

Biodiversity Protection Needs Global Cooperation

Dialogue

By BI Weizi and LONG Yun

Yvon Le Maho, an emeritus research director at the French National Centre for Scientific Research, project manager at the Monaco Scientific Center and member of the French Academy of Sciences, expressed his admiration for China's achievements in ecological conservation, scientific research and international cooperation, during a recent exclusive interview with *Science and Technology Daily*.

The esteemed scholar, who has called on China and France to strengthen their cooperation in biodiversity, was invited to attend the 2025 World Science and Technology Development Forum (WSTDF) held in Beijing recently, where he emphasized the forum's significance in fostering exchanges among global experts and biodiversity industry pioneers.

Significance of biodiversity
Given his training as a biologist and ecologist, Maho has always attached great importance to protecting biodiversity. "Biodiversity is not just about a collection of different species, but rather the whole of their interactions," he said, adding that when in equilibrium, the benefits of rich biodiversity are not always so obvious, as it is only when biodiversity is adversely impacted that people are able to understand the role it plays as a vital component of the ecosystem.

According to Maho, biodiversity serves us in so many ways. Agricultural produce relies heavily on the microbial diversity of soil, on the resistance of crop varieties to pests and weather hazards, and on healthy populations of pollinating insects. More importantly, diversified ecosystems can help alleviate the effects of climate change, as they are more resilient to rising temperatures



Professor Yvon Le Maho. (PHOTO: LI Zhongming / Science and Technology Daily)

and extreme events.

"Biodiversity is also a major source for biomedical innovation: lots of pharmaceutical drugs are based on a plant molecule," Maho said. He has been focusing on studying how wild animals cope with climate change, which will inspire biomedical innovation to some extent. An example of this is the antimicrobial molecule the French scientist discovered in penguins, that helps them preserve food stored in their stomachs. This molecule was subsequently used in the development of an antibiotic drug.

China's achievement in ecological conservation

Maho said that he is continuously impressed by China's remarkable achievements in ecological preservation since he began to work with Chinese scientists 15 years ago. He highlighted the advancements seen with the Hainan gibbon, a species under China's highest level of state protection and the rarest primate worldwide, whose numbers have

increased from about 13 to 37 in the last 20 years. He also pointed out the crested ibis, whose population in China has risen from only seven in the 1980s to over 9,000 last year, accounting for 90 percent of the species worldwide.

China is one of the top 12 mega-diverse nations in the world because of its enormous size and distinctive ecosystems, which include grasslands, deserts, coral reefs, forests, wetlands, mangroves, and vast rivers. China's method of protecting biodiversity has inspired global efforts by providing feasible ways to strike a balance between economic development and biodiversity conservation.

Maho also commended China's efforts to establish national parks, along with the country's astounding mangrove restoration work, which he claims is the fastest in the world. "Across plateaus, mountains, and rainforests, wildlife is rebounding in China as the country strives to establish the world's largest national park system by 2035," he said,

citing the conservation efforts for several wetlands.

International cooperation is key
Deepened international exchange and cooperation, and the promotion of sustainable development through sci-tech innovation are urgently needed to address important global issues, which is a consensus reached at the WSTDF.

Maho applauded the event, as it brings together numerous scientists and facilitates valuable exchanges with Chinese researchers. This year foreign scientists voiced their firm support for openness and cooperation, expressing their willingness to deepen exchanges with China, and produce more innovative results through partnerships.

Maho shared his efforts to establish a network dedicated to biodiversity. With strong support from the leaders of both countries, the Chinese Academy of Sciences and France's primary research organization have agreed to create a network that connects Chinese and French scientists focused on this vital area. "Chinese scientists are able to tour our laboratories and universities. This is a significant step in advancing our collaborative initiatives," he said.

In February 2024, Maho was honored with the 2023 Chinese Government Friendship Award, the highest honor bestowed upon foreigners for their exceptional contributions to international cooperation between China and the world.

He cautioned that biodiversity is under threat, as evidenced by the decline of certain species. "We must recognize the significance of plants and insects in China, as their decline could have serious repercussions for food security," he emphasized, adding that, "Regardless of differences, the international [community] should work together to preserve biodiversity, which is essential for the future of upcoming generations and is a key strategy for tackling climate change."

Letter to the Editor

Xizang's Stories Take On Modern Twist

By Erik R. Nilsson

Some of my Tibetan friends joke that the reason I don't get altitude sickness, even at elevations around 5,000 meters, is because, in my previous life, I was Tibetan.

I joke that, perhaps, I was a yak.

I filmed a 45-second video of me relating this anecdote in Chinese, with a yak grazing in the background, during my recent visit to Lulang town's forested pastureland in Nyingchi, when I attended the 2025 Forum on the Development of Xizang at the end of October.

Several major media outlets asked for permission to post the video, which went viral, instantly racking up tens of thousands of views, thousands of likes and hundreds of comments online.

This yak joke was yet another experiment in telling the stories of Nyingchi, using an "infotainment" approach that resonates with audiences.

I'm truly grateful for this chance to return to the Xizang autonomous region for my fourth visit since 2016 — and especially to journey back to beautiful Nyingchi, which truly lives up to its nickname as Xizang's Little Switzerland.

This has offered me the opportunity to witness and experience the conservation efforts of Xizang's ancient tradition and the advancement of its modern progress.

One great advantage to having returned to the region so many times, and to have participated in the development forum repeatedly goes beyond learning from the expert speeches presented from podiums, but also from the equality, if not more, valuable unscripted conversations on the buses or at buffets. It especially extends to experiences and interactions in villages, prairies, temples, markets and parks.

Although I've been to Nyingchi several times, this year was my first time to visit the Yani National Wetland Park, Gala Peach Blossom Village and the Happy Night Market.

I'd previously dined on Medong stone-pot chicken soup and yak meat dumplings. But before this late-hour stroll through the traditional-style tents that line the night market, I didn't know the herbs in the chicken broth were medicinal. And I'd never before tasted a spicy, crispy deep-fried jiaozi (dumpling) like the ones I nibbled on at the night market, where the vendors told me they not only handmade them but even raised the yaks themselves.

Also, this after-dark excursion revealed the bright lights of this small city that not only illuminate but also decorate the urban area around Gongbu Park, including the dazzling displays of searing neon that dance around a fountain

that features musical light-and-water shows. This, in turn, illuminated the ways that cultural prosperity colors the lives of Nyingchi's people with a brilliant splash of modernity, an electrifying glitz set among traditional tents occupied by vendors.

As I said, I have spent nine years exploring, firsthand, Xizang's poverty alleviation; agricultural innovation; cultural conservation, promotion and exchanges; transportation development, including high-speed trains; environmental protection and ecological restoration; tourism development; livelihood improvements; and much, much more.

At this year's forum, I was particularly delighted to deliver a keynote speech at the First Xizang International Communication Conference.

It's not only because this event fits with my personal mission, but more so, it's because I believe the forum demonstrates the greater shared recognition of the need for new and better ways to enable the global community to better understand Xizang's realities. And it shows that relevant experts truly understand that we need to more proactively and effectively explain what the region's development means.

During my future visits, I hope to experiment more with emerging technologies to imagine even more dynamic ways of telling the stories of Nyingchi and Xizang to the world.

For example, I imagine using AI to make endemic animals' mouths move and literally give them voices. So, I could chat with a talking snow leopard or Tibetan antelope about ecological protection, or with a yak about improvements to herders' lives, or with a snow lion about cultural protection.

I hope to do more to not only increase ways of telling Nyingchi's and Xizang's local stories to global audiences, but also to tell them in more innovative ways.

I truly look forward to continuing to explore and experience new dimensions of Xizang's past, present and future, and to find new dynamic ways to chronicle Xizang's development and to show what it means, not only for people here, but also for the world we all share.

That is, to explore more effective approaches to bringing stories from the "roof of the world" to every corner of our planet — East and West, in the Global North and the Global South, to everyone, everywhere, whoever you are, wherever you are.

The author is an American expert who is also a cofounder and core member of China Daily's Edgar Snow Newsroom.

Traditional Eastern Wisdom

Ancient Four Diagnostic Methods

By BI Weizi

Traditional Chinese medicine (TCM) is a complementary and alternative medicine that has attracted significant attention both domestically and internationally.

It offers a distinct approach to patient diagnosis and treatment compared to Western medicine, using four main diagnostic methods to detect ailments: Observation (inspection), Auscultation and Olfaction (listening and smelling), Inquiry (interrogation) and Palpation (feeling, including pulse-taking).

These methods reflect the pathological and physiological changes that occur during the development of a disease.

Observation means examining the patient's complexion and tongue; auscultation and olfaction involve listening to

the patient cough and inhale and exhale and smelling their breath and body odor; inquiry entails looking at the patient's medical history and asking about the cause of the illness, body temperature, sweating, bowel and bladder functions, dietary preferences and fatigue; palpation concludes the process by taking the patient's pulse and conducting a physical examination.

The Huangdi Neijing (Yellow Emperor's Inner Classic), an ancient medical text compiled during the Western Han Dynasty, first systematically expounded the principles and applications of the four diagnostic methods, clarifying the core principle of "integrated diagnosis" and laying its theoretical foundation.

The following are specific examples of the modern clinical application of the

four diagnostic methods to diagnose and treat conditions such as the common cold, commonly classified as wind-cold or wind-heat cold.

Observation: In wind-cold, patients have a thin white coating on their tongue, a pale complexion, clear nasal discharge, and thin, clear sputum without obvious redness or swelling of the throat. In wind-heat cold, the coating is yellow, the complexion slightly red, and the nasal discharge and sputum are thick, accompanied by congestion and swelling of the throat.

Auscultation: Patients with wind-cold usually have a light cough and little sputum with no odor. The voice is not affected and there is no bad breath. Wind-heat colds may be accompanied by a dry mouth, heavy breathing, and cough. Some patients may

produce sputum that is sticky or has a fishy smell.

Inquiry: For wind-cold, the conditions are mainly significant chills and mild fever, with no sweating, headaches and body aches, and no thirst or preference for hot drinks. The core diagnostic criteria for wind-heat cold are "high fever and mild chills," accompanied by sweating, a sore throat and often a dry mouth and a desire to drink liquids.

Palpation: In patients with wind-cold, the pulse is often "floating and tight" (easily felt with light pressure) and the forehead and extremities tend to be cold. In the case of wind-heat cold, the pulse is often rapid and floating and the forehead and armpits often feel hot.

Today, a combination of "traditional experience + modern technology" has been achieved by integrating modern technologies, such as tongue and pulse diagnostic instruments, with TCM's holistic diagnostic thinking.

Xuelong 2 Enters Southern Ocean on Antarctic Mission

From page 1

In the Ross Sea, Xuelong 2 escorted the supply vessel through more than 1,000 nautical miles of ice-covered waters. Facing ice ridges over four meters thick and narrow channels, the icebreaker used satellite data, aerial reconnaissance, bow-and-stern icebreaking and wake-assisted clearing to open a channel over 30 meters wide. This enabled the supply vessel to reach the site of China's new Qinling Station ahead of schedule and deliver essential construction supplies.

Xuelong 2 has also extended the window for Antarctic operations. While

most countries conduct fieldwork between November and March, Xuelong 2's enhanced icebreaking and cold-weather performance allows earlier arrivals and later departures. During the 41st expedition, it set a national record with a 208-day voyage covering more than 40,000 nautical miles, the longest single-ship polar mission in China's history.

Beyond logistics, Xuelong 2 functions as a mobile platform for sci-tech research. It is equipped with a moon pool, a 3-by-3-meter vertical opening through the hull that enables instrument deployment even under full sea

ice cover or in severe weather.

To prevent ice accumulation, the moon pool has a watertight bottom hatch, drainage pumps and heating systems. "It's like digging a hole through the ship," said chief engineer Li Wenming. "This ensures sampling can continue safely in extreme conditions."

The vessel also carries a 240-channel seismic system for sub-seafloor imaging, multibeam sonars for seafloor mapping, a sub-bottom profiler, an echo-integration system for marine biomass estimation and a full-ocean-depth echosounder capable of measuring depths beyond 10,000 meters.

A dual dynamic positioning system helps the ship stay in position in challenging conditions. By coordinating thrusters, rudders, and side propulsion units, it counteracts wind and current forces. The system supports precise deployment of large equipment in Sea State 4 and drifting surveys in winds up to Force 6 with 1.5-knot currents.

As Xuelong 2 continues its journey toward Antarctica, it underscores China's commitment to advancing polar science through peaceful, cooperative and evidence-based exploration, contributing to global knowledge of one of Earth's last frontiers.

Photo News



Minor Snow, or "Xiaoxue" in Chinese, is the 20th of the 24 traditional Chinese solar terms. It is the second solar term of winter, and indicates that snow is about to arrive. As this solar term approaches on November 22 this year, cold air masses become more frequent, precipitation increases, and temperatures drop noticeably, ushering in frosty conditions like those seen on this plant coated in ice and frost. (PHOTO: XINHUA)