

# ECOSF NEWSLETTER



ECOSF team wishes our partners, collaborators and all readers a very prosperous new year and season's greetings



#### 4<sup>th</sup> Joint Training Program on Science, Technology & Innovation Policy and Instruments for Sustainable Development for the Belt and Road Countries

BTBU-ECOSF Joint Training Center with support of China Association for Science and Technology (CAST) organized the 4th joint Training Program on “Science, Technology, and Innovation (STI) Policy and Tools for Sustainable Development in the Belt and Road Countries” on December 15th, 2021. The training was held virtually through Zoom and attracted participation of over 100 participants from 20 countries, particularly from the ECO Member Countries. Engr. Khalil Raza Scientific Officer – ECOSF moderated the training session and generated a meaningful dialogue on the subject. A number of STI experts from China, Iran, and Pakistan participated as resource persons.

The 4th Training Program on STI Policy and Tools was aimed at engaging participants in enhancing their understanding on existing approaches, case studies and national experiences in establishing and managing STI policies with reference to innovation system

reforms, STI parks and other essential tools. The objective of the short on-line training session by BTBU-ECOSF Joint Training Center was to build awareness and understanding concerning key aspects of STI policies and instruments, as well as innovation and entrepreneurship processes and how they relate to the SDGs. This report contains brief highlights, and the key messages of the expert trainers as provided in the succeeding sections. The detailed Power Point Presentations (PPTs) of the expert trainers are annexed towards the end of this report.

## Role of STI Policy and Tools for Sustainable Development

The resource persons underlined that the STI policy has played a significant role in the economic transformation of many nations. STI policies have enabled structural transformations and the long-term productivity growth needed to sustain economic development. In the Asia-Pacific region, this is particularly true for Japan, the Republic of Korea and Singapore, and recently in China. These four countries have undergone rapid economic transformations in the recent decades. Significant advances as a result of STI policies have placed these countries at the forefront of innovation.

Hence, experts emphasized that many regions and countries need to build capacity in STI policy in order to strengthen their national STI systems and foster STI for addressing the pressing health, economic and social challenges of the pandemic crisis, especially for the Belt and Road countries.

## Training Objectives

The virtual training session provided an opportunity to STI policymakers, researchers, and managers to introduce various theories and practices of STI policy tools in the context of Belt and Road Initiative.

The experts/resource persons delivered their lectures around the following specific objectives:

1. Share knowledge and practices using different methodological approaches to policy- making and implementation of STI policies
2. Recognize the importance of transparent, participatory, inclusive, and evidence-based STI policy-making processes
3. Understand the importance of establishing appropriate and well-balanced policy mix of instruments and means that address the global challenges
4. Appreciate the need to support innovation and entrepreneurship through government support, financing etc.



**Prof. Dr. Manzoor Hussain Soomro, President ECOSF** in his welcome remarks emphasized that Science, Engineering, Technology, and Innovation (SETI) play a critical role in providing policy instruments that are essential to develop strong base of countries. Prof. Soomro underlined that it is important to deliberate on the adequate framework and strategies to develop the STI policies as a powerful governing tool which can reshape and alter the course of direction towards a high economic growth trajectory for the Belt and Road countries.

**Prof. Dr. Dandan Xu Vice President, Beijing Technological and Business University (BTBU)** gave her closing remarks towards the end of training workshop. Prof. Xu concluded that transformative powers of Science, Technology and Innovation will be at the heart of sustainable economic growth in the Belt and Road region. Prof. Xu paid her gratitude to the expert trainers from Iran, Pakistan, and China for delivering important and resourceful training for the audience. She assured robust cooperation and collaboration will continue by the Joint Training Center to achieve the intended goals and promote STI in the belt and road region.

Resource person and the expert trainers who delivered the training included **Dr. Bi Lianliang**, Associate Researcher, Institute of International Science and Technology Relations, Chinese Academy of Science and Technology for Development (CASTED), **Dr. Li Yan**, Associate Researcher CASTED, **Prof. Dr. Arabella Bhutto** Co-director of the Mehran University Institute of Science & Technology Development (MUISTD). **Ms. Mozghan Yazdianpour**, Director of International Cooperation of Isfahan Regional Center for Technology Incubators and Science Park Development (IRIS), **Prof. Dr. Tassaduq Hussain**, Dean Faculty of Computing and IT at the University of Sialkot.

For complete training report and recording of the training session, please visit: <http://ecosf.org/4th-Joint-Training-1>

**ECOSF participated in the Seventh International Conference on Aerospace Science & Engineering (ICASE) hosted by Institute of Space Technology, Islamabad**

Institute of Space Technology (IST) hosted the Seventh International Conference on Aerospace Science & Engineering (ICASE) 2021 on December 14-16, 2021. ICASE is a regular biennial event to provide an international platform in which scientists, researchers, engineers, academicians, industry professionals, entrepreneurs, and students from different parts of the world, get a chance to interact and discuss the latest themes and trends related to aerospace science & engineering.



The ICASE provided a platform to share experiences, foster collaborations across industry and academia, and to evaluate emerging technologies and developments across the globe in various thematic areas, including Science Diplomacy. More than 60 national and international noteworthy experts of the scientific community including academicians, researchers, professionals, and entrepreneurs joined the conference in-person and virtually and shared their insightful research outcomes.

President ECOSF, Prof. Dr. Manzoor Hussain Soomro delivered his talk on “Science Diplomacy for the Sustainable Development” during the Science Diplomacy Session. In his presentation, Prof. Soomro emphasized that Science and Technology has immense power to addresses issues of great importance to all societies. Prof. Soomro elucidated that technological advanced countries are now capable of influencing nations by exerting soft-power to achieve their economic goals, and its efficacy and impact is often more persuasive than hard-power.

Therefore, ECO Member Countries, including Pakistan must move up the technological ladder to develop capabilities in STI to remain globally competitive. Prof. Soomro shared that ECOSF is actively promoting



science diplomacy not only among the Member States but beyond the region by bringing expertise from advanced countries.

The other expert/speakers during the session included Dr. Imtihan Elahi Qureshi (President of Pakistan Nuclear Society), Dr. Guangnian Wang (Zhejiang Science and Technology Association, China), Prof. Dr. Muhammad Ali Ismail (NED University of Engineering and Technology), and Mr. Sayyed Paras Ali, (Technology Times Pakistan).

### SDPI hosted its 24th Sustainable Development Conference

Sustainable Development Policy Institute (SDPI) of Pakistan organized its 24<sup>th</sup> Sustainable Development Conference (SDC) on December 06-09, 2021. The overarching theme of this year's Conference was Beyond the Pandemic: Leaving No One Behind. Sustainable development conference was a reflection on the two years since the COVID-19 pandemic. Over the course of 4 days, the SDC hosted several policy sessions and dialogues on thematic areas of social protection, infrastructural development, trade and industrial growth and climate change etc. On behalf of ECOSF, President Prof. Dr. Manzoor Hussain Soomro and Engr. Khalil Raza participated during various sessions of the conference.



H.E. Dr Arif Alvi, President of the Islamic Republic of Pakistan was the Chief Guest during the inaugural Plenary - Beyond the Pandemic: Leaving No One Behind. President Asif Ali emphasized that social protection schemes in Pakistan needs to go beyond cash transfer to productive assets distribution among people, and in this regard, land distribution schemes may be developed bringing all the stakeholder at one platform with the assistance of development banks such as Zarai Taraqati Bank.

The conference highlighted that the post-pandemic economic recovery will depend upon several factors which require a comprehensive discussion. Among other factors, ability of national and sub-national governments to:

- (i) plan for building back better, focussing on resilience of the hardest hit communities in terms of health, food, livelihood, and other shocks of the pandemic, and ensuing natural hazards/disasters,
- (ii) ensuring adequate budgets for relief and recovery,
- (iii) form partnerships with private sector and non-governmental organizations, and
- (iv) efficient use of existing and donor resources in health and other social sectors will be critical.

While most developing countries have enjoyed debt relief until now, repayment capacities could get tested during next year and beyond possibly triggering the need for further rounds of borrowing. All this has implications for financial sector resilience and macroeconomic stability, particularly budget deficit, and inflation which in turn could hamper drive towards poverty reduction and mitigation of inequalities.

In the perspective of uneven recoveries and pandemic aggravating the inequalities, the SDC generated a debate on redefining and reshaping the post-pandemic new development agenda and required shifts in current policies, debate on how to be inclusive in these policies; and leave no one behind during the pandemic and beyond.

**Institute for Global Health and Development, Aga Khan University hosted a roundtable discussion on ‘The New Forefront for Action on Climate Change and Health in Pakistan’**

Institute for Global Health and Development, Aga Khan University (AKU) hosted a roundtable discussion on ‘The New Forefront for Action on Climate Change and Health in Pakistan’ at Islamabad on December 21, 2021. The discussion convened leading environmental and health researchers and policy experts of Pakistan. On behalf ECOSF, President Prof. Dr. Manzoor Hussain Soomro participated in the event.



The event provided opportunity to Pakistan’s leading researchers and policy experts in the nexus of climate change and health to determine the future path towards establishing a network, coordinated research, policy formulation, and broad multi-sectoral national response.

The roundtable discussed various Climate Change Challenges, including recurring heatwaves, heavy monsoon rainfalls, floods, droughts, sub-optimal agriculture output, and food shortage in various regions of Pakistan. Experts highlighted that these extreme events are having an inordinate impact on the health and wellbeing of the population. The roundtable discussion also underscored that that despite emitting less than one percent of the global emissions, Pakistan is the fifth most vulnerable country to climate change.



Prof. Dr. Zaffar Bhutta, Director Institute for Global Health and Development, Agha Khan University presented his talk on ‘The relationship of Climate Change and Child Nutrition in Pakistan’. Many other experts on climate and health issues also provided their feedback on the matter. Towards the end, Dr. Faisal Sultan, Special Assistant to Prime Minister on Health made his concluding remarks. The Surgeon General of Pakistan Army Lt. General Madam Nigar Johar also shared her wisdom in the roundtable.

During the discussion, Prof. Dr. Manzoor Hussain Soomro underlined that the education about climate change and health as well as food security is overarching and needs to be incorporated in formal education at all levels. He emphasized over developing the capacity of school teachers as a key intervention and shared that ECOSF is actively engaged in developing training modules in Climate Change Education. He further offered his support towards cooperation and collaboration with AKU in the matter.

**ECOSF invited to the Launch Ceremony of the Belt and Road Cross-Region Workshop for Teachers' Professional Development on E-STEM by CAST and BNU**

China Association for Science and Technology (CAST) and Beijing Normal University (BNU) hosted the launching ceremony of the Belt and Road Cross-Region Workshop for Teachers' Professional Development on E-STEM with special focus on the Project Based Learning (PBL) on December 11, 2021. The project has been planned, developed, and implemented by the Research Institute of Science Education of Beijing Normal University in collaboration with relevant partners. On behalf of ECOSF, President Prof. Dr. Manzoor Hussain Soomro participated in the launch event.

The launch ceremony was sponsored by China Center for International Science and Technology Exchange, Children and Youth Science Center (CYSC) of CAST, and China Education Innovation Institute of Beijing Normal University, and while it is being implemented by Yanhua Middle School in Beijing.



During the launch ceremony, the program leaders and experts highlighted objectives and goals of the E-STEM PBL, which aimed to bring together environmental/science educators from different countries and regions to develop and practice a series of E-STEM PBL courses and develop a network of teachers who can effectively implement E-STEM PBL.

The prime objective of this project is to promote the widespread use of E-STEM PBL in primary and secondary school. In the workshop, participants exchanged the ideas, pedagogy methodologies and curriculum strategies on environmental and energy themes.

### President ECOSF Participated in “UNESCONNECT” organized by the UNESCO Pakistan

The United Nations Educational, Scientific and Cultural Organization (UNESCO) organized an outreach event “UNESCONNECT” in Islamabad on December 1, 2021. A large number of stakeholders including government representatives, diplomatic partners, civil society, stakeholders from development and private sector, artists, activists, and experts attended the event. On behalf of ECOSF, President Prof. Dr. Manzoor Hussain Soomro participated in the event.

UNESCO Representative to Pakistan Ms. Patricia McPhillips welcomed the guests and underlined that a successful development agenda requires inclusive partnerships. UNESCO believes in a partnership-based approach founded on a sense of shared purpose and mutual accountability. Together, we want to find newer, better, more sustainable ways to make a difference, she said.

The event marked UNESCO’s 75-year legacy of working to promote peace in Pakistan and across the world. UNESCO hosted this event to facilitate meaningful engagement with a diverse range of stakeholders, and highlight the specialized strengths, opportunities, and assets that UNESCO possesses to support the development agenda 2030 in Pakistan, in the fields of education, culture, science, and information.



Renowned journalist Zarrar Khuhro moderated an open discussion to brainstorm ideas in developing linkages among public, private, and multilateral organizations to address eminent challenges facing Pakistan. Participants pledged to support UNESCO’s mission in Pakistan to mitigate climate change, increase access to education, leverage digital technologies to reduce inequalities, and preserve Pakistan’s rich and diverse cultural heritage for future generations.

### ECOSF Participated in International Conference on Engineering Education organized by The China Engineering Education Accreditation Association (CEEAA)

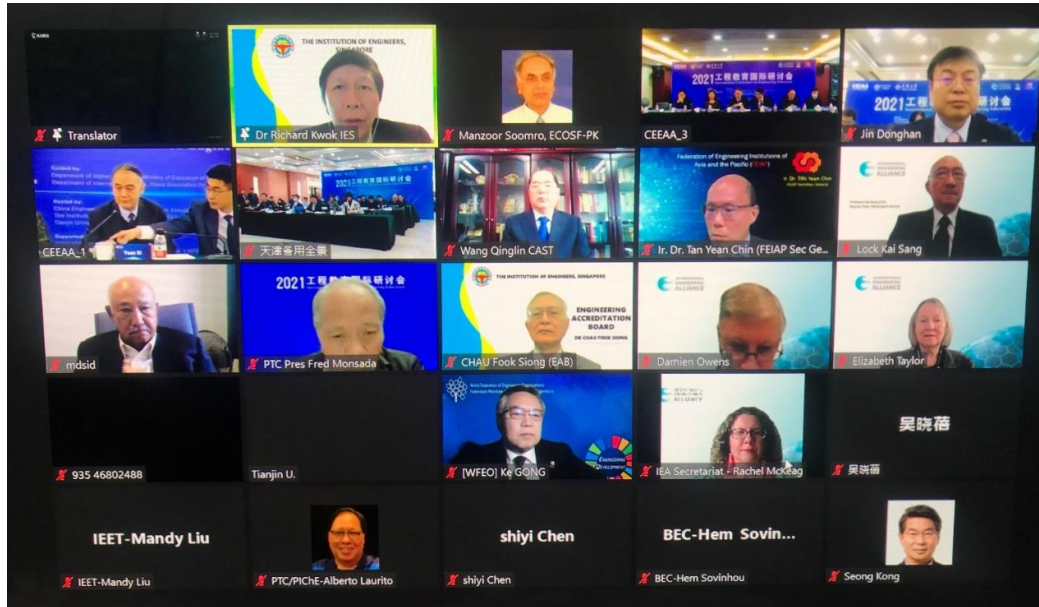


## 2021 International Conference on Engineering Education

### Incorporating Sustainable Development Goals into Engineering Education and Accreditation: Challenges and Approaches

15 December 2021

The China Engineering Education Accreditation Association (CEEAA) organized an International Conference on Engineering Education with a theme of “Engineering Education and Accreditation for Future Sustainable Society” on December 15, 2021. The conference emphasized over the means and strategies to incorporate Sustainable Development Goals (SDGs) into Engineering Education through Outcome Based Assessment (OBA). The conference was supported by World Federation of Engineering Organizations (WFEO), the International Engineering Alliance (IEA) and the Federation of Engineering Institutions of Asia and the Pacific (FEIAP), while the Institution of Engineers, Singapore and the Tianjin University were the co-hosts of the event.



The conference attracted participation of engineers, expert, scientists, researchers, academicians, industrialists, and policy makers participated in the event. On behalf of ECOSF, President Prof. Manzoor Hussain Soomro participated in the event.

WFEO President Prof. Gong Ke delivered a keynote address on the Engineering Education and Accreditation for Future Sustainable Society. Prof. Gong Ke underlined that the global challenges require innovative solutions, and it is extremely critical to promote appropriate engineering education in order to meet the Sustainable Development Goals.

The conference concluded that engineering education plays a pivotal role in nurturing the SDGs, engineering education providers have the challenging tasks of socio-economic and infrastructural development and appropriate technologies to completely encompass SDGs in the face of the competing demands of embedding new attributes such as critical thinking, data analytics, diversity and inclusion, and ethics.

**President ECOSF Participated in 5<sup>th</sup> Meeting of Steering Committee on Nomination of Karez Cultural Landscape of Balochistan in the World Heritage List**

The 5<sup>th</sup> meeting of steering committee on nomination of Karez Cultural Landscape of Balochistan in the World Heritage List was held in the PCRWR Headquarters Islamabad on December 01, 2021. Stakeholders from different departments of Balochistan and members of the Steering Committee participated. ECOSF President ECOSF Prof. Dr. Manzoor Hussain Soomro, a member of the Committee also participated in the meeting.

Dr. Muhammad Ashraf, Chairman, PCRWR welcomed the guests and briefed about the agenda of the meeting and the importance of the Karez system for the Balochistan and different water policies and frame work for the better management of the water in the water scarce province of the country.

Ms. Patricia Mc Phillips Country Director, UNESCO appreciated the work of PCRWR and emphasized the importance of rehabilitation of Karez system for the sustainable agriculture and water resources for Balochistan. She briefed the participants about the salient features of the ongoing projects of UNESCO in Balochistan.



Secretary Culture and tourism Balochistan Muhammad Asgher Arifal, on behalf of Additional Chief secretary Balochistan chaired the meeting and discussed about the cultural and potential tourism sites in the Balochistan. He also highlighted the different projects which are being submitted to the government for the culture and heritage developments in Balochistan.



The participants from the different departments like Agriculture, Environment, PHED, Irrigation, Forest etc. presented their views about the available policy instruments and their implementation process. UNESCO representative also briefed the participants about the process of nomination of Karez cultural landscape of Balochistan in World Heritage list and timeline of the process.

At the end, the chair thanked all participants and appreciated PCRWR for its efforts and agreed to share the data related to karez as soon as possible so that it could be nominated in world heritage list.

**President ECOSF participated in ASEAN-Korea Engineering Forum**

**The 9<sup>th</sup> ASEAN-Korea Engineering Forum**  
**제9회 한-아세안 엔지니어링 포럼**

Climate Technology and Industrial Cooperation towards  
 Carbon Neutrality in ASEAN and Korea

**LIVE** 12월 14일 (화) 10:30부터 포럼이 시작될 예정입니다.  
 The forum starts at 10:30 on 14<sup>th</sup>, December. 2021

The ASEAN Academy of Engineering and Technology (AAET) and the National Academy of Engineering Korea (NAEK) jointly hosted the 9<sup>th</sup> ASEAN-Korea Engineering Forum on 14 December 2021. This year the theme of the Forum was Climate Technology and Industrial Cooperation Towards Carbon Neutrality in ASEAN and Korea. A large number of engineers, tech-experts, scientists, researchers, academicians, industrialists, entrepreneurs, and policy makers participated in the event. Prof. Manzoor Hussain Soomro, a Foreign Fellow of the AAET also participated in the event.

The objective of the Forum was to share knowledge and experience in industrial development, to address engineering challenges for sustainable economic development in Korea and ASEAN. Experts underlined pathways to create better resolutions and smarter strategies through learning, communicating, and converging with one another.

Academician Emeritus Prof. Dr. Chuah Hean Teik, President AAET and Prof. Oh-Kyong Kwon, President NAEK delivered their welcome and keynote speeches highlighting the need for working together on engineering education and industrial cooperation to help accelerate the transition towards carbon neutrality.

Engineering experts deliberated on the technological innovation, engineering solutions and business approaches which will promote the carbon neutrality, green economy and Sustainable Development Goals of United Nations (SDG). The Forum generated a meaningful dialogue to promote the industrial cooperation between ASEAN and Korea on the reduction of greenhouse gases, adoption, and development of green technology, as well as deployment of green energy.

### Pakistani Students Showcased Plastic Waste Management and its Low-Cost Solution

The students of five leading Universities of Pakistan displayed the state-of-the-art technology based low-cost projects for recycling of plastic waste material during an event held at International Islamic University Islamabad (IIUI) on 08 December 2021.

The projects attracted a good number of visitors from national and international departments and received overwhelming response. The dignitaries and officials of various departments witnessed practical demonstration of converting waste plastic material recycled into plastic tough tiles and plastic thread. The project was one of the series of events organized and funded by UNESCO, UNDP, Coca-Cola Foundation, Global Water Challenge, New World and PSF. A large number of researchers, scholars, experts, linguists, academia, students, etc. participated in the event. From ECOSF, President Prof. Manzoor Hussain Soomro participated in the event.



The low-cost machines were developed by the students of Engineering Departments of IIUI, National University of Technology, Capital University of Science and Technology, Pakistan Institute of Engineering and Applied Sciences and Institute of Space Technology.

Speaking on the occasion, Additional Secretary, Ministry of Science and Technology, Dr. Syed Attaur Rehman said that they were striving to establish a strong linkage between academia with industry for putting knowledge into practice for the collective good of the people.



Dr. Athar Masood from International Islamic University Islamabad in his welcome address appreciated the efforts put in by the students and hoped that such activities would continue in future as well.

Dr. Manzoor Hussain Soomro, President ECOSF in his speech appreciated the role of PSF in promoting the Plastic Waste Management. These types of sessions are a good opportunity for the young talent of Pakistan. He further shared about the BTBU-ECOSF Joint Training Center and said that the Center is

organizing its 4th Joint Training in collaboration with the Chinese Academy of Science and Technology for the Development (CASTED). The theme of 4th training is “Science, Technology & Innovation Policy and Instruments for Sustainable Development for the Belt and Road Countries”, he added.

**Upcoming Events posted on ECOSF website and Facebook page**

**1<sup>st</sup> International and 3<sup>rd</sup> National Conference on Biomathematics at Damghan University, Iran**

1<sup>st</sup> International and 3<sup>rd</sup> National Conference on Biomathematics will be held virtually on January 19-21, 2022 at Damghan University, Damghan-Iran. The conference is being organized by Damghan University of Iran and ECO Science Foundation (ECOSF) in collaboration of other Iranian Organizations. “The Conference on Biomathematics” intends to introduce the mathematical methods and models and their applications in medicine, biology, and environment. The current Conference provides a circumstance for scientists and researchers in various fields to come together to develop and apply mathematical and computational tools to study phenomenon in a wide range of life sciences and inter-disciplinary fields. The presentations/discussion will be carried out on following main topics during the conference:

- Mathematical Modeling in Biological and Medical Sciences
- Differential Equations and Dynamic Systems
- Biomathematics
- Biostatistics
- Biophysics
- Applications of Mathematics in Medical Sciences
- Bioinformatics
- Optimization and Optimal Control in Life Sciences
- Computational Methods in Life Sciences Models
- Environment

Read More: <http://ecosf.org/Conference-on-Biomathematics>

