



Alliance



Asia-Pacific “4 per 1000” Initiative Regional Conference
on
Soil Health to address Climate Change and Food Security



19th to 21st September 2023
Kanha Shanti Vanam
Hyderabad, India

Co-organized by

The “4 per 1000” Initiative
International Crops Research Institute for the Semi-arid Tropics (ICRISAT)
Indian Council of Agricultural Research (ICAR)
Alliance Bioversity International - CIAT
Trust for Advancement of Agricultural Sciences (TAAS)
Heartfulness Institute

Background

Globally, the average surface temperature has increased more than one degree Fahrenheit since the late 1800s. The increase in temperature has resulted from the rising atmospheric levels of greenhouse gases (GHGs: CO₂, carbon dioxide; CH₄, methane; N₂O, nitrous oxide; and F, fluorinated gases) which have risen about 40 percent in the last 150 years, with half of that rise occurring only in the last three decades. Increasing GHGs in the atmosphere has wide-ranging effects, such as rising sea levels, increasing frequency and intensity of wildfires, more extreme weather, including changes in the amount, timing and distribution of rain, snow, and runoff; deadly heat waves; severe droughts; tropical storms which threaten food production. Therefore, controlling GHG emissions in the atmosphere is considered as one of the great environmental challenges of this century.

Soils constitute the largest C pool in soil organic matter (SOM), and this is one of the most important components of a field ecosystem. It serves as a soil conditioner, nutrient source, substrate for microbial activity, and a major determinant for sustaining or increasing agricultural productivity. The amount of C in soils is more than three times the C in the terrestrial vegetation.

Given the 133-Gt soil carbon deficit that has accrued over time, beginning about 20 years ago, proposals for repaying this carbon debt through enhanced farming practices began to emerge as a climate mitigation strategy. Because of their large C pool and accompanying C flux, soils offer the potential of mitigating GHG/CO₂ emissions and climate change via C sequestration in aboveground biomass or soils. Assuming an enhanced land carbon sink, following the aspirational (4 per 1000) target for both agricultural and non-agricultural soils, the soil carbon sequestration would reach 3.7 Gt C/yr and carbon storage in the aboveground biomass to the tune of 2.4 Gt C/yr through forestry, agroforestry, and restoration of secondary tropical forest, in addition to the current land carbon sink (3.0 Gt C/yr). Globally there have been strong interests in capturing C in agricultural soils, not only to mitigate the risk of global warming, but also to improve soil quality.

Asia agriculture in general, and South Asian agriculture in particular, is a global hotspot for climate change vulnerability. Further, 1.7 billion people live in South Asia and by 2050 that number is expected to rise to 2.4 billion. Although the region enjoys high economic growth, it suffers from extreme poverty, undernourishment, and the deterioration of natural resources. South Asia covers a large land area with diverse ecoregions, land uses, and management practices. Over 22% of the world's population lives on less than 5% of the world's land area.

The cropland area represents 34% of the total land area, and the high proportion reflects the high population density. In accord with the land and population statistics, the per capita land area in some countries is <0.1 ha and decreasing. There is no possibility of expansion of the cropland area, and the potential of expanding irrigated land area is also limited.

The region is undergoing rapid industrialization and economic growth, leading to increase in the emissions of CO₂ and other greenhouse gases (GHGs). Furthermore, urgency of meeting increased demand for agricultural produce (food, feed, fiber, fuel) is rapidly degrading soil quality and exacerbating degradation. Most agricultural soils have low soil organic matter (SOM) reserves due to fertility-mining practices (residue removal, uncontrolled and excessive grazing, imbalance in application of plant nutrients), and widespread problems of soil degradation.

Pacific region with the high number of islands is also experiencing difficulties with the rising of the Pacific Ocean level, and extreme climatic conditions linked with El niño and La niña which threaten the food security of most countries.

The political leadership in the region has strong commitments to reducing GHG emissions for achieving net zero. For example, India's Prime Minister announced at COP 26 that India will reduce projected carbon emissions by 1 billion tons between 2021 and 2030. Therefore, there is a need to assess the potential of carbon C sequestration in soils of Asian countries and identify the technical options and strategies of SOC sequestration for healthy soils and climate change mitigation.

The "4 per 1000 Initiative", jointly with International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Indian Council of Agricultural Research (ICAR), Alliance Bioversity International-CIAT (ABC), Trust for Advancement of Agricultural Sciences (TAAS), and Heartfulness Institute, proposes to organize a Regional Think Tank conference involving expertise across Asia-Pacific countries in interdisciplinary areas of soil C and climate change mitigation, focusing on soil carbon sequestration in relation to the initiatives like "4 per 1000" and other programs by the governments in the region.

Objectives of the Regional Meeting

The workshop will be organized with the following specific objectives:

- To deliberate on the potential, challenges, opportunities, and strategies in soil C sequestration and soil health in Asia and the Pacific,
- To propose an implementation pathway from policy to action through a regional "4 per 1000" roadmap, which would include for instance:
 - An action plan for establishing a regional consortium to foster collaborative research around carbon sequestration in soils and maintaining healthy soils, and
 - A regional database on good agricultural practices for carbon sequestration and climate change mitigation to support transition and payment for ecosystem services.

Participants

Policy planners, researchers & development practitioners from national governments & institutions, CGIAR centers, Advanced Research Institutions, farmers organizations, NGOs, private sectors, foundations, philanthropists, etc.

Possible participating countries

Afghanistan, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Japan, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand and Vietnam, Australia, Fiji, New Zealand, Papouasie-New Guinea, Samoa, Tonga, Vanuatu, and all other countries of the Asia and Pacific.

Poster Exhibition & Presentations

All participants are invited to submit posters on their projects and/or research as well as abstracts of their ideas, innovations, case studies that will be of interest for the preparation of the road map in relation with the subject of the regional conference. Those documents will be used for the preparation of the program (presentations on Day 1), the posters exhibition (all days of the Conference) and the elaboration of the road map.

Hosting venue

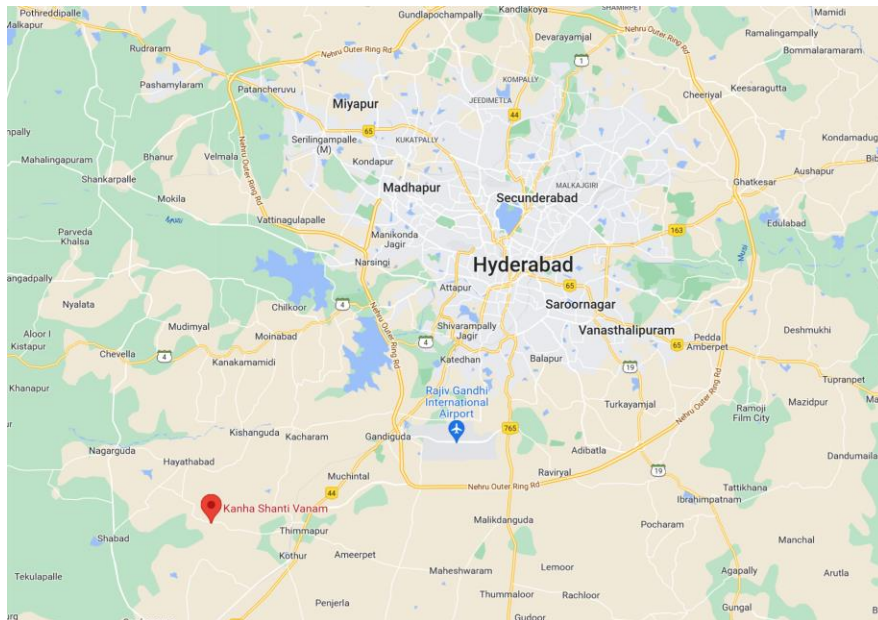
Located on the outskirts of Hyderabad, Telangana, Kanha Shanti Vanam is the world headquarters of the Heartfulness Institute. This Heartfulness campus is a learning meditation center developing green initiatives through the restoration of the Decan Plateau into a lush green ecosystem, including rainforest and more.

With this green environmental initiative, Heartfulness Institute is nurturing India's mega-biodiversity, indigenous and endangered species. "We adopt the latest technologies with scientific planning to create an ex-situ conservation center, replete with splendid green spaces," says Dr Ramakantha, Director of *Forests by Heartfulness*.

The center received the Indian Green Building Council (IGBC) Platinum award in 2019 for following worldclass environment friendly practices, becoming the first meditation center in the world to achieve the feat.



At the heart of the campus is the Pearl Hotel (43 rooms and a restaurant), one of the various facilities located inside the 340-acre campus in close proximity to Rajiv Gandhi International Airport.



Draft Agenda

Day 1, 19th September 2023

Arrival of participants

18:00 – welcome cocktail

Day 2, 20th February 2023

08:30-09:00 – registration, opening of the posters exhibition, networking

09:00-11:00 – inauguration and opening session (high level policy participation) under the High patronage and in presence of Union Minister of Agriculture and Farmers welfare Shri Narendra Singh TOMAR

11:00-11:30 – coffee break and group photo

11:30-13:00 – Situation of the international “4 per 1000” Initiative in the Asia-Pacific region with country reports from government representatives (5 min max per presentation & posters)

- India
- Cambodia (4p1000)
- Japan (4p1000)
- Philippines (4p1000)
- Viet Nam (4p1000)
- China
- Other countries

13:00-14:00 – lunch

14:00-16:00 – The point of view of Science and the Civil society in the region (NGOs, farmer organizations, and business) (5 min max per presentation & posters)

- Presentations by Scientific and Education institutions
- Presentations by Farmers organizations
- Presentations by NGOs
- Presentations by Private companies

16:00-16:30 – coffee break

16:30-17:15 – Wrap-up of Day 1 in plenary with elements for roadmap

17:30-18:30 – Visit of Kanha Shanti Vanam gardens and rainforest

19:00-22:00 – Reception dinner

Day 3, 21st September 2023

09:30-10:00 – plenary for presentation of 5 breakout sessions (according to the number of participants):

- Governments and International or Regional Organizations representatives
- Farmers organizations representatives
- Scientific Institutions representatives
- NGO and civil society representatives
- Business and private sector representatives

10:00-11:15 – 1st round of breakout sessions

11:15-11:45 – coffee break

11:45-13:00 – 2nd round of breakout sessions

13:00-14:00 – lunch

14:00-15:30 – plenary session with a panel of 4 speakers from the Asia-Pacific Region (personalities involved in the agricultural and rural development, the fight against climate change, food insecurity) **followed by a discussion with participants**

15:30-16:00 – coffee break

16:00-17:00 – Presentation of the possible regional road map elaborated from the presentations on Day 1 et and the breakout sessions and discussion

17:00-17:30 – conclusion in plenary and validation of the roadmap

Day 4, 22nd September 2023

09:00-13:00 – Field trips (optional):

- Hyderabad ICRISAT Research Station
- Kanha Shanti Vanam installations (vitro plant facilities, nursery, gardens, rainforest, etc.)

13:00-14:00 – lunch and end of the Regional Conference

14:00 – Departure of participants
