

The Political Bureau of the Communist Party of China Central Committee held a meeting to study and deploy the work of building a clean and honest government and combating corruption. Xi Jinping, General Secretary of the Communist Party of China Central Committee, presided over the meeting.

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Editor's Note: To better understand international theoretical frontiers and valuable perspectives, and enhance the capabilities and standards of policy research and decision-making consulting work, the Development Research Center of the State Council launched the construction of an international cooperation and open research platform in 2023. It has institutionally invited world-class experts and scholars to visit, conducting in-depth exchanges and discussions with the center's main responsible persons, relevant responsible persons, and related research departments. Over the past two-plus years, more than 60 internationally renowned experts and scholars, former foreign government officials, and officials or former officials of international economic organizations have been invited to visit the center, sharing their observations, insights, and research thoughts on important issues in the Chinese economy and the world economy. These cross-border, wisdom-filled 真知灼见 (profound insights) can not only provide a mirror for China's development but also open a new window for the world to understand China. To share these cutting-edge ideas with the industry and enterprises, China Economic Times has set up the "Global Perspectives · China Strategies" page since September 22, 2025, focusing on cutting-edge theories and academic viewpoints, and building a bridge for dialogue between Chinese and foreign thinkers through in-depth reports. This issue focuses on "Enhancing Resilience: Agri-Food System Transformation and Chinese Insights", exploring how to embark on a resilient path of agri-food system transformation and Chinese development during the "15th Five-Year Plan" period, based on the main viewpoints and discussions with experts by Professor Christopher Barrett from Cornell University and member of the US National Academy of Sciences in his recent academic lecture at the international cooperation and open research platform of the Development Research Center.

■ Cutting-Edge
Perspectives



Enhancing resilience:

(See pages 1-3 for details) Transformation of Agri-Food Systems and Implications for China

There is no "magic bullet" to enhance the resilience of agricultural development: it must rely on an "innovation combination"

■ Reporter of this newspaper: Zhang Na ■ Trainee
reporter: Yao Junchen

In recent years, the global agri-food system has become increasingly vulnerable under the impact of multiple factors such as geopolitical conflicts, climate change, natural disasters, and fluctuations in food prices. At the same time, it is facing in-depth challenges like nutritional imbalance and insufficient equity. According to the "2025 State of Food Security and Nutrition in the World" report, the global population suffering from hunger was approximately 673 million in 2024, especially in vulnerable regions such as Africa, where people struggle to access affordable food.

"It is essential to enhance agricultural resilience through the transformation of the agri-food system." Recently, Christopher Barrett, a professor at Cornell University in the United States and a member of the National Academy of Sciences, was invited to visit the Development Research Center of the State Council. He delivered an academic lecture on the international cooperation and open research platform, sharing his observations, insights, and research thoughts around the theme of "Enhancing Rural Development Resilience in the Transformation of the Agri-Food System and Its Enlightenment to China".

He emphasized that the previous neglect of insufficient coverage of social security networks and lagging agricultural innovation has exacerbated the vulnerability of the agri-food system when facing shocks. There is no single "magic bullet" to enhance the resilience of agricultural development in the transformation of the agri-food system; it must rely on an "innovation combination" of synergies between technology, systems, and policies.

Currently, China is accelerating the modernization of agriculture and rural areas and building a strong agricultural country. In the dialogue and exchanges between Barrett and experts and scholars from the Development Research Center, they jointly explored how China can enhance development resilience through the transformation of the agri-food system to cope with challenges.

Seize the
opportunity

It is imperative to transform into a healthy, equitable, resilient, and sustainable agri-food system, but clear goals are necessary. Barrett's proposed "HERS model" provides a clear framework: the agri-food system should steadily achieve the four major goals of being Healthy, Equitable, Resilient, and Sustainable. Health means promoting the transformation of dietary structures towards diversification and nutrition. Barrett points out that past agricultural research and development as well as policies have mostly focused on increasing yields and ensuring calorie intake, which was crucial in the era of food shortages but no longer meets current needs. The prominent global challenge now is obesity and micronutrition.



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Christopher B. Barrett was born in November 1963. He is currently a professor at Cornell University in the United States, a member of the National Academy of Sciences, and a 终身荣誉会员 of the International Association of Agricultural Economists. He serves as the co-editor of the journal Food Policy and a member of the editorial board of Proceedings of the National Academy of Sciences. He has long been engaged in teaching and research in the fields of international poverty reduction, food security, agricultural development, and sustainable development, focusing on structural transformation policies, innovation, and technological changes in low-income agricultural economies. He has published 21 academic works and more than 270 high-level papers, and his papers in the fields of development economics, agricultural economics, and resource economics have consistently ranked among the top five in global citations. His representative works include The Economics of Poverty Traps, Food Security and Socio-Political Stability, Outlook on Technological Innovation in Agri-Food Systems 2022, and Socio-Technological Innovation Combinations for Agri-Food System Transformation.

such as "hidden hunger" caused by nutrient deficiencies. Therefore, the transformation must go beyond the single logic of "increasing production". It is necessary to promote natural and healthy foods such as whole grains, fruits and vegetables, and beans, and also improve the micronutrient content of food with the help of technologies like biofortification.

Fairness, at its core, is about safeguarding the fair rights and interests of all workers in the agricultural and food system value chain. The majority of the world's poor still live in rural areas and mainly depend on agriculture for their livelihoods; even in cities, poor workers are widely distributed in sectors such as food processing, distribution, and catering. It is essential to strive to improve working conditions for laborers, promote the fair distribution of income, and gradually narrow the global gap in agricultural productivity through technology diffusion and capacity building.

Resilience refers to the system's ability to resist shocks, adapt to pressures, and achieve transformation. This includes responding to sudden shocks such as droughts and pandemics, as well as adapting to long-term pressures like resource degradation and climate change. Enhancing resilience can be achieved by diversifying crops and supply chains to spread risks, and by using financial tools such as weather index insurance to buffer losses, ultimately driving the system to evolve toward a better state amid fluctuations.

Sustainability means that the agricultural and food system must operate within a healthy ecological environment. The growth of global food production over the past half-century has heavily relied on the expansion of arable land, overexploitation of water resources, and massive inputs of chemical fertilizers and pesticides. Agriculture contributes about a quarter of global greenhouse gas emissions, consumes 85% of freshwater, and accounts for 80% of nitrogen and 90% of phosphorus resources used in human activities. Therefore, the transformation must significantly reduce agriculture's carbon footprint and water footprint, protect biodiversity, and achieve a long-term balance between agricultural production and ecological health.

The transformation of the agricultural and food system requires a systematic "innovation portfolio"

Historical experience shows that risks and challenges in agricultural development often contain potential for change. In the 1930s, despite the multiple blows of dust storms, land degradation, and the Great Depression in North America, agricultural productivity rose against the trend. Barrett argues that this transformation was driven not by a single technology but by the effective combination of large-scale nitrogen fertilizer production, soil and water conservation projects, and measures by the U.S. government to expand social services and invest in rural infrastructure through public works programs.

Similarly, starting from the 1960s, facing the pressure of a surging population and stagnant agriculture, countries such as India, the Philippines, and Indonesia achieved food self-sufficiency and rapid agricultural development through a package of measures including promoting improved crop varieties, improving irrigation conditions, and building rural infrastructure.

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The previous neglect of inadequate social security network coverage and lagging agricultural innovation has exacerbated the vulnerability of the agri-food system when facing shocks. There is no single "panacea" for enhancing the resilience of agricultural development; it must rely on an "innovation combination" of the synergistic effects of technology, systems, and policies.

Whether it was the agricultural recovery in the United States in the

Whether it is the green revolution in developing countries, successful solutions have never been merely technical, but rather systematic "innovation combinations" that include technical, institutional, policy, and social dimensions. Barrett emphasizes that the specific combination depends on local resource endowments, geographical environment, cultural habits, and political and economic realities. There is no single "magic bullet" for the transformation of agri-food systems; it must rely on systematic innovation.

China provides useful experience for the global transformation of agri-food systems. From the end of the 20th century to the beginning of the 21st century, the growth of global food production mainly benefited from the improvement of total factor productivity (TFP), which can be largely traced back to the lagged effect of continuous agricultural R&D investment in the approximately 20 years after the world food crisis in the 1970s. However, entering this century

Since the century, with the exception of a few countries such as China and Brazil, global investment in public agricultural research and development, especially in many developed countries, has tended to stagnate or even decrease, leading to a significant slowdown in TFP growth. Barrett pointed out that when it is difficult for the government to significantly increase financial investment in agriculture, it is necessary to allocate funds reasonably and make a strategic trade-off between directly subsidizing producers and investing in long-term research and development. In the long run, although investment in research and development yields results slowly, it is the most sustainable way to benefit future generations and promote transformation. Barrett emphasized, "Currently, China's public agricultural research and development investment is about five times that of the United States. China is moving in the right direction. 'China has taken the lead in global investment in agricultural research and development.'" "We should persist in this." However, he also reminded that, like many other countries, China is faced with the reality of a large scale of direct producer subsidies. Maintaining high producer subsidies for a long time may have a crowding-out effect on public research and development investment. Taking the United States as an example, he said that if R&D budgets are continuously cut and direct subsidies are expanded, it may lead to the exhaustion of innovation momentum and insufficient long-term competitiveness. Therefore, agricultural subsidy policies should gradually shift to supporting more sustainable areas such as ecological protection and technological research and development, rather than investing too much in output subsidies. In addition to

agricultural science and technology innovation system. Barrett affirmed the "Science and Technology Courtyard" model: through teachers and students stationed in villages, the in-depth integration of technological innovation, talent cultivation, and social services has significantly improved the production efficiency of farmers. Looking to the future, China's experience has important reference value for the world. Barrett predicts that by the middle of this century, global food consumption growth will be mainly concentrated in Asia and Africa. China has similarities with these regions in terms of ecological conditions, small-scale farming foundations, and value chain structures, so its experience has strong adaptability and promotion potential. In addition, he believes that as income levels rise, the proportion of total food consumption expenditure flowing to post-production links (processing, logistics, retail, catering) continues to increase, which means

Future employment growth in the agri-food system will occur more outside of farms. China's explorations in areas such as post-production value chain innovation and agricultural e-commerce models are providing useful references for other countries.



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