cables. They expected to extend the duration of that training. Besides, they requested to arrange a refresher's course for them. In fact, the cooperation of Course Coordinator, Assistant Course Coordinator and the NATA authority was praiseworthy. In a nutshell, the training was incredibly fruitful for them.

**Distribution of Certificate:** The certificates are distributed among the participants after successfully completion of the training.

## Annexure –I

## Participants of the Course

Sl. No	Name	Designation & Posting	Mobile No	email
1	RUHUL AMIN	Instructor, Agriculture Training Institute, Rahmatpur, Barisal	01728297972	ruhulaminassci@gmail.com
2	RIPON PROSAD SAHA	Agriculture Extension Officer, Saltha, Faridpur	01717573026	riponsaha217@yahoo.com
3	MD. AKTER FARUK FUAD	Agriculture Extension Officer, Debiganj, Panchagarh	01755076290	fuad.ag2306@gmail.com
4	MAHBUBA JAMIL	Agriculture Extension Officer, Satoria, Manikganj	01722600311	tithi0412@gmail.com
5	MAIN UDDIN AHMED	Agriculture Extension Officer, Laksam, Cumilla	01714435804	maain.shohag@gmail.com
6	MD. SAZZADUR RAHMAN	Agriculture Extension Officer, Sakhipur, Tangail	01816538608	sazzad3504@gmail.com
7	MURSALEEN ZEBIN TURIN	Scientific Officer, BIRTAN Regional Center, Sirajganj	01713672192	turinbsmrau@gmail.com
8	SYFUL ISLAM	Scientific Officer, BINA, Mymensingh	01725371752	bausyful07@gmail.com
9	MD. JAHANGIR ALAM	Scientific Officer, Soil Science Division, BARI, Gazipur	01770584044	jahangirhstu97@gmail.com
10	SHAMIMA AKTHER	Scientific Officer, BARI, Gazipur	01911570864	likhibari79@gmail.com
11	ASGAR AHMED	Scientific Officer, WRC, Nashipur, Dinajpur	01744838991	asgar.gene@gmail.com
12	MUHAMMAD TANVIR RAHMAN	Scientific Officer, Jute Seed Production and Research Center, Nashipur, Dinajpur	01688557519	tanvir2511@gmail.com
13	MD. TANVIR HOSSAIN	Scientific Officer, Soil Resource Development Institute, District Office, Kushtia	01714988748	mtanvirag@gmail.com
14	MOHAMMAD JUNED MIAH	Scientific Officer, Soil Resource Development Institute, Cumilla	01871032809	junedsrdi@gmail.com
15	A. K. M. OBAIDULLAH	Assistant Engineer, Gobindagonj Zone, BMDA, Rajshahi	01712255534	ae_gobindagonj_gai@bmda.gov.bd
16	MD. MOFAZZAL HOSSAIN	Assistant Engineer, Badargonj Zone, BMDA, Rajshahi	01718041773	ae.badorgonj@gmail.com
17	S.M. MIZANUR RAHMAN	Assistant Engineer, Gaibandha Zone, BMDA, Rajshahi	01710517119	ae_gaibandha_gaibandha@bmda.gov.bd
18	MD. NURUL AMIN PATWARY	Deputy Director (Field Administration), SCA, Gazipur	01717246948	ddfiled@sca.gov.bd
19	DR. MD. ABU TAHER SOHEL	Senior Scientific Officer, BSRI, Ishurdi, Pabna	01711070740	
20	DR. MD. MOZAMMEL HAQUE	Senior Scientific Officer, BRRI, Gazipur	01718133016	mhaquesoil@yahoo.com
21	NIAZ MD. FARHAT RAHMAN	Senior Scientific Officer, Agricultural Statistics Division, BRRI, Gazipur	01912700606	niaz.sust@gmail.com
22	MD. NOORNABI DEWAN	Instructor, Agriculture Training Institute, Araihasar	01767555621	nabinayan1948@yahoo.com
23	SHAMIM REZA	Assistant Director (Farm), BADC, Tangail	01727575776	shamim_1587@yahoo.com
24	KAZI FAROOK HOSSAIN	Executive Engineer, BADC, Gazipur Region, Gazipur	01819436278	badcirrigationgazipur@gmail.com

## Annexure –II

### List of Resource Speaker

SL. No	Name	Designation	Organization	e-mail and mobile No.
1	Dr. Md. Abdul Mueyed	Director	Field Service Wing DAE, Dhaka	muyeedbd61@gmgma.com 01716940311
2	Munshi Mohammad Hedayet Ullah	Ex. Director General	NATA	
3	Dr. Moin us Salam	Senior Consultant	CIMMYT	moinsalam1@gmail.com
4	Dr. Habib Mohammad Naser	PSO	Soil Science Division, BARI,Gazipur	<a href="mailto:Nasemh2@yahoo.com">Nasemh2@yahoo.com</a> 01750446207
5	Dr. Jatish C. Biswas	Ex. CSO & Head	Soil Science Division, BRRI, Gazipur	<a href="mailto:Head.soil@brri.gov.bd">Head.soil@brri.gov.bd</a> 0171533857
6	Dr. Umme Aminun Naher	PSO	Soil Science Division, BRRI,Gazipur	<a href="mailto:Naher39@gmail.com">Naher39@gmail.com</a> 01913151914
7	Dr. Md. Moshir Rahman	Professor	Bangladesh Agricultural University,Mymensingh	<a href="mailto:Rahmanag63@yahoo.com">Rahmanag63@yahoo.com</a> 01711072561
8	Dr. Md. Sayedur Rahman	Deputy Director (Admin & Support Service)	NATA, Gazipur	sayedur.63@gmail.com 01552495564
9	Dr. Md. Mayen Uddin	Deputy Director (Food Technology)	NATA, Gazipur	<a href="mailto:Mayen.dae85@yahoo.com">Mayen.dae85@yahoo.com</a> 01711969688
10	Md. Zakir Hossain	Deputy Director	NATA, Gazipur	<a href="mailto:Hzakir104@gmail.com">Hzakir104@gmail.com</a> 01715797920
11	Dr. Delowar Hossain Mozumder	Deputy Director	NATA, Gazipur	
12	Dr. Md. Shariful Islam	Deputy Director	NATA, Gazipur	<a href="mailto:Mshariful60@yahoo.com">Mshariful60@yahoo.com</a> 01743051115
13	Dr. Md. Golam Mostofa	Sr. Assist. Director	NATA	
14	Dr. Alimur Rahman	SSO	RARS, BARI, Barishal	
15	Mr. Ilias Hossain	PSO	BARI	
16	Nirmal Chandra Shil	PSO	Soil Science Division, BARI,Gazipur	

**Annexure –III****Training schedule**

Duration: 23 -27 September 2018

**Day -1 Date : 23/09/2018**

Time	Topics	Methods	Speaker
08:30-09.00	Registration	-	Lucky
09.00-09.30	Pre evaluation		CC/ ACC
09:30-10:30	Inaugural session	-	DG/Directors/Faculties
10.30-11.30	Concepts and Causes of Climate Change: Scientific basis.	L & D	Dr.Abdul Muyeed Director Field Service DAE, Khamarbari, Dhaka
11:30- 12.00	Tea Break		
12:00-01:00	Climate change: Global Scenario	L & D	Dr.Abdul Muyeed Director Field Service DAE, Khamarbari, Dhaka
01.00-02.00	Lunch and prayer		
02:00-03:00	Impacts of Climate change: Bangladesh Context	L & D	Dr. Habib Mohammad Naser, PSO (Soil Science) BARI, Gazipur
03:00-04:00	Risks and Vulnerabilities to Climate Change	L & D	Dr. Habib Mohammad Naser, PSO (Soil Science) BARI, Gazipur
04:00-05:00	Climate Smart Agriculture: Concepts Evolution and Significance	L & D	Dr. Md. Mayen Uddin DD (Food Technology) NATA, Gazipur

Day -2		Date : 24/09/2018	
Time	Topics	Methods	Speaker
09.00-09.15	Recap	-	CC/Participants
09.15-10.15	Challenges of Soil health management under changing climate	L & D	Dr. Jatish C. Biswas Ex.CSO and Head Soil Science Division, BRRI, Gazipur.
10.15-11.15	Soil and fertilizer management option for mitigation of GHG Emission		Do
11.15-11.45	Tea Break	-	
11.45-12.45	Introduction to Agriculture Machinery for Conservation Agriculture	L & D	Ashok Kumar Biswas Monitoring & Evaluation Officer , Enhancement of Crop Production through Farm Mechanization Project - 2 <sup>nd</sup> phase Khamarbari, Dhaka
12.45-02.00	Lunch and prayer		
02:00-03:00	Introduction to Agriculture Machinery for Conservation Agriculture	L & D	Do
03:00-04:00	Population, Environment and Development	L & D	Md. Zakir Hossain DD (Genetics & Plant Breeding),



			NATA
04:00-05:00	National integrity strategy (NIS)	L & D	Dr. Md. Delowar Hossain Mozumder DD,NATA

**Day – 3            Date : 25/09/2018**

Time	Topics	Methods	Speaker
09:00-09.15	Recap	-	CC/Participants
09.15-10.15	Introduction to Stress Tolerant Crop Varieties Congenial for Climate Smart Agriculture	L& D	Dr Nirmal Chandra Shil PSO, BARI, Gazipur
10.15-11.15	Effect of climate change on Biodiversity	L & D	Dr. Tariqul Islam CSO, Plant Breeding Div. BARI, Gazipur
11.15-11.45	Tea break	-	CC/ACC
11.45-12.45	Context of Climate Smart Agriculture practices for adaptation to climate Change under submerged/flooded ecosystem in Bangladesh	L & D	Dr. Md. Golam Mostofa Sr. Assist. Director NATA
12.45-02.00	Lunch	-	-
02.00-03.00	Seedling production techniques of vegetable and spice crops on floating bed under submerged/flooded ecosystem	L & D	Do
03.00-04.00	Production techniques of vegetable and spice crops on floating bed under submerged/ flooded ecosystem	L & D	Do

**Day – 4,            Date : 26/09/2018**

Time	Topic	Methods	Resource
09.00-09.15	Recap	-	CC/Participants
09.15-11.15	Sustainable Development Goal (Special emphasis on climate change)	L & D	Munshi Mohammad Hedayet Ullah Ex. DG, NATA
11.15-11.45	Tea break	-	CC/ACC
11.45-12.45	Conservation Agriculture	L & D	Dr. Md. Moshir Rahman, Professor, BAU
12.45-02.00	Lunch and prayer		
02.00-03.00	Mitigation and adaptation to drought by crop management for CSA	L & D	Dr. Md. Moshir Rahman, Professor, BAU
03.00-05.00	Water Saving Rice Production Technology for CSA	L & D	Dr. Md. Moshir Rahman, Professor, BAU
05.00-06.00	Group work and presentation	Group work	Dr. Md. Golam Mostofa Sr. Assist. Director NATA

**Day –5      Date : 27/09/2018**

Time	Topics	Methods	Speaker
09.00-09.15	Recap	-	CC/Participants
09.15-10.15	Mitigation & Adaptation to salinity by crop management technologies for CSA		Dr. Moin us Salam International Consultant, CIMMYT
10.15-11.15	Crop Modeling	L & D	Dr. Moin us Salam International Consultant, CIMMYT
11.15-11.30	Tea Break		
11.30-12.30	Problem soil (drought prone, hill, haor and charland) management for Climate Smart Agriculture	L & D	Dr. UA Naher PSO, Soil Science Division, BRRI, Gazipur.
12.30-01.30	Stress Resistant/Tolerant Rice Crop Varieties to Different Stress Condition	L & D	Dr. Md. Shariful Islam DD (Agronomy), NATA
01:30-02:30	Lunch and prayer		
02:30-03:30	Innovation in Public Service Delivery	L & D	Dr. Md. Sayedur Rahman DD (Admin.), NATA
03:30-4:30	Awarding & Closing Ceremony	-	DG/Directors/Faculties/Participants

## **Training Course Evaluation by the participants**

1. The Topics they liked:
  - Floating agriculture
  - Problem soil (drought prone, hill, haor and charland) management for Climate Smart Agriculture
  - Mitigation & Adaptation to salinity by crop management technologies for CSA
  - Crop Modeling
  - Challenges of Soil health management under changing climate
  - Soil and fertilizer management option for mitigation of GHG Emission
  - Soil and fertilizer management option for mitigation of GHG Emission
2. The Topics need to be added:
  - Exposure/field visit on business organization
  - Insect and pest management under changing climate
  - Group work with group presentation
3. Best Training Methods choose by the participants
  - Discussion and group exercise
  - Practicing
4. The issues that are disliked by the participants
  - Internet problem
  - Shortage of sport materials and recreation facilities
  - Minimum budget
  - Very tight schedule
  - Less Class practices
  - Five class is conducted by single speaker
  - Residential facilities
5. The others associated issues they liked
  - Topic wise expert resource persons were selected very prudently.
  - Expert resource persons
6. Recommendations for the improvement of the course
  - Uninterrupted internet and electricity supply should be provided
  - Practical class should be more
  - Arrangement of Tour or recreation
  - Provide more time for discussion and exercise
  - Hard copy of manual of training course
  - Sports facilities should be available

## Speaker Evaluation by Trainees

Grade range: 1-6 (Higher marks represent the higher grade)

Speaker name and address	Subject	Criteria	Obtained grade (Average)	Comments
Dr.Abdul Muyeed Director, Field Service Wing DAE, Khamarbari, Dhaka	Concepts and Causes of Climate Change: Scientific basis	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Climate change: Global Scenario	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Habib Mohammad Naser, PSO (Soil Science) BARI, Gazipur	Impacts of Climate change: Bangladesh Context	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Risks and Vulnerabilities to Climate Change	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Md. Mayen Uddin DD (Food Technology) NATA, Gazipur	Climate Smart Agriculture: Concepts Evolution and Significance	Knowledge Over subject	4.6	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Jatish C. Biswas Ex.CSO and Head Soil Science Division, BRII, Gazipur.	Soil and fertilizer management option for mitigation of GHG Emission	Knowledge Over subject	4.7	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		

Speaker name and address	Subject	Criteria	Obtained grade (Average)	Comments
Do	Soil and fertilizer management option for mitigation of GHG Emission	Knowledge Over subject	4.7	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Ashok Kumar Biswas Monitoring & Evaluation Officer , Enhancement of Crop Production through Farm Mechanization Project - 2 <sup>nd</sup> phase Khamarbari, Dhaka	Introduction to Agriculture Machinery for Conservation Agriculture	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
	Introduction to Agriculture Machinery for Conservation Agriculture	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Md. Zakir Hossain DD (Genetics & Plant Breeding), NATA	Population, Environment and Development	Knowledge Over subject	5.4	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Md. Delowar Hossain Mozumder DD, NATA	National integrity strategy (NIS)	Knowledge Over subject	5.0	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Nirmal Chandra Shil PSO, BARI, Gazipur	Introduction to Stress Tolerant Crop Varieties Congenial for Climate Smart Agriculture	Knowledge Over subject	4.3	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Tariqul Islam CSO, Plant Breeding Div. BARI, Gazipur	Effect of climate change on Biodiversity	Knowledge Over subject	3.5	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		

Speaker name and address	Subject	Criteria	Obtained grade (Average)	Comments
		Time management		
Dr. Md. Golam Mostofa Sr. Assist. Director, NATA	Context of Climate Smart Agriculture practices for adaptation to climate Change under submerged/flooded ecosystem in Bangladesh	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Seedling production techniques of vegetable and spice crops on floating bed under submerged/flooded ecosystem	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Production techniques of vegetable and spice crops on floating bed under submerged/ flooded ecosystem	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Munshi Mohammad Hedayet Ullah Ex. DG, NATA	Sustainable Development Goal (Special emphasis on climate change)	Knowledge Over subject	5.0	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Md. Moshir Rahman, Professor, BAU	Conservation Agriculture	Knowledge Over subject	5.4	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Mitigation and adaptation to drought by crop management for CSA	Knowledge Over subject	5.4	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Water Saving Rice Production Technology for CSA	Knowledge Over subject	5.4	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		

Speaker name and address	Subject	Criteria	Obtained grade (Average)	Comments
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Moin us Salam International Consultant, CIMMYT	Mitigation & Adaptation to salinity by crop management technologies for CSA	Knowledge Over subject	5.1	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Do	Crop Modeling	Knowledge Over subject	5.2	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. UA Naher PSO, Soil Science Division, BRRI, Gazipur.	Problem soil (drought prone, hill, haor and charland) management for Climate Smart Agriculture	Knowledge Over subject	4.9	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Md. Shariful Islam DD (Agronomy), NATA	Stress Resistant/Tolerant Rice Crop Varieties to Different Stress Condition	Knowledge Over subject	5.5	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		
Dr. Md. Sayedur Rahman DD (Admin.), NATA	Innovation in Public Service Delivery	Knowledge Over subject	4.3	
		Ability to present ideas clearly/relevantly		
		Ability to make the class/session participatory		
		Ability to Handle Q/A		
		Control over class		
		Time management		