

**GREEN ENDEAVOUR TO ADDRESS
CLIMATE CHANGE
2016-17**



**DEPARTMENT OF SCIENCE TECHNOLOGY &
ENVIRONMENT, GOVT. OF TRIPURA**

Important Days :

- ***28th February – National Science Day***
- ***3rd March – World Wild Life Day***
- ***21st March – World Forest Day***
- ***22nd March – World Water Day***
- ***23rd March – World Meteorological Day***
- ***22nd April - Earth Day***
- ***11th May- Technology Day***
- ***22nd May- World Biodiversity Day***
- ***5th - June World Environment Day***
- ***17th June – World Day to Combat Desertification***
- ***16th September – International Day for the
Preservation of the Ozone Layer***
- ***2nd October – International Day for Natural
Desaster Reduction***
- ***10th November – International Science Day***
- ***14th December – Energy Conservation Day***

Climate is the average weather usually taken over a 30-year time period for a particular region and time period. It includes patterns of temperature, precipitation (rain or snow), humidity, wind and seasons.

Weather describes the short-term state of the atmosphere. Our climate is rapidly changing with disruptive impacts, and that change is progressing faster than any seen in the last 2,000 years.

Earth is not the same as we knew it. It has changed a lot within a short span of time because of intervention of technology & development. With human development going leap and bound has geometrically increased the carbon foot print. Emission of Green House Gases in the atmosphere by our anthropogenic activities is responsible for increasing temperature of Earth and causing wide-ranging impacts on us including melting of Ice, Sea level rise, floods, draughts, scarcity of food & water etc.

***Department of Science, Technology & Environment (DSTE), Govt. of Tripura** is working as the Nodal Department of Climate Change Cell to disseminate information of climate change issues & impacts to all section of people particularly to the Students.*

Awareness of public particularly to students is important to increase enthusiasm and support, stimulate self-mobilisation and action, and mobilise local knowledge and resources. The main objective of such awareness programme is to achieve long lasting behavioural changes.

In view of this Department has taken initiative for celebration of different Environment related days in Schools, Colleges, Universities, Urban Local Bodies to aware the young generation to manage the impacts of climate change, enhance adaptive capacity, and reduce overall vulnerability.

During the financial year 2016-17, Department has facilitated different Schools, Colleges, Universities, Urban Local Bodies throughout the State of Tripura for celebration of Earth Day, World Environment Day, World Day to Combat Desertification, World Ozone Day, National Energy Conservation Day, National Science Day, Water Day etc to sensitise about the crisis of our environment resources. Through these programmes the Department has touched a huge number of students during the year 2016-17 with an expectation that the outcome of the programmes will be disseminated to other people of the society as well.

List of sanctioned schools for organizing World Ozone Day and National Energy Conservation Day for the year 2016-17

Sl.No.	Name of Programme	Block	Sub Division	District	No. of Participants
1	Annadhan R/P S.B. School, Khakchang Kami,	Chawmanu	LT Valley	Dhalai	285
2	Bhagyamani R.P. S.B. School	Chawmanu	LT Valley	Dhalai	260
3	Manikpur S.B. School	Chawmanu	LT Valley	Dhalai	265
4	82 Miles-ST Girls Residential English Med. Pri. School	Chawmanu	LT Valley	Dhalai	260
5	Udaipur Girl's HS School	Udaipur	Udaipur	Gomati	375
6	Udaipur Ramesh HS School	Udaipur	Udaipur	Gomati	365
7	Matabari HS School	Matabari	Udaipur	Gomati	320
8	Ampinagar HS School	Ampi	Amarpur	Gomati	280
9	Karbook Panjiam HS School	Karbook	Karbook	Gomati	260
10	Shalgarah H/S School	Tepania	Udaipur	Gomati	280
11	Kakraban HS School	Kakraban	Udaipur	Gomati	300
12	Amarpur Nagar Panchayat	Amarpur	Amarpur	Gomati	450
13	North Ghilatali (Ratia) H/S School	Khowai	Khowai	Khowai	290
14	Sonatala Govt. Class XII School	Khowai	Khowai	Khowai	300
15	Kabi Nazrul Vidyabhaban HS School	Teliamura	Teliamura	Khowai	300
16	Khowai Govt. Class XII School	Khowai	Khowai	Khowai	360
17	Maharanipur HS (+2) school	Mungiakami	Teliamura	Khowai	280
18	North Laxmipur S/B School,	Dasda	Kanchanpur	North Tripura	290
19	Bagichand C.P. S/B School, Tuiksoma	Dasda	Kanchanpur	North Tripura	270
20	Panisagar H/S School	Panisagar	Panisagar	North Tripura	245
21	BirBikram Institute (BBI)	Dharmanagar MC	Dharmanagar	North Tripura	300
22	Kanchanpur class XII School	Laljhuri	Kanchanpur	North Tripura	250
23	Kadamtala HS School,	Kadamtala	Dharmanagar	North Tripura	255
24	Tilthai Rupcharan HS School,	Jubarajnagar	Dharmanagar	North Tripura	200
25	Damcherra HS School,	Damcherra	Panisagar	North Tripura	270
27	Ambedkar Adarsha Uchcha Vidyalaya	Bishalgarh	Bishalgarh	Sepahijala	360
28	Nagar High School	Boxanagar	Sonamura	Sepahijala	300
29	Chesrimai High School	Chesrimai	Bishalgarh	Sepahijala	280
30	Nalchar High School	Nalchar	Sonamura	Sepahijala	260
31	Kathalia Girl's High School	Kathalia	Sonamura	Sepahijala	250

32	Thakurmura High School		Sonamura	Sepahijala	240
33	Rajnagar Col. Class-XII School	Rajnagar	Belonia	South	345
34	Brajendranagar H/S School	Satchand	Sabroom	South	325
35	Baikhora HS School	Bagafa	Santir Bazar	South	300
36	BC Manu Sahid Smriti Vidyamandir	Bagafa	Santir Bazar	South	270
26	Ledrai Dewan HS School	Kumarghat	Pecharthal	Unakoti	250
37	Dhanasing Ch. Mem.l HS School	Kumarghat	Kumarghat	Unakoti	260
38	Dalugaon HS School	Chandipur	Kailashahar	Unakoti	200
39	Netaji Vidyapith Eng. Med.HS School	Kailashahar MC	Kailasdhahar	Unakoti	225
40	Bhagini Nivedita Girl's HS School	Kailashahar MC	Kailashahar	Unakoti	300
41	M.T. Girl's HS School	AMC	Sadar	West	450
42	Mohanpur Class XII School	Mohanpur	Mohanpur	West	350
43	Gandhigram HS School	Mohanpur	Mohanpur	West	300
44	Raniganj Girl's HS School	Old Agartala	Jirania	West	350
45	Shishu Bihar HS School	AMC	Sadar	West	340
46	Umakanta Academy	AMC	Sadar	West Tripura	300
47	Holy Cross College	Mohanpur	Mohanpur	West Tripura	260
48	BBM College	AMC	Sadar	West Tripura	370
49	Fisheries College, Central Agriculture University	Mohanpur	Mohanpur	West Tripura	250
50	ICFAI University	Mohanpur	Mohanpur	West Tripura	400
51	Bamboo & Cane Development Institute	AMC	Sadar	West Tripura	300
52	Institute of Visually Handicapped	Mohanpur	Mohanpur	West Tripura	200
53	Institute of Engineers	AMC	Sadar	West Tripura	175
54	Tripura State Pollution Control Board	AMC	Sadar	West Tripura	
55	District Magistrate & Collector	AMC	Sadar	West Tripura	

- AMC - Agartala Municipal Corporation
- MC – Municipal Council

Earth Day



Chairman, TSPCB inaugurating the occasion of Earth Day

Every year April 22nd is celebrated worldwide as Earth Day. Earth Day has become one of the most widely celebrated environmental events across the globe. On this day, various events are held worldwide to increase awareness on the Earth's environment. The theme for Earth Day 2016 was ***"Trees for the Earth"***. Earth Day Network promotes various ideas to increase awareness among people.

Some of them include convincing people to buy green products, focus on the concept of Reduce, Recycle and Reuse, pledging friends and family to fight against global warming. Earth Day is a day dedicated to increasing awareness about the Earth, its issues and problems. The Department has organized the state level Earth Day programme at Ranir Bazar Municipal Council with the students of three different schools.



Speech by school student of Class IX



Plantation by the students

Chairman, TSPCB has inaugurated the programme. He has given the importance of not wasting our natural resources by changing our habit of daily lifestyle. In the inaugural session several speakers addressed the audience about the significance of organizing Earth Day every year. Different programmes such as poster presentation, quiz, speech, plantation were included in the programme schedule.

The students have shared their knowledge on environmental issues by giving speech presentation. They have promised to plant trees and protect natural resources by spreading awareness among the neighbours, communities, schools etc. An environment related Drama has also been staged by the students to aware others about our green nature.



Stage Drama by the students

World Environment Day (WED)



Hon'ble Minister, DSTE is observing posters drawn by students.

There are different activities which can be part of WED such as weeding and fertilizing public trees and gardens, eating organic food, wearing green clothes, buying items from recycled product. Department of Science, Technology & Environment has observed state level World Environment Day 2016 at ICFAI University, Tripura among the students of the University and also the school students adjacent to the University.



Address by Secretary, DSTE

The programme witnessed the participation of students in poster presentation, quiz, extempore speech, slide show on particular theme. They have presented a beautiful stage drama on saving our natural resources. Students were encouraged for positive actions regarding protection of our environment.

World Environment Day (WED) is celebrated every year on **5th June** to raise global awareness to take positive environmental action to protect nature and the planet Earth. The theme for 2016 was ***“Zero tolerance for the illegal trade in wildlife”*** to promote and encourage environmental responsibility and the conservation of natural resources. On this day, communities and individuals around the world work to increase awareness of the importance of conserving the environment.



Hon'ble Minister, DSTE inaugurating the programme.

Hon'ble Minister, DSTE was present as Chief Guest and Inaugurator. She highlighted the responsibility of young generation to the environment and society. Secretary, DSTE as Guest of Honour has also emphasized on the safeguard of the species under threat. Resource persons from the Department have shared their views on the environment preservation.



Stage Drama by students of ICFAI University

World Day to Combat Desertification



Rally for World Day to Combat Desertification

Every year **June 16th** is celebrated as **World Day to Combat Desertification**. The theme for 2016 was “**Inclusive Cooperation for Achieving Land Degradation Neutrality**”. Human induced activities such as the deforestation, overgrazing, over cultivation are main causes of land degradation and desertification. Other factors that cause desertification include urbanization, climate change, over drafting of groundwater, deforestation etc.

To aware the people of state of Tripura, DSTE has taken the initiative to organize World Day to Combat Desertification. In 2016 the state level programme has been observed at Amarpur Nagar Panchayat, Gomati, Tripura among the students from different schools of that Nagar Panchayat. Hon’ble Minister Smt. Bijita Nath has inaugurated the programme. Other dignitaries from Nagar Panchayat and from the Department were also present in the



Speech by Hon’ble Minister



Plantation by Hon’ble Minister and Speech by Joint Director, DSTE

Before starting of the inaugural session around hundreds of students participated in Rally in the Nagar Panchayat area. After that seedlings were planted. Resource persons from Department have delivered speech on particular topic very lucidly. They also explained the land’s important role in producing food and local employment, as well as its ability to add to the sustainability, stability and security of desertification affected areas.

A beautiful Dance has been performed by the students on saving of our Earth. Students speech competition was also held in the said occasion and they have expressed the real change of our ecosystem and pledged to plant more and more trees to fight against soil erosion and land degradation. The programme was end with prize giving ceremony among the students for different events organized.



a) Extempore speech by student b) Dance performance by students

Vanmahotsav :



Poster presentation by the students

Vanmahotsav spread consciousness amongst people about the disastrous effects of the cutting down of trees. People rejoice Van Mahotsav by planting trees or seedlings in homes, offices, schools, colleges etc. Our Department have organized state level Vanmahotsav programme at Mohanpur Municipal Council. Hon'ble Minister for Science, Technology & Environment has inaugurated the programme.



Hon'ble Minister inaugurating the programme



a) Hon'ble Minister planting trees

b) Hon'ble Minister addressing the students

Director, DSTE has addressed about the importance of plantation. How soil erosion can be prevented by planting trees, by constructing soil conservation structures, reducing slope gradient, better drainage system, mulching etc. In the programme Chairperson, Mohanpur Municipal Council and other members were also witnessed the programme. Four students have given their speech on environment related issues.

Sit and Draw competition was held among the students in different categories. Before starting the programme seedlings were planted by the dignitaries and school students in the Mohanpur Municipal Council campus. Hon'ble Minister in her deliberation emphasized on how to save the planted seedlings. She also mentioned that students should start spreading awareness about the protection of our environment from their home.



a) Director, DSTE addressing the students

b) Extempore speech by student

International Day for the Preservation of the Ozone Layer



a) Poster Display b) Inauguration of the Programme by Hon'ble Minister

Every year **16th September** is observed as **International Day for the Preservation of the Ozone Layer**. The theme for 2016 was **Ozone and Climate: Restored by a world united**. The theme for this year's International Ozone Day recognizes the collective efforts towards the restoration of the ozone layer over the past three decades and the global commitment to combat climate change.

On this international day for the Preservation of the Ozone Layer by working together, safer, healthier, more prosperous and resilient world for all people while protecting our planet, our only home can be built. Keeping view of this DSTE has taken initiation to take up the awareness programme on World Ozone Day in different schools of all districts.



Students' extempore speech



a) Presentation by b) Prize distribution by Hon'ble Minister, DSTE

All of them have emphasized on reducing the use of CFCs to prevent ozone layer. Department provided fund and guidelines to the schools listed above through Directorate of School Education for celebration of International Day for the Preservation of the Ozone Layer in a befitting manner.

The state level programme was organised at Tripura University. Hon'ble Minister for Science & Technology has inaugurated the programme as Chief Guest. Department has organized the programme in collaboration with Department of Chemistry, Tripura University. About ten students participated in extempore speech competition on depletion of Ozone Layer.



a) Joint Director, DSTE inaugurating the programme b) official from DSTE addressing the students



Rally by students

Every school organized an open quiz during the programme among the students about the related topic and other scientific facts. Also there were quiz competition among the students in different groups to aware themselves about the depletion of ozone layer and harmful affect of UV rays in our atmosphere. Students actively participated by making posters and shouting slogans like, 'earth without ozone, is like a house without a roof', 'plant trees save life' etc.

Most of the schools have started the programme with rally. Students have made placard with the slogan of adverse effect of depletion of ozone layer. Students have participated in extempore speech competition. They have promised themselves that they will not perform any such activity which will be the reason of ozone depletion.



a) Student's speech b) Quiz competition



a) Street play

b) Stage play

It has been noticed that the students were very much interested about such type of awareness programmes and they got maximum out of it. They have also performed street drama in market place and other local areas to give the information about the vulnerability of ozone depletion. Short stage drama was also done by the students of different classes.

Resource person from Department and other institution were present in the schools and delivered their speech on ozone layer depletion related issue and there was also a question answer session for the students to query about the related climate change area. Different PRI body members were also present at different schools to grace the programme.



Address by Official, DSTE

National Energy Conservation Day



a) Inauguration by Hon'ble Minister, DSTE b) Address by Director, DSTE

National energy conservation day is celebrated every year by the people all over the India on 14th of December. It is celebrated to send the message of importance of conserving energy in the every walk of life among people. This day is celebrated by organizing a lot of events such as discussions, conferences, debates, workshops, competitions, quiz, Poster competition, presentation etc throughout the country. For the financial year 2016-17,

Department of Science, Technology & Environment also gave fund to Directorate of School Education to organize National Energy Conservation Day at different schools of Tripura. This day was celebrated in the schools of different subdivisions of all the districts of Tripura(listed before). Rally was a big event in all the schools where the students displayed different energy conservation slogans. They also presented colourful posters on how to conserve energy.



a) Rally by students b) Poster presentation



Students speech
Students who take part into the

Painting competitions organized for the students at many levels is one of the main activities of this campaign which helps in increasing the awareness of children about the importance of conserving energy. Students who take part in the competition and win, get prizes, certificates etc. Hon'ble Minister, DSTE advised that all efforts need to be made so that the State can take a lead role in the energy conservation drive.

Speech presentation given by the students emphasized on how one can save the energy by deeply taking care of it such as turning off the unnecessarily running fans, lights, submersible, heater, combining car trips or other electric things of daily usage. Resource person from the Department highlighted on the objectives of National Energy Conservation Day to make it more effective among people.



Address by official, DSTE

National Science Day



a) Gathering in National Science Day b) Speech by DM & Collector, West District

In order to commemorate the discovery of the Raman Effect in India by the Indian Physicist Sir Chandrasekhara Venkata Raman in the year 1930, the day is celebrated as National Science Day. To honor this event 28th of February is observed as a National Science Day in India. The theme of the year 2017 is **“Science and Technology for specially abled persons”**. National Science Day is being celebrated every year to widely spread a message about the

significance of scientific applications in the daily life of the people. This year Department of Science, Technology & Environment has organized National Science Day at BBM College. Sri P. Saha, Joint Director in his welcome address briefed the gathering about the objectives of celebrating National Science Day. On this occasion, a motivational and inspirational talk was delivered by the eminent speakers Dr. S.B. Nath, AGMC & GBP Hospital and



Speech presentation by students of BBM College

Dr. Honna Reddy N., Director DSTE and Dr. Milind Ramteke, DM & Collector, West Tripura. Dr. Monidipa Banerjee, Clinical Director, Dept. Of Paediatrics, Peerless Hospital during her keynote address explained if determination and enthusiasm is strong then nothing can stop us from achieving success in life not even physical disabilities while referring the specially abled scientist like Prof. Stephen Hawking. Various events includes oral presentation, poster presentation, quiz, were presented by



a) Address by Dr. Monidipa Banerjee b) Address by Dr. S.B. Nath

the students from various departments of Science. A vibrant cultural programme was presented by the students and received due appreciation from the audience. Through this event the Department was able to create awareness about the benefits of science to mankind and also to help develop rational thinking and science temper in our young generation. The session was ended with prize giving ceremony.



a) Gathering at Institute of Engineers, Agartala b) Stage drama by students of BBM College

World Water Day



Hon'ble Minister, DSTE is observing the poster presentation

Like previous year this year also state level World Water Day was celebrated in Holy Cross college. Hon'ble Minister, DSTE has inaugurated the programme. Students of Holy Cross college have presented colourful posters on the theme and gathered appreciation from the dignitaries while representing them. Minister has addressed the students that save water is the water conservation for solving the problems of water scarcity in the future. Director, DSTE, delivered that all of us need to understand the importance of water and problems related to lack of water in the future.



Hon'ble Minister's Speech



Students have represented power point presentation on water scarcity and water conservation. They have explained the need to improve the collection and treatment of wastewater and safely reuse it. At the same time, they also mentioned the need to reduce the quantity and pollution load of wastewater we produce, to protect the environment and our water resources. A beautiful stage drama on misuse of water and conservation of water was also staged by the students from different departments.

Finally some simple activities to help learn the importance of water such as to use less by taking shorter showers, shutting water off while brushing, reuse water such as bath water to water gardens or plants etc. have also been discussed in the programme. Principal, Holy Cross College has inspired the students about wastewater management and conservation of water and starting these practices from their home. About 300 students were present in the programme.



Stage play by students of Holycross College

Awareness Programme on Bamboo Biodiversity & Value Addition



It was a 3 days training programme from 23rd to 25th March 2017 where students from schools and colleges have attended and gathered knowledge about various aspects of bamboo production which are favourable to poor communities. Total students from Umakanta Academy, Shikshaniketan Higher Secondary School, College of Agriculture, Lembucherra, Womens College & Tripura University

Department has also organized one training cum awareness programme on Bamboo Biodiversity & Value Addition jointly with Directorate of Biotechnology in collaboration with Bamboo and Cane Development Institute (BCDI), Khejurbagan, Agartala to sensitize the students for eco-friendly environment .



have participated in the training programme and get the knowledge of development of Bamboo industry. BCDI, Tripura also provides the opportunity to develop higher level skills as required in the processing of value-added products. In addition to being an important source of income to the poor, bamboo provides for cost effective rural and urban housing and housing goods.

The programme was inaugurated by Hon'ble Minister for Science, Technology & Environment Smt. Bijita Nath. Expert speakers addressed that Bamboo has possibility for enterprise, value addition, income and employment generation through livelihood, ecological and food security. But increasing demand and over exploitation is continuously depleting the bamboo production.



Amazing Scientific Facts

- Rainforests are cut down at a rate of 100 acres per minute.
- 27000 trees are cut down each day so we can have Toilet Paper.
- Recycling one aluminium CAN saves enough energy to run a TV for three hours.
- The amount of wood and paper we throw away each year is enough to heat 50,000,000 homes for 20 years.
- A glass bottle takes 40000 years to decompose if it is not recycled.
- 750,000 gallons of water flows through the Niagra Falls every second.
- In one persons lifetime, using a cloth bag will save over 22,000 plastic bags.
- 40% of drinking water comes from plastic bottles.
- Average temperatures will increase by as much as 12⁰ F by the end of the 21st century if greenhouse gas emissions continue to rise at the current pace.
- In one hour more sunlight falls on the earth than what is used by the entire population in one year.
- Leaving a computer on overnight for a year creates enough CO₂ to fill a double decker bus.
- Chilling up ultra low freezer from -80 ⁰C to -70 ⁰C can reduce energy consumption by 30% and prolong freezer life.
- By recycling 1 plastic bottle, students can save enough energy to power their computer for 25 minutes.
- Recycling one glass container saves enough energy to power a 100 watt light bulb for 4 hours or a fluorescent bulb for 20 hours.
- There is enough DNA in an average person's body to stretch from the sun to Pluto and back - 17 times
- The average person walks the equivalent of five times around the world in a lifetime.
- Mobile phones have 18 times more bacteria than toilet handles.
- The Eiffel Tower can be 15 cm taller during the summer
- Chalk is made from trillions of microscopic plankton fossils
- Venus is the only planet to spin clockwise.

State Flora and Fauna



State Bird : Green Imperial Pigeon
(*Ducula Aenea*)



State Animal: Phayre's Langur
(*Trachypithecus Phayrei*)



State Tree : Agar
(*Aquilaria malaccensis*)



State Fruit : Jackfruit
(*Artocarpus Heterophyllus*)



State Flower: Nageswar
(*Mesua Ferrea*)