

Science & Technology Actions on Nature-Based Solutions for Climate Change

1. Title/Heading:

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2. Context and Rationale

Nature-based solutions aim to mitigate and adapt to climate change through conservation, sustainable development and restoration of natural or artificial ecosystems. It can effectively reduce the cost of combating climate change, and promote green and low carbon economic transformation while improving ecological environment, which has drawn extensive attention in recent years.

However, the implementation and promotion of nature-based solutions is confronted with multiple challenges, in particular the lack of scientific basis: (1) the lack of scientific methodology in overall planning of the co-development between ecosystem and human society; (2) most existing research and practice are based on case studies, the comprehensive evaluation on both benefit and impact of nature-based solutions is yet to be implemented, and the potential of repeatability, scaling up, and local adaptation is yet to be measured; (3) global scientific and technological cooperation are still limited, academic exchanges, technical collaboration and experience sharing on nature-based solutions are due to be strengthened.

3. An overview of the Initiative

The objective of the initiative, Science & Technology Actions on Nature-Based Solutions is to call on the governments, international organizations, NGOs, etc. to jointly strengthen science and technology innovation and cooperation in the areas of nature-based solutions, including:

- (1). Establish and update the science and technology system to support the implementation and promotion of nature-based solutions:
 - Call on countries to increase R&D investment in nature-based solutions;
 - Integrate the existing scientific basis in different fields, build the disciplinary knowledge system of nature-based solutions;
 - Promote the establishment of unified definition, criteria and methodology, including the establishment evaluation methodology of long-term benefits, impacts and potential risk;
 - Promote the establishment of case study and technology database.
- (2). Promote the establishment of institutional environment to facilitate the implementation and promotion:
 - Conduct surveys on institutional environment requirements, establish the long-term mechanism for implementation, evaluation and maintenance;
 - Carry out parameter-localization analysis, and facilitate the implementation of programs;
 - Promote the alignment between nature-based solutions with other policy mechanisms, such as the carbon emission trading system.

(3). Strengthen scientific and technological cooperation:

- Strengthen scientific and technological communication and cooperation in relevant fields through existing international cooperation mechanisms or initiatives, including the nature-based action of the Commission of Ecosystem Management under the International Union for Conservation of Nature (IUCN);
- Build an international communication and cooperation platform by holding international forum and carrying out constructive dialogue so as to share and exchange practical experience, and strengthen the connection with various stakeholders.

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