

TRAINING COURSE
ON
SOIL HEALTH MANAGEMENT
31 MARCH -04 APRIL' 2019

COURSE GUIDELINE



GOVERNMENT OF THE REPUBLIC OF BANGLADESH
NATIONAL AGRICULTURE TRAINING ACADEMY
GAZIPUR-1701
WEBSITE: WWW.NATA.GOV.BD

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Table of Contents

Sl. No.	Subject	Page
1.	Introduction to NATA	1-3
2.	Course Outline	4
3.	Course Content	5-6
4.	List of Resource Speaker	7
5.	Faculty Member of NATA	8-10

Introduction to National Agriculture Training Academy (NATA)

1.1 The Academy

National Agriculture Training Academy (NATA) is the apex training institute for human resource development of officers (grade-9 and above) under the Ministry of Agriculture (MoA) for providing training on diversified fields of professional interest in agriculture sector. The Academy organizes various training programmes related to agriculture throughout the year. The academy is established in Gazipur as Central Extension Resources Development Institute (CERDI) on 14 March 1975 with the financial assistance of Japan International Cooperation Agency (JICA). Afterwards, **on 27 June 1984**, CERDI was undertaken to the Training Wing of Department of Agricultural Extension (DAE). **On 03 April 2013, Government of the People's Republic of Bangladesh abolished CERDI and established NATA as an independent organization of MoA and on 07 June 2014, NATA has been started as a training academy.**

Initially, the Academy started its functions with only 10 faculty members. Though Government approved strength is 184, at present NATA has 74 staff members including 29 faculty members.

1.2 Vision

National Agriculture Training Academy becomes a center of excellence for developing competent human resources in agriculture sector.

1.3 Mission

We are pledged to achieve the shared vision through:

- i. Develop human resource of all organizations under MoA by imparting quality training, research and development and publications;
- ii. Enhance linkage between education, research and extension to endow agriculture service delivery system;
- iii. Network with reputed institution of home and abroad for organizational capacity building; and
- iv. Foster a culture of continuous learning for development of knowledge-intensive agriculture service.

1.4 Functions

The NATA has been entrusted to perform the following functions:

- i. Human resource development of the government, semi-government, autonomous organization under MoA through training of modern and sustainable agriculture technology;
- ii. Transfer modern and sustainable agriculture technology developed by the research organizations for the development of socio-economic conditions of farmers;
- iii. Conduct demonstration, adaptive research and research of proven technologies;
- iv. Impart all sorts of in-service training with special emphasis on induction, foundation and senior staff course;
- v. Exchange publications, participants and resource persons in seminars, workshops, conferences and training among the stakeholders;

- vi. Advice government and other organizations on training, achieving food and nutrition security, ICT, transfer of agriculture technology, agro-based industries and conservation environments etc.;
- vii. Help government and policy makers in framing and analyzing agricultural policies;
- viii. Conduct different training activities of academy in consonance with provision of the public administration training policy 2003; and
- ix. Perform all kinds of duties directed by the government.

1.5 Location

The Academy is 25 km away from Dhaka city and 3 km away from *Joydevpur Chandana Chowrasta* towards Gazipur district head quarter. It is located adjacent to Bangladesh Rice Research Institute (BRRI) and occupied 49 acres of land. The academy provides the trainees an ample scope to have free access to the adjacent institutions like Bangladesh Agriculture Research Institute (BARI), Bangladesh Rice Research Institute (BRRI), Seed Certification Agency (SCA), Bangabondhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Telecommunication College, and other government offices in Gazipur.

1.6 Facilities

1.6.1 Physical Facilities

The Academy is well equipped with physical facilities in organizing training programs though it began its journey recently. Existing facilities of the academy are as follows.

- Office building-2
- Class room- 3
- Laboratory (Subject wise technical)
- Plant protection museum- 1
- Conference room- 1
- Auditorium-1
- Dormitory- 4
- Cafeteria- 1
- Greenhouse- 3
- Workshop-1
- Mosque-1

1.6.2 Digital Computer cum Language Lab. and IT facilities

There is one Digital Computer cum Language Lab in the Academy. It is located on the 1st floor of the Administrative building. IT facilities include LAN and Wi-Fi and the whole campus under Wi-Fi coverage. To expedite foreign language learning, NATA set up a Digital Computer cum Language Lab. as part of the Academy's drive for capacity building of government officials. Participants can avail the opportunity of learning the foreign language while they stay in NATA.

1.6.3 Recreational Facilities

The Academy has a recreation room with color T.V in the dormitory. The daily newspapers are available in recreation room for the participants.

1.6.4 Linkage with other Training Organizations

NATA maintains good relations with other training Academies in the country including BPATC, RPATC, BCS Administration Academy, BIAM and FIMA and so on. NATA has plan to collaborate with international training institutes for improvement its human resources. NATA also collaborate with national research organizations in research in agriculture sector.

1.7 Evaluation:

Course Director and other faculty members are given responsibility to evaluate the participants. The course is evaluated during pre and post training situation within 50-100 marks. On the other hand the participants are also given chance to evaluate the faculties and guest speakers by using a prescribed format.

1.8 Sessions:

Everyday the session is started at 9.30 am in the morning and ends at 4:00 pm in the afternoon. There are two breaks started at 11.30 am and 01.00 pm for tea and lunch with prayer respectively. Participants are advised to attain the class in time without fail for avoiding any kinds of disciplinary action.

Daily Schedule

Activities	Duration
1 st Session	09:30-10:30
2 nd Session	10:30-11:30
Tea Break	11:30-12:00
3 rd Session	12:00-01:00
Lunch and Prayer	01:00-02:00
4 th Session	02:00-03:00
5 th Session	03:00-04:00

1.9 Norms to be followed during the training:

- No casual leave is allowed during training period.
- Participants living in the dormitory are advised to follow the norms of the dormitory.
- The campus area is a “Non-Smoking Zone”. Participants are advised to refrain from smoking inside the Academy.
- Participants are not allowed to enter the dormitory after 10:00pm at night.

Course Outline

Soil health management is an important topic for designing a training course of different organizations under the ministry of Agriculture. For providing food of raising populations the world additional production is must. To increase the production of crop, keeping our soil healthy and productive is an important parameter. By using soil health systems and principles which include no-tillage, cover cropping, rotations and diversification farmers increasing their soil's organic matter and improving microbial activities. As a result, farmers are sequestering more carbon, increasing water infiltration, improving wildlife and pollinator habitat as well as harvesting better profits and often better yields. Soil health constraints beyond nutrient deficiencies and excesses limit agro ecosystem sustainability, resilience to drought and extreme rainfall, as well as progress in soil and water conservation.

COURSE OBJECTIVE

1. Increase understanding of soil biological processes that influence soil fertility in natural and managed ecosystems.
2. Provide a stimulating and collaborating environment for research on a wide range of soil organisms in diverse ecosystems.
3. Ensure strong links are maintained between research activities and teaching in the area of soil science, especially in relation to soil fertility and soil management

Target population : Officers (Grade 9 and above) of different organizations under Ministry of Agriculture.

Duration of each session: 60 minutes.

Prerequisites of the course:

- To attend the training class in time;
- To be present at least 99% 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.

Day -01 (31/03/2019) Sunday

Time	Topics	Methods	Speaker
08:30-09:00	Registration	-	Lucky
09:00-09:30	Inaugural session, Pre evaluation		DG/Directors/Faculties /CC/ ACC
09:30-10:30	Soil health: Indicator of soil Health and its relation to crop production.	L & D	Dr. Md. Aatur Rahman Howlader
10.30-11.30	Different types of soil in Bangladesh according to AEZs.	L & D	Additional Director (Field Administration, Planning and Monitoring) SCA, Gazipur
11:30- 12:00	Tea Break		Phone:01814301360 ataurdae87@gmail.com
12:00-01:00	Different types of soil in Bangladesh according to AEZs.	L & D	
01.00-02.00	Lunch and prayer		
02:00-03:00	Dynamics of Soil environmental Pollution and degradation: causes and remedies	L & D	Professor Dr. Md. Abiar Rahman
03:00-04:00	Soil environmental components-atmosphere, lithosphere and biosphere	L & D	Depet. Of Agroforestry and Environment, BSMRAU Phone: 01552495452 e-mail: abiarbd@yahoo.com

Day -02 (01/04/2019) Monday

Time	Topics	Methods	Speaker
09:30-10:30	Soil health and sustainability: managing the biotic component of soil quality	L & D	Dr. Umme Aminun Naher PSO, BRRI Phone:01913151914 naheer39@gmail.com
10.30-11.30	Cycling and Biogeochemical Transformations of N, P, S, and K	L & D	Dr. M.M. Masud, SSO, BARI, Phone: 01552334898 masudsoil@yahoo.com
11:30- 12:00	Tea Break		
12:00-01:00	Fertility status of Bangladesh soil (OM, N, P, K, S, Zn, B, Mo, Mg and others status) and Soil fertility Evaluation	L & D	Dr. Md. Aatur Rahman Howlader Additional Director (Field Admin, P&M) SCA,
01.00-02.00	Lunch and prayer		
02:00-03:00	Tillage options and residue management for soil moisture retention and carbon sequestration	L & D	Dr. M.M. Masud, SSO, BARI, Phone: 01552334898 masudsoil@yahoo.com
03:00-04:00	Nutrient demand of the crops and basis of fertilizer uses and the causes of soil fertility decline.	L & D	Dr. Sohela Akhter PSO, BARI Phone: 01922242737 sohela_akhter@yahoo.com
04:00-05:00	Present condition of Bangladesh soils: Fertility & OM content and Integrated use of organic manures and chemical fertilizers and principles	L & D	Dr. A.T.M. Sakhawat Hossain PSO BRRI, Gazipur Phone: 01718261858 sakhawatbrri@gmail.com

Day -03(02/04/2019) Tuesday

Time	Topics	Methods	Speaker
09:30-10:30	Soil pH (Soil reaction), Importance of soil pH, Introduce the pH of different areas of Bangladesh which influence the soil nutrient availability	L & D	Prof. Dr. GKM Mustafizur Rahman Department of Soil Science, BSMRAU Phone: 01718 186642 mustafiz@bsmrau.edu.bd
10.30-11.30	Management of Problem Soils (acid sulfate soil, peat soil, waterlogged soils)	L& D	
11:30- 12.00	Tea break		
12:00-01:00	Management of saline soil	L & D	
01.00-02.00	Lunch and prayer		
02:00-03:00	Symptoms of essential plant nutrient deficiencies and their remedies	L & D	Dr. Rafiqul Islam CSO and Head Phone:01725395749 rafiqbrrri@yahoo.com
03:00-04:00	Soil health management in Bangladesh for sustainable Rice production/ Quality Rice production	L & D	
04:00-05:00	Balanced fertilizer and their effect on soil fertility	L & D	
			Dr. A.T.M. Sakhawat Hossain, PSO BRRI, Gazipur Phone: 01718261858 sakhawatbrrri@gmail.com

Day - 04 (03/04/2019) Wednesday

Time	Topics	Methods	Speaker
09:30-10:30	Growth Promoting Microbes and Crop Production in Bangladesh		Dr. Umme Aminun Naher PSO, BRRI Phone:01913151914 nahe39@gmail.com
10.30-11.30	Mycorrhiza and its use, Microbial Association with other organisms	L& D	Do
11:30- 12.00	Tea break		
12:00-01:00	Importance of conservation agriculture for sustainable soil fertility management; Soil erosion and conservation in the hilly region	L & D	Munshi Mohammad Hedayet Ullah Ex. DG, NATA Mobile: 01711193834 hedayetullah_59@yajoo.com
01.00-02.00	Lunch and prayer	L & D	
02:00-03:00	Fertilizers nutrient elements and their management	L & D	M Shahidul Islam Former DG, BARI
03:00-04:00	Fertilizers nutrient elements and their management	L & D	Do

Day -05(04/04/2019) Thursday

Time	Topics	Methods	Speaker
09:30-10:30	Role of Microbial Organisms for pesticides degradation in soil and environmental cleanup	L & D	Dr. Md. Habibur Rahman Associate prof. Dept. of Entomology, BSMRAU Phone: 01715296456
10.30-11.30	. IPNS for Rice, Wheat and Maize	L& D	Dr. Sohela Akhter PSO, BARI Phone: 01922242737
11:30- 12.00	Tea break		
12:00-01:00	IPNS for Vegetables, , Fruits, Root and Tuber crops	L & D	
01.00-02.00	Lunch and prayer		
02:00-03:00	Closing Ceremony		DG/Director/












PANEL OF RESOURCE SPEAKERS

SL.No	Name of speaker	Organization	Mobile and Mail
1.	Dr. M Shahidul Islam, Former DG,	BARI	Phone:01713002180 dmsislam@agni.com
2.	Munshi Mohammad Hedayet Ullah Ex. DG,	NATA, Gazipur	Mobile: 01711193834 hedayetullah_59@yajoo.com
3.	Dr. Md. Ataur Rahman Howlader Additional Director (Field Administration, Planning and Monitoring)	SCA, Gazipur	Phone:01814301360 ataurdae87@gmail.com
4.	Dr. Md. Abiar Rahman ,Professor	Depet. Of Agroforestry and Environment, BSMRAU	Phone: 01552495452 e-mail:abiarbd@yahoo.com
5.	Dr. Umme Aminun Naher, PSO	Soil Science Division BRRI, Gazipur	Phone:01913151914 nahe39@gmail.com
6.	Dr. M.M. Masud, SSO,	Soil Science Division, BARI, Gazipur	Phone: 01552334898 masudsoil@yahoo.com
7.	Dr. Sohela Akhter, PSO	Soil Science Division, BARI, Gazipur	Phone: 01922242737 sohela_akhter@yahoo.com
8.	Dr. A.T.M. Sakhawat Hossain, PSO	Soil Science Division BRRI, Gazipur	Phone: 01718261858 sakhawatbri@gmail.com
9.	Dr. GKM Mustafizur Rahman, Professor.	Department of Soil Science, BSMRAU	Phine: 01718 186642 mustafiz@bsmrau.edu.bd
10.	Dr. Rafiquel Islam, CSO and Head	Soil Science Division BRRI, Gazipur	Phone:01725395749 rafiqbri@yahoo.com
11.	Dr. Md. Habibur Rahman Associate prof.	Dept. of Entomology, BSMRAU	Phone: 01715296456

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