



Report  
on  
**World Soil Day 2020**



Organized by

**ENVIS Resource Partner**

on

**Forest Genetic Resources and Tree Improvement  
Institute of Forest Genetics and Tree Breeding**

(Indian Council of Forestry Research and Education)

Coimbatore

## **Digital Observance of World Soil Day 2020 by IFGTB ENVIS**

The ENVIS Resource Partner on Forest Genetic Resources and Tree Improvement at the Institute of Forest Genetics and Tree Breeding, Coimbatore marked the World Soil Day 2020 digitally. An awareness event on the theme “Keep Soil Alive, Protect Soil Biodiversity” prescribed by the FAO of the United Nations was organized through Facebook live in order to contain the spread of COVID 19. The digital observance also found a place in the worldwide events organized by the United Nations.

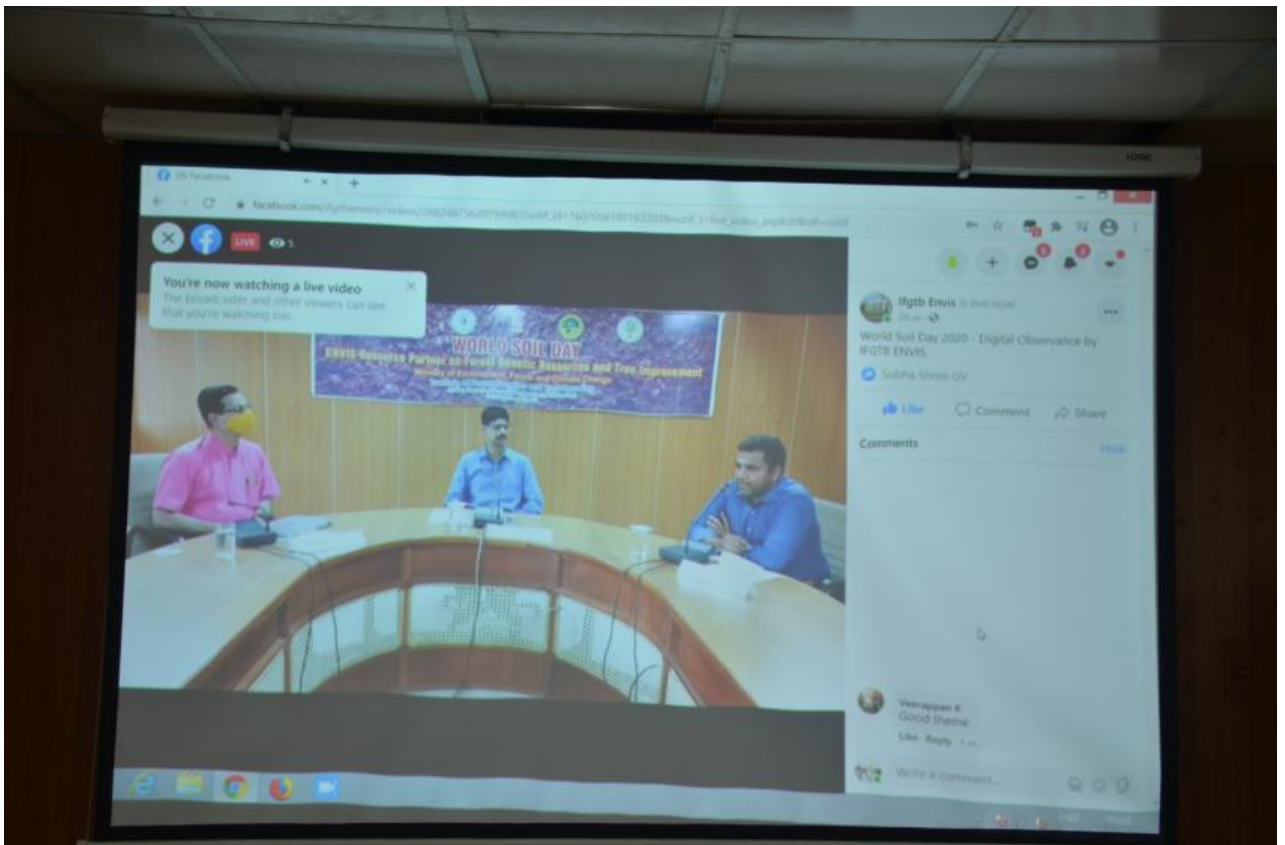
The event began with an invocation on nature in Sanskrit, ‘Prakruti Vandanam’ based on Yajur Veda composed and recited by Dr Kannan CS Warriar, Scientist F and ENVIS Coordinator. In his awareness lecture, Dr Kannan CS Warriar described the importance of soil as a living system. Soil contains millions of organisms including earthworms, nematodes, mites, insects, fungi, bacteria and actinomycetes. Highlighting its biodiversity potential, he pointed out that a tablespoon of soil has more microorganisms in it than there are people on earth. As soil is alive, soil can also die. And we humans are responsible for killing a lot of soil. The Food and Agriculture Organization (FAO) of the United Nations estimated that 33% of soil is degraded through erosion, salt stress, compaction, acidification, chemical pollution and nutrient depletion. These in turn hamper the function of soils, ultimately affecting food production adversely. The FAO has also warned that over 90% of soil could become degraded by 2050. There is a tragic irony to clearing rainforests for agriculture. The fact is that the soil is as poor in nutrients as the vegetation is rich. All the nutrients are locked up in the forests themselves. The soil in the Amazon rainforest for example is the poorest and most infertile in the world. Damages due to deforestation can never be restored. Once the forests are burned and the nutrients from their ashes are used up, farmers are left with utterly useless soil. It has been found that three years after clearing the forest what remains is washed out, worthless soil. FAO has reported that around 7140 sq m of soil is eroded every five seconds. It has been estimated that half of the topsoil on the planet has been lost in the last 150 years. Analyzing various scientific reports, Dr Warriar added that soil erosion rates are highest in Asia, Africa and South America averaging 30 to 40 tons per hectare per year and India is losing 53,340 lakh tonnes of soil every year due to soil erosion. Soil erosion can lead up to 50% loss in crop yields. Worldwide, the damage from soil erosion is some 400 billion dollars a year (29.4 lakh crores). India losses up to 28.4 billion dollars per year due to soil erosion (2.1 lakh crores)!

Shri S. Senthilkumar, Group Coordinator Research, IFGTB in his special address pointed out that World Soil Day was recommended by the International Union of Soil Sciences (IUSS) in 2002. Under the leadership of the Kingdom of Thailand and within the framework of the Global Soil Partnership, FAO has supported the formal establishment of World Soil Day as a global awareness raising platform. Since 2014, World Soil Day is

being celebrated annually to focus attention on the importance of healthy soil and advocating for the sustainable management of soil resources, he added. He also highlighted on the significance of soil conservation. It contributes to food, biodiversity and secures energy. He explained that soil plays an important role in food chain which shows how energy is transferred from one living organism to another. Shri Senthilkumar also explained how the soil helps in maintaining environmental and ecological balance. Even though soil plays a vital role in the survival of humankind, there is a global increase in degradation of soil resources. He urged that future generations should understand the gravity of this issue and contribute towards protecting soil through their actions and behaviours.

An Awareness Quiz on soil was also organized for students and general public. People from all walks of life have participated and E Certificate was also awarded to all. An awareness poster highlighting the importance of soil biodiversity was released during the occasion and its digital copies were shared with students and all the stakeholders. Dr S. Vigneswaran, Programme Officer, ENVIS proposed the vote of thanks. The online event can be accessed at <https://bit.ly/2JJ2umX>.









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# WORLD SOIL DAY 2020

## Keep Soil Alive, Protect Soil Biodiversity



Plants nurture a whole world of creatures in the soil that in return feed and protect the plants. This diverse community of living organisms keeps the soil healthy and fertile. This vast world constitutes soil biodiversity and determines the main biogeochemical processes that make life possible on Earth. Soil biodiversity (including organisms such as bacteria, fungi, protozoa, insects, worms, other invertebrates, and mammals) enhances the metabolic capacity of soils and plays a crucial role in soil health and ecosystem functioning. Soils are a key reservoir of global biodiversity which ranges from microorganisms to flora and fauna.

### Did you know?

- Soil organisms work 365/24/7 in a coordinated effort to sustain life on Earth.
- It is estimated that 1 to 6 billion ha (up to 30%) of land has been degraded globally.
- Healthy soils produces more nutritious and safer food. 95% of our food comes from soil.
- Only 1% of soil microorganism species are currently known compared to 80% of plant species.
- 25% of terrestrial biodiversity, soil organisms support life above ground.
- Up to 90% of living organisms live or spend part of their lifecycle in soil.
- Soil organisms can break down certain contaminants.
- Soil organisms process 25,000 kg of organic matter in a surface area equivalent to a soccer field.
- Land without vegetation can be eroded more than 100 times faster than land covered by vegetation.
- Soil without earthworms are 90% less effective.
- Earthworms enhance bioremediation, as they regulate the activity and distribution of microbes in the soil.
- One gram of soil can contain around 1 million individual fungi.
- Bacteria are thought to be the most species-rich group of organisms on Earth, and the vast majority of them live in the soil.

Poster No. 10/11/2018 ENVIS - December 2020

### How to protect soil biodiversity



Sustainable Farming Practices



Protect Natural Areas



Restore Degraded Areas



Green Urban Areas

Protect/increase biodiversity

Filter and degrade pollutants

Promotes soil fertility and yield

Prevent and reduce soil erosion

Support pollinators, natural predation of pest/pathogens

Protect and build carbon pools

Facilitates water infiltration and storage

Support plant growth and retain nutrients