

INSIGHTS

Water Governance Cooperation for Shared Prosperity

Voice of the World

Edited by TANG Zhexiao

The 10th World Water Forum, held in Bali, Indonesia, from May 18-24, urged the global community to cooperate on water governance cooperation and achieve shared prosperity in the face of global water challenges. It comprised nearly 280 sessions on themes such as water security, water use and sustainable water financing.

Water under threat

The status of the world's water resources is worrying. *The UN World Water Development Report 2024* pointed out that about half of the world's population has experienced severe water shortages at least part of the year, and a quarter of the population faces "extremely high" water stress. Worse, with record rainfall extremes increasing worldwide, climate change will intensify the global water cycle, and increase the frequency and severity of droughts and floods.

Muhammad Tito Karnavian, Indonesian home minister, said at the water forum that population growth, pollution and climate change have led to water shortages in many places. This is an important challenge facing us now and in the future.

UN Secretary-General Antonio Guterres said water is central to people's life, and healthy ecosystems and biodiversity, and is key to our shared prosper-



Guanying Reservoir, Benxi city, Liaoning province. (PHOTO: XINHUA)

ity. However, water is under threat yet.

As glaciers melt, seas rise, and river flows shrink, climate change is pushing water temperatures to deadly new highs. "Governments around the world are waking up to this crisis. This forum is a critical opportunity to discuss solutions around water and sanitation, disaster risk reduction, governance, finance and innovation," he said.

World Water Council president Loïc Fauchon said that with climate change, population growth, urbanization and the improvement of people's living standards, the global demand for water has increased dramatically. He hoped that the water forum would be a

key juncture for concrete actions to protect water resources and promote global efforts to achieve water security and shared prosperity.

Strengthening cooperation

UN data shows that 153 countries in the world share rivers, lakes and aquifers, and about 40 percent of the population lives in transboundary river and lake basins. Cross-border water resources management cooperation therefore is essential to promote sustainable development of water resources and improving efficiency of water resource utilization.

Li Lifeng, director of Land and Water Division, Food and Agriculture

Organization of the UN, remarked that water security is a global challenge and the global community should continue to strengthen cooperation, and promote technological innovation.

The China Pavilion at the forum comprehensively showcased China's achievements and experiences in flood and drought prevention, national water network construction, restoration of river and lake ecology, digital twin water conservancy, and international cooperation in water conservancy.

At the 4th Global Water Security High Level Seminar, held as part of the forum, Li Guoying, minister of water resources, said the water security landscape across the globe has undergone significant transformations, giving rise to increasingly prominent global challenges. This has prompted all nations to invest robust efforts in addressing these issues.

The participants at the seminar said the China-proposed water governance principles of "prioritizing water conservation, balancing spatial distribution, taking systematic approaches and promoting government-market synergy" are applicable in many countries and regions around the world.

There is an urgent need to develop scientific measures and take practical actions, Li said, adding that China stands ready to continue to collaborate with all countries and international organizations to effectively tackle global water security challenges and foster a global community of shared future.

Comment

Regulating AI Should be Joint Endeavor

By LIN Yuchen

Regulations on AI are now firmly on the global agenda. On May 21, 16 companies from different countries and regions, such as reputable AI-tech giants OpenAI, Google, Amazon and Microsoft, signed the Frontier AI Safety Commitments at the AI Seoul Summit. Combined with this is the EU AI Act, approved on the same day.

Since the end of 2022, access to ChatGPT has increased public awareness of the growing risks surrounding advanced AI systems, which may challenge many norms of human life.

Generally speaking, AI runs the risk of perpetuating discrimination, and distributing misinformation, as well as exposing sensitive personal information as indicated by an event which shows that a training data extraction process conducted by GPT-2 provided personally identifiable information, including phone numbers and email addresses, which were published online.

Large language models faithfully mirror language found in the training data. This training data may come from various sources such as online books or internet forums.

The incapacity to speak like humans, who usually take into account multiple societal-personal factors such as listeners' emotional responses, social impact, and ideological attitudes, may lead to aggravated discrimination against certain groups of people. This is sufficient to surmise that the quality of AI training data cannot be fully guaranteed.

AI-induced misinformation may get

worse. Unlike discriminative attitudes, which in some cases are developed unconsciously over time by assimilating information without careful reflection, misinformation is false information that is spread, regardless of whether there is intent to mislead, eroding societal trust in shared information.

As for regulations, from a government perspective, they need to establish agile AI regulatory agencies and provide them with adequate funding. The annual budget for the AI Safety Research Institute in the United States is currently \$10 million, which may sound substantial, but actually pales in comparison to the \$6.7 billion budget of the U.S. Food and Drug Administration.

Countries across the globe should now establish laws not only based on their existing legal systems, but also seek viable approaches to cooperation. The AI field requires stricter risk assessments and the implementation of enforceable measures, rather than relying on vague model evaluations. Meanwhile, AI development companies should be required to prioritize safety and demonstrate that their systems will not cause harm. In a nutshell, AI developers must take responsibility for ensuring the safety of their technologies.

The international community has now decided that comprehensive regulation of AI needs to be accelerated. It needs to be a united effort, and every company involved in AI development must commit to upholding these standards to protect societal values and trust. Only through vigilant regulation and cooperation can we harness the full potential of AI while mitigating its risks.

Plan in Pipeline for Biodiversity Conservation

Opinion

By TANG Zhexiao

China is formulating a plan for implementing biodiversity conservation projects, to support the implementation of the national strategy and action plan, said Minister of Ecology and Environment Huang Runqiu, at an event to mark the International Day for Biological Diversity on May 22.

The global theme of this year's biodiversity day was "Be Part of the Plan", which was a call to action to all stakeholders to halt and reverse the loss of biodiversity, and support the implementation of the Kunming-Montreal Global Biodiversity Framework (GBF), according to the United Nations Environment Programme.

As one of the first signatories and ratifiers of the Convention on Biological Diversity, China has always placed high

importance on biodiversity conservation, Huang said.

China has issued more than 40 policy documents related to the construction of an ecological civilization, and released or revised more than 30 laws and regulations on the protection of the environment, wild animals, marine environment and other sectors.

In January, the National Biodiversity Conservation Strategy and Action Plan (2023-2030) was released to improve the level of biodiversity management. It sets four priority areas for action: mainstreaming biodiversity, addressing the threat of biodiversity loss, sustainable use of biodiversity and modernizing biodiversity governance capacity.

David Cooper, acting executive secretary of the UN Convention on Biodiversity, said this guideline is China's concrete measure to implement the GBF.

Data show that 90 percent of China's terrestrial ecosystem types and 74 per-

cent of wildlife populations under state key protection have been effectively protected, according to the Catalogue of Life China 2024 Annual Checklist, an annually updated version of the national species database.

The giant panda is a bear species endemic to China. The total number of wild giant pandas has jumped from about 1,100 in the 1980s to nearly 1,900 today.

Hainan gibbons, the rarest primate found only in Hainan in south China, have been listed as critically endangered by the International Union for Conservation of Nature. The number of Hainan gibbons has increased from less than 10 in the 1980s to six groups of 37 individuals as of 2023. It is the only successful case of natural restoration among the world's less than 10 critically endangered species.

Meanwhile, as one of the first countries to sign the Convention on Biological Diversity, China is deepening international cooperation and making contribu-

tions to addressing the global challenge to biodiversity.

The Sino-Africa Joint Research Center, located on the campus of Kenya's Jomo Kenyatta University of Agriculture and Technology, is providing Sino-African cooperation in biodiversity research and conservation.

China and France agreed on May 14 to promote cooperation between China's Giant Panda National Park and the Pyrenees National Park in France. Areas of cooperation are set to include biodiversity monitoring, flagship species protection, community co-management, education, and personnel training.

According to Huang, in the future, China will formulate biodiversity evaluation standards, carry out the fifth national ecological status change survey and assessment, and dynamically monitor major ecological restoration projects like the Three-North Shelterbelt Forest Program, which creates forest strips to prevent encroachment by the Gobi Desert in the north.

Revived China-Japan-ROK Summit a 'Golden Opportunity'

By GONG Qian

Leaders of China, Japan and the Republic of Korea (ROK) attended the Ninth Trilateral Summit Meeting, a significant meeting showing their strong desire to cooperate, on May 27.

In a joint declaration, the trio pledged to implement mutually beneficial cooperation projects centered on six key areas closely, including people-to-people exchanges, economic cooperation and trade, science and technology cooperation and digital transformation.

Experts and scholars from the three countries shared their insights on this high-level meeting and trilateral cooperation in economy, trade and technological innovation at the 2024 International Forum on Regional Cooperation and Development of China, Japan

and the Republic of Korea held in Beijing on May 31.

Yan Liang, deputy secretary-general of the Trilateral Cooperation Secretariat, said the joint declaration reaffirms the significance of revitalizing cooperation. He said the secretariat will work closely with all parties to implement the outcomes of the summit, and foster friendly exchanges and pragmatic cooperation in various fields, thus promoting peace, stability and prosperity in Northeast Asia and the rest of the world.

Osamu Onodera, regional representative of Japan External Trade Organization (JETRO) in Northeast Asia and chief representative of JETRO's Beijing office, said the trilateral summit serves as a pivotal mechanism for boosting cooperation among the three nations. He is convinced that the revival of the summit

presents a golden opportunity to rekindle the bonds of friendship among the three, thereby catalyzing enhanced regional collaboration and ushering in prosperity for their people.

Haeng-A Seo, chief representative of the China-Korea Science and Technology Cooperation Center, said the ROK is dedicated to enhancing technological cooperation with China. Both sides can play an important role in the global technological ecosystem through complementary cooperation in high-tech industries.

In her speech, Ni Yueju, a researcher at the Chinese Academy of Social Sciences, said that despite the rising competition among China, Japan and the ROK in the global automotive market, the three countries can deepen cooperation in areas such as battery R&D, market strategy, and supply chain management.

She also advocated for strengthening cooperation at the governmental, intermediary, and corporate levels to drive innovation in the automotive sector, with a focus on smart connected vehicles and talent exchanges.

The ROK and China should bolster cooperation in high-tech sectors, particularly in AI and semiconductors, said Professor Nam Eunyoung from Dongguk University in the ROK. She said that China's proactive measures to advance AI semiconductor development present an opportunity for small and medium-sized enterprises from the ROK to integrate into China's AI semiconductor clusters.

Nam emphasized the importance of setting global AI technology standards and proposed that both countries collaborate to establish new AI technology standards for mutual benefit.

Hi! Tech

Tiny Robotic Insects with Great Power

By Staff Reporters

Under a pile of small stones, a four-legged "insect" moves like a real beetle. It is a microrobot "insect" only two centimeters long, one centimeter wide, and weighing 1.76 grams. Its vertical projection area is no larger than two nails.

The microrobot is called BHMbot, named after its developer Beihang University in Beijing. It can move fast and freely, carry heavy loads, and has wireless control.

Traditionally, robots are driven by electric motors, which require a lot of energy. The internal space of usual microrobots is insufficient to accommodate large-capacity batteries, requiring continuous power supply through external wires, which limits their free movement. After years of research, the team developed a new power system based on linear drive

and flexible hinge transmission, eliminating the need for motors and external wires.

The robotic insect is equipped with energy, control, communication, and sensing systems. The linear drive converts the electrical energy from the small battery inside into mechanical energy and outputs mechanical vibration. The flexible hinge transmission mechanism converts the mechanical vibration into periodic vibrations in the legs of the robot, achieving a high-frequency bouncing movement.

The team also designed a bionic running gait, enabling the BHMbot to crawl quickly under high loads through adaptive adjustment of its step frequency and stride length.

The BHMbot can assist in post-disaster search and rescue, as well as detection of damage to large mechanical equipment and infrastructure.



The BHMbot has a length of two centimeters. (PHOTO: Beihang University)