Advancing Ecosystem Restoration Education through River Ecosystems

The session was held as a round-table discussion on the role of education in ecosystem restoration and sharing ideas on the way forward to strengthen it in the context of river ecosystems.

Speakers:

Dr. Pramod Sharma, FEE, Moderator: set the context of the discussion by highlighting the role of education in ecosystem restoration referring to SDG 6.1. He shared that the UN Decade of Ecosystem Restoration has a focus on education especially youth education and learning. The goal is to find ways to embed ecosystem restoration in formal and informal education globally by 2030. He spoke about the opportunities to use IT platforms to engage with youth. He shared that efforts are on to make this goal as a part of SDG goal 4.7. In addition, the effort is to create resources for stakeholders to help them understand how to take it to classrooms and nonformal situations. It is an interdisciplinary approach for restoration of degraded ecosystems. The key concepts for such and approach include:

-Ecosystem supporting all forms of life on earth

-Biodiversity and resilience

-Human ecosystem relationships

-Restoration as response to degradation

-Community engagement for long term sustainability, citizen education

Pramod shared that the Ganga ecosystem is one of the flagship sites for ecosystem restoration initiatives, and that the initiatives will be replicated for 15 other rivers in India. FEE along with CEE as its National Operator, proposed to the Namami Gange secretariat in the Government of India that an education framework be developed along with identifying education needs for ecosystem restoration. The process would be initiated by the end of 2025.

Mr. Pravin Garg, President, Mobius Foundation: spoke about the importance of rivers in the development of civilisation since ages. Speaking about the initiative of Namami Gange, an initiative of the Government of India in river conservation with a focus on Ganga, he mentioned that the initiative was more that construction of toilets and sewage management, and took a holistic approach. He emphasised that educating children was of utmost importance, and that learning about river ecosystem must be included in the curriculum of all the different boards of education in India. He highlighted quality of teachers and the less time devoted to children in government schools as concerns for the education sector. He added that as income levels of people will rise, resource consumption will rise, therefore it is required to teach, how to practice sustainability. Demographic dividend will be liability unless it is educated and skilled. He shared about the initiative by the Mobius Foundation in over 100 schools through a program called Young Climate Leaders in the North East. This he said needs to become a mass movement, but how to do it in current political, religious environment is a key challenge.

Ms. Nina Hamilton, D**irector of International and Leadership programs, NAAEE (North American association for EE):** said that the approach should be to take action engaging the community. It should be inclusive and place based, starting local. Nina shared restoration cases from the US and Mauritius. She shared that NAAEE is developing Tools of engagement which include a toolkit for

engaging people in conservation around ecosystem restoration. This is available free to download and use.

Prof. Chong Shimray, NCERT: shared that in geography and science textbooks developed in 2006, river ecosystem is included. For example, the textbook for class 10, includes sections such as - how microorganisms pollute rivers, Graph of coliform count levels in river Ganga at different places, do you know? Sections, Box about- Namami Gange initiative. She said that since rivers will not be there at all places, therefore instead of river ecosystem, terrestrial ecosystem is included as example of an ecosystem. She added that it was challenging to talk about certain things in the classrooms and also include in the books, because of sensitivity issues. Speaking about such issues, she enquired "Can we really talk about nexus between big industries and law enforcement agencies in the classroom? This is also a challenge, though big industries are mostly responsible for river pollution". She added that there is opportunity to include river ecosystem in the new 11th and 12th textbooks. The textbooks need to adequately cover coastal ecosystems which is a gap, although India has a large coastal area. She further added that additional information and resources are provided through QR codes, because of the limitation of the text books. She emphasised the importance of teacher training and that the teacher should feel the need of the training, that is important. She also said there needs to be a thought given to 'What to include in which grade'.

Dr. Cheryl Charles, Children and Nature Network: highlighted that the Indian society already has the "We are part of nature:", feeling and that is great way to start and build on. Not all countries in the world have this cultural legacy. She stressed that we should not overwhelm teachers through curriculum. She added that as rivers are not everywhere, the watershed approach which also focuses on ground water aquifers can be included in the curriculum. Speaking about the various avenues available for river ecosystem restoration education, she said we need to focus on community, all age groups, intergenerational, festivals in Indian society and multimedia opportunities. She said that getting people to the river will transform their connection with river. She added that young people have great desire to make positive difference, but there is also ecoanxiety and stress there in all generations.