G20 CSAR JCKIC-IITJ

Diversity, Equity, Inclusion and Accessibility in Science & Technology (S&T)
Plan and Policy for S&T Powered Global Action
19 August 2023

G20 CSAR event at IIT Jodhpur addressed the importance of *Diversity, Equity, Inclusion and Accessibility in Science & Technology (S&T)* with a focus on *Plan and Policy for S&T Powered Global Action*. For the event, Pan India experts on livelihood, social inclusion, diversity, & equity arrived from UP, Kerala, Delhi, Andhra Pradesh, Punjab, West Bengal, Rajasthan, and a few joined online, from abroad as well.

The event was inaugurated by **Prof. Santanu Chaudhury, Director IIT Jodhpur**. In his inaugural speech, Prof. Chaudhury stressed on considering the issues of Diversity, Equity, Inclusion and Accessibility in S & T. He elaborated on the inclusivity of women in STEM, whether they are reaching the pinnacle? And how IITJ is reducing the gender gap, where the women professors are increasing in numbers and leading the top administrative positions such as Heads and Deans. He further talked about considering gender sensitivity, bridging the digital gender divide and people with special ability and their education and skill development. He exemplified this by addressing the research and knowledge gap for advancement of Braille technology, the detection and prevention of Silicosis disease in Rajasthan for the artisans working for stone carving, climate change and more.
After the thought provoking address by the Director, IIT Jodhpur, the audience was **introduced to the mission and vision of JCKIC** by **Prof. Sampat Raj Vadera, Deputy Director, IIT Jodhpur**.

The first session of the day was about Diversity, Gender and Social Inclusion which included 20 min talks by the experts.

The first speaker of the session was **Dr. Sonal Mobar Roy**, Assistant Professor at the Center for Wage Employment and Livelihoods at the National Institute of Rural Development and Panchayati Raj, Hyderabad, India. Dr. Roy introduced the audience to her attempts to bridge the gap between theory and practice in her special focus areas of the Sociology of Health and Education, Culture and Tribal Studies, Rural Development, and Ethnography. She shared the roadmap to development in government schools and importance of inclusivity, that by providing books in regional language helped to bring more students to the school. Further she added the importance of equal wages and woes for women in the program of Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA). The possible improvements in mid day meals and Poshan Abhiyan, for inclusivity of women in STEM. She further shared her studies in the tribal community of Burgula, concerns of vulnerables, required alignment of policies, and addressed the agents of change.

Ms. Ajaa Sharma, Learning Experience Specialist at Quest Alliance, Bangalore talked about her work for education programs in schools, with focus on education and inclusion of girls in STEM. She exemplified the importance of inclusivity by sharing the excitement of girls when they worked with electric-wires for the first time in STEM hackathon projects. A Development Sector professional with 17 years of experience in diverse education programs across geographies, Ms. Sharma further addressed the engagement of communities with education, and how educating kids can help changing the mindsets and breaking stereotypes. Ms. Sharma talked about the professional development of teachers and educators, and educational content and strategy to fight against the deep-rooted mindsets.

Ms. Premlata Poonia, founder of the NGO Hamari Laado, talked about her work on the development of girls coming from rural areas and Low-Income families. She addressed the gap between accessibility for a boy and a girl in everyday life. Ms. Pooniya shared the impact of NEEV, an innovative running based program for pre-adolescent girls, on how a small run can boost their confidence, empower them and change the deep-rooted mindset towards openness or freedom for girls. Ms. Pooniya further exemplified the impact of sponsoring talented rural girls into post high school education on inclusivity in S & T.

Dr. Varun Sharma, from Arpan Seva Sansthan and Aravali NGOs, shared two case-studies from his team's work in Rajasthan. This included SSPV and marginalized communities and G-filter for addressing vulnerabilities. He introduced the audience to the sub surface irrigation unit of sub-surface porous vessel (SSPV) and how they are addressing the SDG 3 of Good Health and Well-Being for all. Further he shared the impact of Gravity-driven filter (G-filter), providing Har Ghar-Shudh Jal, which is addressing SDG 6 of Clean Water and Sanitation for all. Dr. Sharma thanked Prof. Anand K. Plappally of IIT Jodhpur for these innovations of SSPV and G-filters and shared the positive social impacts of these technological interventions.

Ms. Utsa Sarmin, Journalist, Indian Express addressed the impact of climate change in Sundarbans and how it is defining the gender roles, and social hierarchy. Due to lying in the low coastal zone, Sundarbans is more vulnerable to floods, earthquakes, cyclones, sea-level rise and coastline erosion. Ms. Sarmin, who has worked for various local, national and international organizations, shared her concern for the women of Sundarbans, and stressed upon the importance of women-centric livelihood. A livelihood, where women get the basic right of water and sanitation, as the women there are in vulnerable situations. Many women fish everyday to make a living, by standing in waist-deep water every day for about six hours. This leads to irregular menstrual cycles, vaginal infections, recurring urinary tract infections, and miscarriages are common amongst the women in the Sundarbans.

> **The first session was followed by the Panel Discussion on Social Inclusion and Diversity** with the experts, which was moderated by Prof. Anand K. Plappally, Head, Center for Emerging Technologies for Sustainable Development (CETSD), IIT Jodhpur.

The second session of the day was about Livelihood, Regional Diversity and S&T which included 20 min talks by the experts.
The first speaker of the session was **Dr. A. Radhakrishnan**, Asst. Director, National Coir Training & Design Centre, Central Coir Research Institute, GoI (Rtd.). Dr. Radhakrishnan started with the introduction

to the Coir board and its mission. He further shared the impact of the Coir industry, a waste to wealth business, which is helping skill upgradation and women empowerment towards sustainable livelihoods. The winner of the World Intellectual Property Organization Award for best inventor shared the importance of innovations to address the inclusivity in technology development, and how advancement of machinery can support that. Dr. Radhakrishnan suggested the audience to use eco-friendly and environmentally-friendly coir products, which also helps small businesses and community development.

Ms. Sahana Ghosh, Associate Editor at Nature India talked about her work for biodiversity, climate change, indigenous science, environmental health and gender. Ms. Ghosh, a distinguished science journalist of great influence, shared the science-based stories for public awareness. This included the story of saving Kashmir's Ramsar wetlands by locals to secure livelihood; the locals had in-depth knowledge about the network of canals and how they influence the wetland's water level, the community knowledge helped wetland managers to revive the Ramsar wetlands. She further shared the impact of invasive species on the livelihoods, importance of foraged foods for rural women's nutritions, and more.

Dr. Eveleen Kaur Sidana, doctorate from University of California, Davis in Anthropology talked about her work on smart cities in India. Ms. Sidana addressed the importance of considering the last person of the society. She further added the importance of participation in society. An Indian Ocean Worlds Mellon Research fellow, and a Provost Fellow in Arts, Humanities, and Social Sciences talked about the small and big cities in India.

Dr. Dhan Pal Singh, Rural Development Department of Dev Sanskriti University, talked about his work on Beekeeping and Vermi-Compost, and its impact on creating job opportunities and Rural Development. Having 32 years of experience with Agro Industrial Corporation, he shared the experience of his environmentally-friendly Waste Management. Dr. Singh further addressed the importance of minimalistic life-style, Breed-improvement to increase dairy production, Non Conventional Energy, rain water harvesting and management to address climate change.

Dr. Ajay Nagpure, Senior Scientist at Princeton University, USA talked about his work in urban sustainability, air quality management, and climate change. Dr. Nagpure shared the learnings from his impactful global air quality projects during his tenure as Director at the World Resources Institute (WRI) India. This included his learning from air pollution studies in major Indian cities, the big contributors and its correlation with economic-status of the population.

> **The second session was followed by the Panel Discussion on Livelihood, Regional Diversity and S&T** with the experts, which was moderated by Dr. Prasenjeet Tribhuvan, IIT Jodhpur.

In parallel to G20 CSAR events, **Janhita Ideathon** was organized online. Students were given the challenge of **'Leveraging Technology to Reach the Last Mile'.**
Brief about the ideathon challenge: Many policies are framed at the government level but fail to effectively reach the last person of the society, for whom they were intended. Often, when the benefits reach the intended people they either take a completely different form or are much delayed. The key question is**:** How can technology play a role in effectively delivering services to the intended audience - without delay, corruption, or discrimination?

The Ideathon students were awarded at the end of the second session.

Figure 1: Dr A. Radhakrishnan, Chairman, Coir Board Training Institute, Kalavoor, Kerala visit the Exhibition cum sale Livelihood Hands-on Training Shivir at Jodhpur Club.

The **Livelihood Hands-On Training Shivir** was open for all society from Jodhpur and on campus on 19-20th Aug 2023.