Mainstreaming post-2020 biodiversity through science communication and education

Reviewed Conference 5TH LUOSUO RIVER SCIENCE EDUCATION FORUM, 7–8 DECEMBER 2021

Reviewed by **Shen Zhou, Xinchang Sun and Chenxin Lv**

Abstract The 5th Luosuo River Science Education Forum was held online from December 7 to 8, 2021, with the theme "Education for Ecological Civilization: Post-2020 Biodiversity Education and Communication". The Forum assembled stakeholders to discuss four aspects of the topic: biodiversity conservation with Chinese characteristics, biodiversity education theory, biodiversity education practice, and biodiversity communication innovation, to promote "global vision and local action" in mainstreaming biodiversity conservation.

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Introduction

The 5th Luosuo River Science Education Forum was held online from December 7 to 8, 2021. Close to 300 experts in the field of science communication and science education participated in this COP15 follow-up event.

Biodiversity conservation with Chinese characteristics

The Chinese characteristics of biodiversity conservation emerged during discussions of a new role, a new policy, and a new perspective.

In terms of a new role, Wei Fuwen, a researcher at CAS, noted that China has transformed its role from a participant to an active contributor to biodiversity conservation. This was achieved via participating in several international biodiversity conventions and agreements, such as the "One Belt, One Road" International Alliance for Green Development.

As for the new policy, Gao Hongbin, director of the Chinese Research Institute of Science Popularization's Science Literacy Research Office, explained the newly

issued Outline of the National Action Plan for Science Literacy (2021–2035).[1] The new outline concentrates on leveraging science literacy to address climate change and other common challenges to global sustainable development.

Ma Keping, editor-in-chief of the Chinese Journal of Biodiversity Science, offered a new perspective on categorizing biodiversity conservation into three main areas: conservation, restoration, and change. Conservation requires identifying "efficient and low-cost areas" [Yang et al., 2020], restoration can increase incremental conservation, and transformative change needs more representation from developing countries. He confirmed that the journal intended to pay more attention to supporting biodiversity communication and education.

Theory of biodiversity education

In the theoretical discussion, scholars explored biodiversity education within the paradigms and frameworks of STEM education, Education for Sustainable Development, outdoor education, etc.

Professor Zheng Yonghe from Beijing Normal University introduced the "E-STEM education", which immerses learners in local historical traditions, cultural scenarios, and experiences through a place-based environmental STEM education approach.

Oren Pizmony-Levy, associate professor at the Teachers College of Columbia University, bridged knowledge gaps in sustainability education through a survey of sustainability coordinators in New York City [Pizmony-Levy, McDermott and Copeland, 2021].

Peter Higgins emphasized the importance of the outdoor as a learning space [Christie and Higgins, 2012], and some other scholars argued for integrating biodiversity education with labor education.[2]

Practice of biodiversity education

Practitioners from schools, non-profit organizations, and botanical gardens demonstrated how to conduct biodiversity education activities, science games, and even concerts.

Yan Baohua, Secretary-General of the Mangrove Foundation, introduced the "Green Monster" science game. Teachers taught participants how to identify green monsters (invasive alien plants), and each participant was given a unique tool to clean up the monsters using the techniques they had learned.

Wang Ximin, director of the science department of Shanghai Beicheng Botanical Garden, believed that it was critical to innovate the way science is communicated.

[1] On June 25, 2021, after the expiration of the Outline of the National Action Plan for Science Literacy (2006–2020), China's State Council issued the Outline of the National Action Plan for Science Literacy (2021–2035). The Outline is the Chinese government's top-level design for science communication and education.

[2] On July 4, 2020, China's Ministry of Education issued the "Guideline for Labor Education in Schools and Universities", which requires that labor education be used to comprehensively improve students' labor literacy so that they can establish a correct concept of labor, have the necessary labor skills, cultivate a positive labor spirit, and develop good labor habits and qualities.

The botanical garden should abandon its ambition to teach and persuade and instead focus on attracting broad audiences to learn about plants through diversified activities [Hu and Wang, 2021].

Innovation in biodiversity communication

The Forum also invited COP15's official communication team to share their approach to communicating biodiversity. Li Chengcai, director of the COP15 Trailer "Yunnan Code", talked about the "three weapons" in nature documentary production: science, audiovisual language, and storytelling.

Yue Ranran, a senior journalist in Xinhua News Agency's Yunnan branch, was in charge of COP15 coverage. By discussing real-world examples, Yue proposed that the traditional official Chinese media, like Xinhua News Agency, could break its serious and rigid stereotype and be innovative and even playful in reporting biodiversity. Yue emphasized that, in order to be effective, biodiversity communication should be engaging, opinionated, emotive, and pertinent to the audience's interests.

Conclusion

The Luosuo River Forum has been instrumental in advancing the growth of science communication and education in the country, with a specific focus on biodiversity. It provided a forum for academics, educators and the media to bridge theoretical and practical approaches to promoting science communication and civic science literacy.

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Authors

Shen Zhou is a research associate professor at the Department of Science Communication, School of Humanities and Social Sciences, University of Science and Technology of China. He serves as Deputy Secretary-General of Science and Technology Communication Theory Research Committee, China Society for Science and Technology Journalism. His research focuses on science communication and education and S&T policy. E-mail: zhoushen@ustc.edu.cn.

Xinchang Sun, Graduate Student, Department of Science Communication, School of Humanities and Social Sciences, University of Science and Technology of China.
E-mail: 291278187@qq.com.

Chenxin Lv, Graduate Student, Department of Science Communication, School of Humanities and Social Sciences, University of Science and Technology of China.
E-mail: lyucx320@163.com.

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