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COVER TOPIC

Rural Development in China and Germany: Challenges, Policies, and Future Prospects



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in Transformationsökonomien



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About the DCZ

The Sino-German Agricultural Centre (DCZ) is a joint initiative of the German Federal Ministry of Agriculture, Food and Regional Identity (BMLEH) and the Ministry of Agriculture and Rural Affairs (MARA) of the People's Republic of China.

The DCZ was established in March 2015 as a central contact and information platform in charge of coordinating the bilateral cooperation between Germany and China in the agriculture and food sector. In April 2022, the project entered its third phase.

China is one of the world's largest food producers and consumers. Therefore, its agricultural development and transformation process is of significant importance for its German partners. By bringing together stakeholders from politics, business, and academia, the DCZ promotes the exchange of experience and knowledge to tackle shared challenges and support the sustainable development of the agriculture and food sector in both countries.

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Editorial



Dear partners and friends,

In an era defined by rapid technological, demographic, and economic transformation, rural areas in both China and Germany are confronting profound challenges and opportunities. This issue of **Harvest | 丰收** explores how each country addresses critical questions of rural revitalization: from aging populations and youth outmigration to regional identity, community building, and bridging the persistent urban-rural divide. We highlight the social dimensions of rural development – including women's roles, youth engagement, and the roles of new cooperatives and educational or vocational institutions – as essential pillars for sustainable and inclusive growth. Through policy analysis, case studies, and comparative insights, this issue of **Harvest | 丰收** seeks to uncover shared lessons and innovative pathways that foster resilience, equity, and social harmony in the countryside.

In this issue, we explore the history and transformation of rural development in Germany in our cover story by Michael Boedecker. Gu Rui explores participation in e-commerce in China, shedding light on how modern technology can drive progress while also creating new challenges. Theresa Schmidt's introduction of the German Rural Youth Association (BDL) shows the vital role that youth organizations play in preserving the rural way of life into the next generation. Finally, Yuan Yue's article on Mengdingshan Academy in Sichuan showcases a new model for training future leaders for rural cooperatives in China.

Together, these contributions demonstrate that innovative approaches – powered by technology, youth engagement, and leadership development – can breathe new life into rural areas. They remind us that despite the challenges, there are reasons to remain hopeful about the future of rural revitalization.

Since this is the final issue of **Harvest | 丰收** in the third phase of Sino-German Agricultural Centre (DCZ), we have also included a captivating photo story capturing memorable moments from the past four years. We hope you enjoy this edition and continue supporting our efforts to foster dialogue between Germany and China in the areas of agriculture and rural development.



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Cover story



Rural development in Germany from a social perspective

Michael Boedecker
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Germany's rural regions are far more than picturesque landscapes – they can be dynamic spaces of innovation, resilience, and social fabric. Covering 91% of the country's landmass and housing over half its population, rural areas are central to the country's social cohesion and economic sustainability.¹ However, these areas face a unique set of challenges and transformations, shaped by demographic change, economic restructuring, and shifting social norms. Rural development in Germany is therefore not only a matter of agricultural policy, but a broader commitment to securing equal living conditions, democratic participation, and future-oriented infrastructure for all citizens – regardless of where they live. It requires a holistic approach that involves multiple policy fields, including economic development, education, health, mobility, environment, and digitalization, to effectively address the complex and interlinked challenges facing rural areas.

Over time, especially from the 1970s onwards, policy frameworks broadened. The concept of integrated rural development emerged, culminating in the institutionalization of the Joint Task for the "Improvement of Agricultural Structure and Coastal Protection (German: Gemeinschaftsaufgabe "Verbesserung der Agrarstruktur und des Küstenschutzes") (GAK), which enabled federal and state cooperation in promoting the infrastructure, economic diversification, and landscape protection in rural areas. Following the German reunification in 1990, massive investments targeted the rural development in the eastern states, attempting to tackle economic decline and social fragmentation. From the 2000s onward, the emphasis shifted further, aiming to promote equal living conditions and to strengthen rural resilience in the face of globalization, climate change, and demographic decline.⁴

Historical trajectories of rural development

Post-war rural development in Germany began as a part of national reconstruction, aimed at stabilizing agricultural production, improving living conditions, and rebuilding the community infrastructure. In the early decades of the Federal Republic, agricultural modernization and the avoidance of rural depopulation dominated the policy agenda. In contrast, rural development in the German Democratic Republic (GDR) followed a more centralized, state-planned approach, with collectivized agriculture and top-down infrastructure development playing key roles.² This dual trajectory created long-lasting structural differences between East and West, which became particularly evident after reunification in 1990 and can even be seen to a certain degree in the present day.³

Policy evolution and milestones

Several milestones marked this trajectory. Germany's endorsement of the EU's LEADER approach in 1991 introduced bottom-up participatory planning, empowering *Local Action Groups* (LAGs) to lead local development strategies.⁵

1 Thünen Institut (Landatlas): <https://atlas.thuenen.de/atlanten/landatlas>

2 Sylvia Keim-Klärner (2021): Wandel der Arbeits- und Lebensverhältnisse in ländlichen Räumen

3 Bundesregierung (2024): Vierter Bericht „Kraft des Landes“ <https://www.bmler.de/SharedDocs/Downloads/DE/laendliche-Regionen/4-reg-bericht-le-langfassung.html>

4 Ibid.

5 European Commission (2021): Fact Sheet The LEADER approach: A basic guide <https://ec.europa.eu/enrd/sites/default/files/2B953E0A-9045-2198-8B09-ED2F3D2CCED3.pdf>

More recently, these programs demonstrate the growing integration of digital and educational innovation into rural settings. The *Smarte.Land.Regionen* – a federal pilot initiative of the former BMEL – funded seven rural districts to develop and test digital services for public welfare (in areas such as health, mobility, work, and education) to improve basic service provision, make digital tools tangible locally, and reduce barriers to digital participation. Moreover, the Federal Government’s periodic reports on the state of rural areas – most recently the fourth report titled “*Kraft des Landes*” – reflect a sustained commitment to rural well-being, grounded in evidence-based policymaking and interministerial coordination.⁶

However, the social challenges remain acute. Demographic change is one of the most pressing issues. While some rural districts near urban centers are experiencing population gains, many others – particularly in structurally weaker or remote areas – continue to face depopulation, ageing, and youth outmigration. These dynamics impact service provision, economic vitality, and community life. In some regions, the population is expected to shrink by a fifth by 2045.⁷ The age structure in rural areas is increasingly skewed, placing pressure on healthcare, social services, and civic institutions.

Social challenges and the role of community engagement

Access to social infrastructure is another core concern. While rural residents generally report satisfaction with their quality of life, challenges persist in terms of healthcare, education, mobility, and digital infrastructure.⁸ For instance, in sparsely populated areas, long distances to hospitals or schools remain a barrier to inclusion. Public transport options are often limited, but particularly relevant for the elderly, young people, and low-income households without cars. The car continues to be the dominant mode of transport – a reality that creates sustainability and equity issues. Similarly, although broadband expansion has progressed significantly, a digital gap persists between urban and rural areas, particularly with respect to gigabit connectivity. Without high-speed internet and reliable mobile coverage, rural regions risk falling behind in digital participation and remote work opportunities. Civic engagement represents both a strength and vulnerability. Rural areas in Germany exhibit strong traditions of voluntary work and community involvement. Over 30% of rural residents are engaged in some form of volunteering, often sustaining essential services such as firefighting, local transport, libraries, or social outreach. However, the continuity of such engagement is at risk, as many associations struggle to recruit younger members or leaders willing to take on long-term commitments. The changing nature of volunteerism – shifting from permanent membership to short-term engagement – requires new support mechanisms and governance models. Without an active civil society, local cohesion and trust in democratic institutions may erode.

In some smaller municipalities, these limitations are so pronounced that even the position of mayor is carried out voluntarily – a reflection of both the dedication of local citizens and the urgent need to strengthen administrative support and financial resources in rural governance.

In this regard, religious institutions, particularly Christian churches, continue to play a vital role in the social fabric of rural Germany. Beyond their spiritual mission, churches often serve as key providers of early childhood education, elderly care, and social counselling. Their parish halls frequently act as community hubs, especially for seniors, families, and socially isolated individuals. In areas where public infrastructure has declined, churches often remain among the few stable institutions, offering spaces for dialogue, volunteer coordination, and intergenerational exchange. They also contribute significantly to integration efforts, youth outreach, and social services. At the same time, declining membership challenges churches to find new, inclusive forms of community engagement to maintain their societal relevance.

Gender equality is another important dimension of rural development. Women in rural areas are central to family life, civil society, and local economies, yet often remain under-represented in leadership positions within municipalities, cooperatives, and professional bodies. Young women are also more likely than men to migrate away from rural areas – a trend referred to as the “feminization of rural outmigration.” Addressing this requires targeted action: improving work-life balance, supporting female entrepreneurship, enhancing visibility of rural role models, and ensuring equitable participation in local decision-making processes. Initiatives such as “*LandFrauenGuides*” by the German Association of Rural Women (German: *Deutscher Land-Frauenverband dlv*) exemplify how female empowerment can be strengthened in rural settings. A gender-responsive rural policy sees women not only as beneficiaries, but as key agents of transformative change.

Another critical issue is the perception among rural citizens that their voices are less heard in national debates. This perceived neglect fuels feelings of marginalization and dissatisfaction with the democratic institutions. The urban-rural divide – both real and imagined – is increasingly politicized. It is therefore vital that rural development policy does more than deliver technical solutions; it must also restore political trust and foster a shared narrative of national cohesion.

State strategies, integration approaches, and innovations

To address these issues, Germany has adopted a wide range of integrated strategies and programs. The most recent government report outlines four thematic pillars: demographic change, climate protection and energy transition, provision of public services, and social cohesion. For demographic resilience, Germany promotes a mix of strategies: encouraging internal migration to rural areas, supporting

families with childcare and education, and attracting skilled immigrants. The share of foreign nationals in rural regions has more than doubled over the past decade – reaching 13,3% in 2024⁹ – a trend that offers both opportunities and integration challenges. Young migrants and newcomers can help counteract demographic decline, sustain schools and meet labor needs, particularly in healthcare, elderly care, and energy sectors. However, the successful integration of new residents also requires proactive social strategies. In some rural communities, concerns about social change or unfamiliar cultural practices can lead to hesitation or mistrust. Addressing these sentiments through dialogue, education, and inclusive community-building initiatives is essential to prevent exclusion and to foster mutual understanding. Social cohesion in diverse rural areas depends not only on economic opportunity but also on a shared sense of belonging and respect for pluralism.

Healthcare access is supported by innovative service models, e.g., mobile medical units, telehealth services, digital consultations, and financial incentives for rural practitioners. In the mobility sector, flexible on-demand transport, digital ticketing, and community-led solutions (such as citizen buses) aim to complement limited public networks. In education, initiatives like MINT:ZE – supported by the Federal Ministry of Research, Technology and Education (BMFTR) – bring STEM learning to youth in more remote areas, using mobile labs, e-learning platforms, and guidance through regional networks, to improve educational equity and help young people discover and prepare for careers in STEM. These innovations are essential to retain young families and equip rural children with skills for future-oriented careers.

AGRICULTURE AND RURAL DEVELOPMENT

Farming and agriculture remain central pillars of rural life and identity in Germany, yet their broader social and developmental functions are often underemphasized in policy discourse. While agriculture no longer dominates rural employment, it still shapes land use, landscape stewardship, and local economies. Farm structures vary widely across regions – from family farms in Bavaria to large-scale successor enterprises in eastern Germany – and this diversity affects the capacity of agriculture to contribute to rural resilience. In some areas, the lack of strong farm cooperatives limits bargaining power, innovation, and regional value chains. Conversely, where producer groups and regional marketing alliances are active, they can enhance local income generation, support

agroecological transitions, and sustain village services. Multifunctional farming models – including agrotourism, direct marketing, and landscape conservation – offer additional development pathways that connect agriculture with education, health, and environmental goals. Strengthening the link between rural development and agricultural policy is essential to ensure that farming continues to serve as both an economic driver and a social anchor in rural regions. A growing challenge across all regions is the shortage of agricultural labor, particularly among younger generations, due to low-income expectations and physically demanding work. These dynamics make it increasingly difficult to recruit new employees or successors for farm operations.

The energy transition presents a dual opportunity and challenge. Rural areas host the majority of Germany's renewable energy infrastructure – wind farms, solar fields, bioenergy facilities – but also face visual, acoustic and land-use concerns. New legislation has enabled municipalities and citizens to financially participate in energy production, turning them from passive hosts into active beneficiaries. This not only improves local acceptance but also generates new sources of income for community development. Pilot projects, such as agrivoltaics installations combining farming and solar power, illustrate how innovation can align ecological, economic, and social goals.

Digital infrastructure is another cornerstone of rural transformation. The Smarte.Land.Regionen program and its flagship applications show how targeted investments in e-governance, online participation, and public service delivery can overcome geographic barriers. Importantly, digital connectivity is not merely a technical issue; it is a gateway to educational inclusion, business innovation, and civic participation.

- 6 Bundesregierung (2024): Vierter Bericht „Kraft des Landes“
<https://www.bmlh.de/SharedDocs/Downloads/DE/laendliche-Regionen/4-reg-bericht-le-langfassung.html>
- 7 <https://www.bbsr.bund.de/BBSR/DE/startseite/topmeldungen/bevoelkerungsprognose-2045.html#:~:text=Nach%20den%20Ergebnissen%20der%20Prognose,Einwohner%20mehr%20in%20Deutschland%20leben.>
- 8 OECD (2007): OECD-Prüfbericht zur Politik für ländliche Räume
https://www.oecd.org/content/dam/oecd/de/publications/reports/2007/05/oecd-rural-policy-reviews-germany-2007-g1gh7d38/9789264017764-de.pdf?utm_source=chatgpt.com
- 9 <https://www.bpb.de/kurz-knapp/zahlen-und-fakten/soziale-situation-in-deutschland/61646/bevoelkerung-mit-migrationshintergrund/>

SEIZING OPPORTUNITIES IN THE GIG ECONOMY AND DIGITAL LIFESTYLE

Germany's rural regions are also beginning to feel the effects of the growing gig economy and changing patterns of digital work. While these developments have largely been concentrated in cities, rural areas increasingly recognize the potential to position themselves as attractive locations for remote work, flexible digital services, and platform-based entrepreneurship. Activities such as e-commerce, local food delivery, live-streaming of rural experiences, and short-term rentals through platforms like Airbnb are gaining traction – particularly in scenic or tourism-oriented regions. Village-based or adventure tourism, e.g., allows rural communities

to create new sources of income while showcasing local identity. To seize these opportunities, municipalities need to invest in reliable digital infrastructure, modernize regulatory frameworks, and promote coworking and start-up support systems adapted to small-town realities. An emerging priority is to attract younger digital professionals – so-called digital nomads – who value affordability, nature, and work-life balance. By fostering a culture of digital openness and providing the right living and working conditions, rural areas could become viable alternatives to urban centers in the evolving digital economy.¹⁰

In parallel, housing and land use planning remain important. While housing prices are generally lower in rural areas, there is a shortage of rental units and senior-accessible housing. Planning instruments have been reformed to address these needs, and the federal government supports municipalities in revitalizing village centres, developing affordable housing, and reusing vacant properties. The ReGerecht project, e.g., brings together urban, peri-urban, and rural actors to collaboratively resolve land-use conflicts and balance infrastructure development with environmental protection.¹¹

Funding mechanisms are crucial to all these efforts. The GAK remains the central vehicle for federal co-financing, complemented by the LEADER program and the “Bundesprogramm Ländliche Entwicklung und Regionale Wertschöpfung” (BULEplus), which supports pilot models and innovations.¹² However, structural disparities in municipal finances remain a bottleneck.

Municipalities in rural areas, particularly in weaker regions, have lower tax bases and limited administrative capacity. Recognizing this, Germany has begun to assess new laws through a “rural proofing” lens – a systematic approach to evaluating whether proposed policies or legislation might have unintended negative effects on rural

communities. The aim is to reduce bureaucratic burdens, identify potential disadvantages for rural areas early in the policymaking process, and promote more regionally balanced and inclusive policy outcomes.

Outlook and international perspectives

Germany's rural development journey holds broader lessons for international dialogue, including for China's rural revitalization agenda. First, Germany's experience underscores the importance of integrated development – beyond agriculture – with attention to services, infrastructure, civic engagement, and environmental stewardship. Second, participatory governance models, such as LEADER, offer a blueprint for community-driven planning. Third, Germany's commitment to equal living conditions across space highlights the risks of excessive urban concentration and offers tools to mitigate them. Finally, the integration of digital services, energy transition, and social cohesion into rural development illustrates how peripheral regions can become centers of innovation and sustainability.^{13, 14, 15}

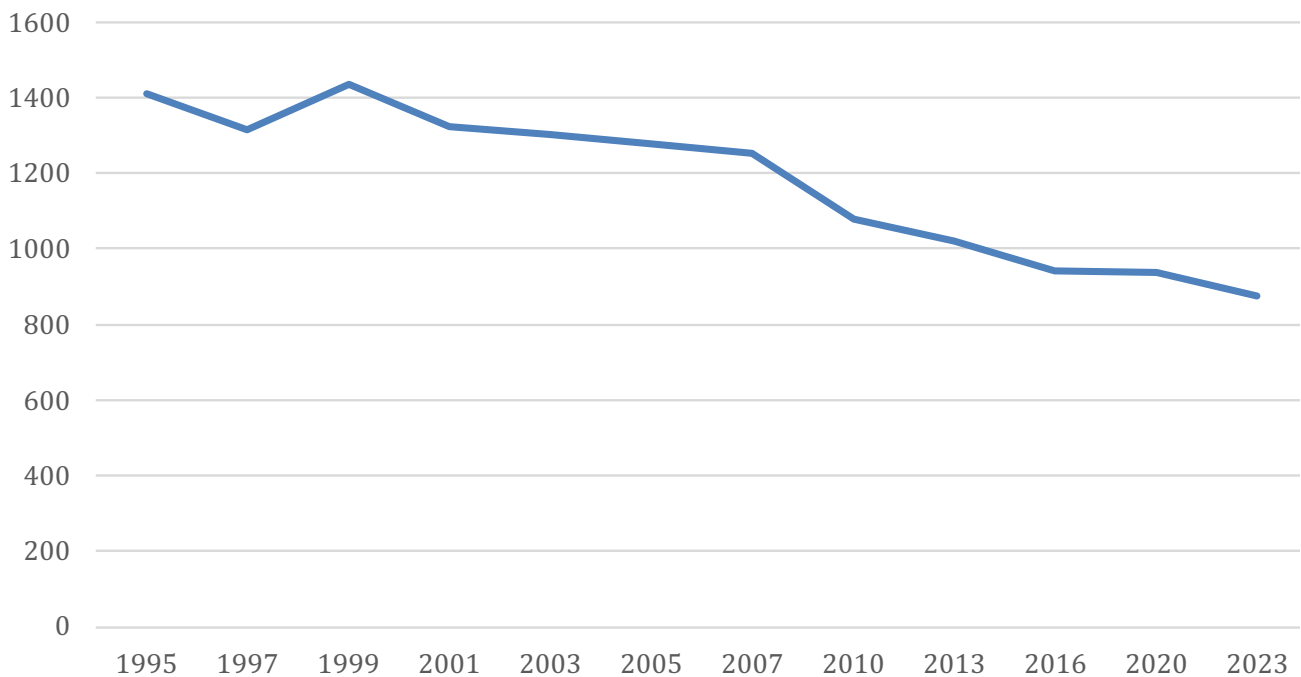
SINO-GERMAN FLAGSHIP RURAL DEVELOPMENT PROJECTS

Germany and China have engaged in a number of pilot projects in rural development that reflect mutual learning and innovation. For example, the Hanns-Seidel Foundation (HSF) runs a Sino-German pilot of land consolidation and rural revitalization in the Sanbaishan area of Jiangxi Province, which began in 2014. There, through participatory planning and ecological design, the project improved infrastructure, reshaped land parcels, restored watercourses and promoted small-scale local agriculture and tourism development. Another signature example is the village renewal and land consolidation work in Nanzhanglou, Shandong, where HSF has, over several decades, supported

bottom-up upgrading of housing, land use, services and economic diversification in ways that help retain population and foster local income streams.

In addition to such localized initiatives, the Sino-German Center for Sustainable Development (CSD), jointly established by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Chinese Ministry of Commerce (MOFCOM), offers a broader platform for dialogue and cooperation on sustainable development, including rural topics. The CSD promotes multi-level collaboration through policy dialogue, pilot projects and partnerships that touch on rural revitalization, land use and inclusive infrastructure, complementing site-specific projects with strategic engagement on national and international levels.

NUMBER OF EMPLOYEES IN AGRICULTURE IN GERMANY (IN MILLIONS)



Source: <https://www.bmel-statistik.de/landwirtschaft/landwirtschaftliche-arbeitskraefte>

Looking forward, rural areas in Germany hold significant untapped potential, especially in the context of rising digitalization and the shift towards remote and hybrid forms of work. As more people seek a higher quality of life, access to nature, and affordable living spaces, rural regions can increasingly become attractive “retreats” – tranquil refuges from urban stress for families, professionals, and creatives alike. To fully realize this potential, however, investments must be made to improve digital infrastructure, mobility services, and access to modern public amenities. Fast and reliable internet, flexible working spaces, and efficient public transport are essential to making rural living both feasible and appealing. Strengthening these foundations will not only support demographic renewal but also stimulate local economies and foster innovation.

The long-term decline of agricultural employment in Germany is clearly illustrated by the graph, which shows that the number of people working in agriculture has dropped from around 1.4 million in the mid-1990s to under 900,000 by 2023. Today, agriculture accounts for only about 2% of all employment in Germany – even in rural areas. Jobs in the secondary and tertiary sectors form the backbone of rural economies, while small and medium-sized enterprises (SMEs) in crafts, tourism, and local trade provide additional employment. This structural shift away from farming reflects broader trends of consolidation and demographic change. For countries like China, where rural revitalization strategies aim to create more off-farm employment, Germany’s experience underscores the importance of diversifying rural labor markets while still maintaining vibrant local agriculture.

Supporting training, entrepreneurship, and digital infrastructure is key to enabling non-agricultural job creation and making rural areas attractive places to live and work.

In conclusion, rural development in Germany is not about preserving nostalgia or resisting change. It is about ensuring that every citizen – whether in a metropolitan center or a small village – can access opportunities, contribute to society, and shape the future. As demographic and technological transformations continue to unfold, Germany’s rural areas are not retreating from relevance; they are emerging as laboratories for inclusive, resilient, and sustainable development. Socially responsive rural policy is not a luxury – it is a democratic imperative.

10 https://www.bertelsmann-stiftung.de/fileadmin/files/user_upload/FINAL_Rural_Coworking_in_Europe_als.pdf

11 <https://www.ufz.de/index.php?de=44622>

12 Bundesregierung (2024): Vierter Bericht „Kraft des Landes“ <https://www.bmlch.de/SharedDocs/Downloads/DE/laendliche-Regionen/4-reg-bericht-le-langfassung.html>

13 https://china.hss.de/en/news/detail/information-on-the-natural-ecological-development-and-revitalization-of-rural-areas-news11860?utm_

14 https://china.hss.de/en/our-work-in-china/rural-development-1/?utm_

15 <https://www.giz.de/en/projects/sino-german-center-sustainable-development-3-0>



Digitalization and female empowerment



A gender perspective on e-commerce: rural women's participation and empowerment in Rural Western China

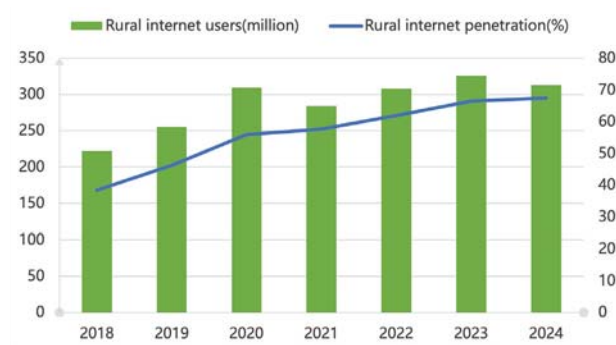
Gu Rui

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Rural women play a pivotal role in agricultural production, rural economic diversification, and maintaining social networks. Their empowerment is crucial for overcoming rural development challenges and is a key component of the global Sustainable Development Goals. With the booming development of rural e-commerce – driven by factors such as a growing rural internet user base, improved logistics systems, increased corporate investments, and more diverse, innovative industrial models, all of which have boosted rural online retail sales (Figure 1), rural women are tapping into their inherent strengths of patience, meticulousness, and familiarity with local resources to engage in economic activities. This not only enables them to contribute to local economic growth but also enhances their influence in agricultural decision-making and household income generation. However, traditional family-centric frameworks have often overlooked their contributions, which are hard to quantify due to the substantial unpaid household labor

they undertake. Additionally, limited access to resources like land, credit, technology, and market information marginalizes them during industrial transformation.

This article uses data from the Rural China Poverty and Food Security Household Longitudinal Survey in 2021, conducted by the Agricultural Information Institute of the Chinese Academy of Agricultural Sciences, to identify key factors and pathways influencing rural women's e-commerce participation, analyze the internal mechanisms and external drivers of e-commerce empowerment, and provides scientific evidence and policy recommendations for policy makers to promote rural women's deeper engagement in the digital economy. The surveys covered seven counties in remote mountainous areas (Zhen'an and Luonan in Shaanxi province; Wuding and Huize in Yunnan province; Pan and Zheng'an in Guizhou province; Qingshui in Gansu province) in western China, yielding a sample of 1,560 households in 130 villages.



2018-2024 internet users and penetration in rural area

Data source: Statistical Report on China's Internet Development



2018-2024 online retail sales in rural areas

Data source: E-commerce in China



E-commerce enterprises invest in rural areas



Innovative industrial models in rural areas

Figure 1: Brief introduction of e-commerce development in rural areas

Influence factors: why some rural women engage while others watch

Rural women's engagement in e-commerce is shaped by a combination of village-level infrastructure, household dynamics, and individual capabilities. At the village level, a supportive e-commerce environment plays a critical role in facilitating women's participation. Among the 130 surveyed villages, a diverse and evolving landscape of e-commerce infrastructure and industrial development was observed (Figure 2). A total of 86.9% had developed distinctive local industries, 63.1% had organized e-commerce training, 52.3% had established village-level e-commerce service stations, and 48.5% were served by express delivery outlets – together forming a preliminary yet relatively complete enabling environment for rural e-commerce.

In terms of location advantages, 30.8% of the villages were located near e-commerce or logistics parks, while 25.4% had access to cold-storage facilities for fresh produce, enabling effective preservation and distribution.

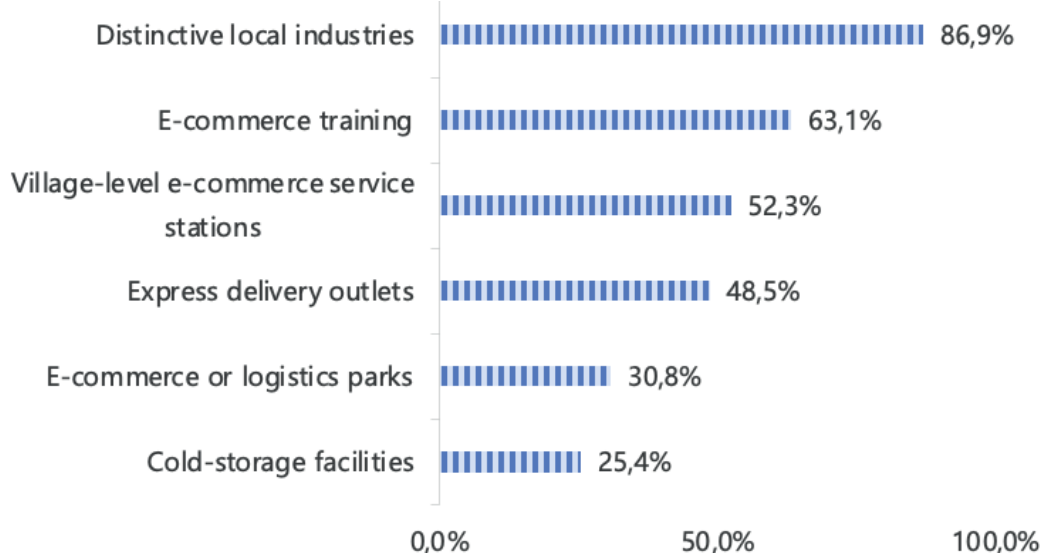


Figure 2: The status of e-commerce infrastructure and industrial layout in sample villages

Regarding the online marketing of agricultural products (Figure 3), 50.8% of the sample villages reported that cooperatives or individual farmers sold products online. Among the 66 villages engaged in online sales, marketing strategies were diversified: 42.4% relied primarily on livestreaming, 39.4% used major business e-commerce platforms, 57.6% promoted products through social commerce networks. This mix of strategies is rapidly becoming the norm in the rural e-commerce.

Of the 130 villages, 33 stood out for their active involvement of women in e-commerce. Further analysis revealed that characteristic industrial development at the village level, women-led cooperatives, procurement by e-commerce companies within villages, and online sales activities by female villagers all correlated positively with women's participation in e-commerce.

At the household level, family support is a key factor in women's engagement in e-commerce-related activities. Among the 1,560 rural households surveyed, only 33 were involved in e-commerce – defined as selling products online, working for e-commerce companies (either flexibly or permanently), or supplying goods to such companies. When non-participants were asked why they had not engaged in online sales, 44.9% cited not knowing how to sell online as the primary barrier, while 32.8% had never heard of e-commerce. These two knowledge-related reasons accounted for nearly 80% of responses, highlighting a critical gap in information and digital skills as the main bottleneck.

The lack of job opportunities and reliable procurement channels, e.g., e-commerce firms, dealers, or cooperatives, was also cited as a major obstacle to employment and supply-chain participation in e-commerce. Among the 33 participating households, 22 involved women. A closer look reveals that husband-wife partnerships are a distinctive household pattern facilitating rural women's entry into e-commerce.

At the individual level, women's human capital is a crucial determinant of their participation in e-commerce. Analysis of 440 female household members (female household heads or the wives of male household heads) showed that 65.5% used the internet for communication, 28.9% for information acquisition, 56.1% for entertainment, 29.5% for online shopping, and 36.4% for digital payments. Human capital emerged as a strong and consistent predictor of e-commerce engagement (see Table 1): age was negatively associated with participation, while each additional year of schooling was positively linked. Both financial and social capital also significantly enhanced women's involvement in e-commerce-related activities.

Major e-commerce platforms

39,4%

Social commerce networks

57,6%

Live-streaming

42,4%

Figure 3: Diverse channels to sell products online

Marginal effect	Communication	Information acquisition	Entertainment	Online shopping	Digital payments
Age	-0.018*** (0.002)	-0.002 (0.002)	-0.016*** (0.002)	-0.014*** (0.002)	-0.017*** (0.002)
Education	0.009 (0.006)	0.025*** (0.006)	0.006 (0.006)	0.023*** (0.005)	0.015*** (0.005)
Health	0.041 (0.040)	0.000 (0.045)	0.043 (0.047)	-0.049 (0.038)	0.082* (0.043)
Credit	0.110*** (0.038)	0.089** (0.044)	0.124*** (0.045)	0.041 (0.038)	0.138*** (0.041)
Participation in village's affairs	0.111*** (0.040)	0.065 (0.043)	0.055 (0.047)	-0.030 (0.037)	0.063 (0.040)

Note: Standard errors are in parentheses; *, $p < 10\%$, **, $p < 5\%$ and ***, $p < 1\%$

Table 1: The effects of human capital on internet behaviors (probit model)

Internal drivers: how e-commerce re-configures gender roles

According to Sen's Capability Approach (CA)¹, technology can be understood as a means to counteract capability deprivation. Within this framework, commodities – such as goods and services – can be transformed into capabilities and choices that expand individuals' opportunities². In this context, Information and Communication Technology (ICT) infrastructure enhances women's access to essential services, including communication, information acquisition, marketing, and digital payments. Then the actual use of these services, shaped by conversion factors such as age, education, and institutional norms, can strengthen women's capabilities and enable them to pursue alternative livelihood strategies – particularly off-farm options. When successfully implemented, these strategies can yield tangible outcomes, such as increased off-farm employment and income. This forms a theoretical “technology-behavior-economy” pathway³ through which rural women enter e-commerce and become economically empowered.

Specifically, as a beginning of the pathway, ICT – comprising smartphones, 4G/5G networks, etc. – breaks down information barriers in rural areas, reduces search and transaction costs, and provides a vital “gateway tool” for women. By expanding information channels and multiplying access to resources, ICT reshapes the preconditions for economic participation and lays the groundwork for behavioral change.

Behavioral shift serves as an intermediate transformation process bridging technological access and women's empowerment. When women gain access to digital tools, their daily routines may evolve – they move beyond traditional farm work to engage in activities such as online sales, live-streaming, or digital services. Concurrently, they accumulate social capital through interactions in e-groups, micro-communities, and platform-based exchanges. Ultimately, these behavioral changes translate into economic and empowerment outcomes: longer off-farm working hours, higher off-farm income, and greater influence in household decision-making.

Empirically, when the internet behaviors are viewed as an integrated bundle that includes e-commerce, a pathway from “going online” to “being empowered” becomes visible. Internet use appears to increase women's empowerment, facilitate entry into off-farm work, and expand their social capital. In turn, richer social capital may increase the likelihood of further off-farm engagement, which solidifies their empowerment. Focusing specifically on women who participate in e-commerce – whether by selling online, working for e-commerce firms, or supplying them – the same mechanism can also be observed. Their involvement tends to extend off-farm working hours (e.g., they may devote more time to livestreaming shows and maintaining customer network) and shows potential for modest, measurable gains in income (e.g., they may turn distinctive handicraft skills into marketable products that create jobs close to home and earn money) and decision-making power (e.g., they have stepped out of their traditional “invisible helper”

role to become livestream anchors and the household's key competitive asset, quietly dismantling the long-standing pattern of male-dominated sales) within off-farm business activities.

Long Wenying, from a remote Miao (ethnic minority in China) village in Wuding, Yunnan, returned home to start a business with Miao embroidery after spotting online opportunities while working away. Initially selling via QQ (monthly income: CNY 300 to 500), she expanded to Kwai (Kuaishou) and WeChat, developing an “embroiderers + employment support workshop + internet” model. She led local embroiderers to make products in their spare time and sold them online. The team earned an average of CNY 20,000 per month during 2020 to 2022 (Long: CNY 8,000; others: CNY 500 to 3,000).

In this case, Ms Long turned Miao embroidery – a traditional handcraft – into commodities via e-commerce. Matching women's skills and time, she created local jobs; as her social network grew, human and social capital became tangible economic benefits.

Materials from <http://ynwd.gov.cn/info/1042/40496.htm>

Yet, the shift from technology to behavior to economic gain is neither linear nor smooth. On the one hand, ICT is not gender-neutral: the digital gender gap tends to widen in the early phases of new technology. On the other hand, the very process of conversion is filtered through women's literacy levels, skills, cultural norms, and day-to-day needs, any one of which can slow or redirect the intended benefits. Hence, more, especially empirical, evidence is needed to trace how, when, and for whom the promised gains actually materialize.

External enablers: where to act so rural women actually benefit from e-commerce

Capability-building serves as the primary gateway for rural women to enter e-commerce, and the pivotal lever to shift traditional gender roles toward economic independence. However, barriers such as low educational attainment, fragmented market information, and still-limited digital skills prevent many from launching or sustaining online stores. Training initiatives therefore follow a deliberate, three-tiered sequence: 1) foundational digital literacy, including smartphone operation, online store setup, and shooting/editing of a short video; 2) day-to-day e-commerce operations, covering product selection, pricing, promotion, logistics, and after-sales service; and 3) entrepreneurial and managerial competencies, e.g., bookkeeping, brand building, and team coordination.

The All-China Women's Federation (ACWF) has prioritized such training initiatives, with its action plan for promoting women's participation in rural revitalization alone having now reached over 17 million women⁴. Provincial federations have further tailored these efforts to local contexts, e.g., in Yunnan, on-site training was delivered for lead entrepreneurs. Importantly, courses are integrated into local value chains, e.g., in Guizhou, modules on handicrafts and rural home-stay management have been incorporated, while expert guidance, incentive mechanisms, and cross-regional collaboration ensure each program remains targeted, practical, and market-driven.

Over the past decade, China has released a series of flagship documents that provide systemic support for rural e-commerce development, covering infrastructure development, platform construction, logistics improvement, and skills training initiatives. Among these documents, several have provided guidance for rural women's participation in e-commerce (Figure 4).

Specifically, an action plan for promoting women's e-commerce entrepreneurship was identified, along with four others, as a priority task of the development of rural e-commerce under the "Opinions on Accelerating the Development of Rural E-Commerce"⁵. In 2018, the government incorporated an action plan aimed at encouraging women to contribute to rural revitalization into the "Five-year Plan on Rural Revitalization Strategy (2018-2022)"⁶, providing rural women

with a clear roadmap to engage in rural development. The "Outline of Digital Countryside Development Strategy"⁷ further called for expanding internet literacy training for rural women, laying the groundwork for their participation in e-commerce. Subsequently, the "Outline for Women's Development in China (2021-2030)"⁸ singled out supporting rural e-commerce projects suitable for low-income women in urban and rural areas.

- 1 Sen, A. (1999). Development as freedom. Oxford University Press.
- 2 Sein, M. K., Thapa, D., Hatakka, M., Sæbø, Ø. (2018). A holistic perspective on the theoretical foundations for ICT4D research. *Information Technology for Development*, 25(1), 7-25.
<https://doi.org/10.1080/02681102.2018.1503589>
- 3 The mechanism through which e-commerce affects women has been examined from technological, behavioral, and economic perspectives – a framework referred to as the "technology-behavior-economy" pathway.
- 4 https://m.thepaper.cn/baijiahao_30354701
- 5 https://www.gov.cn/zhengce/2015-08/21/content_5023758.htm
- 6 https://www.gov.cn/zhengce/2018-09/26/content_5325534.htm
- 7 https://www.gov.cn/gongbao/content/2019/content_5395476.htm
- 8 https://www.gov.cn/zhengce/zhengceku/2021-09/27/content_5639412.htm

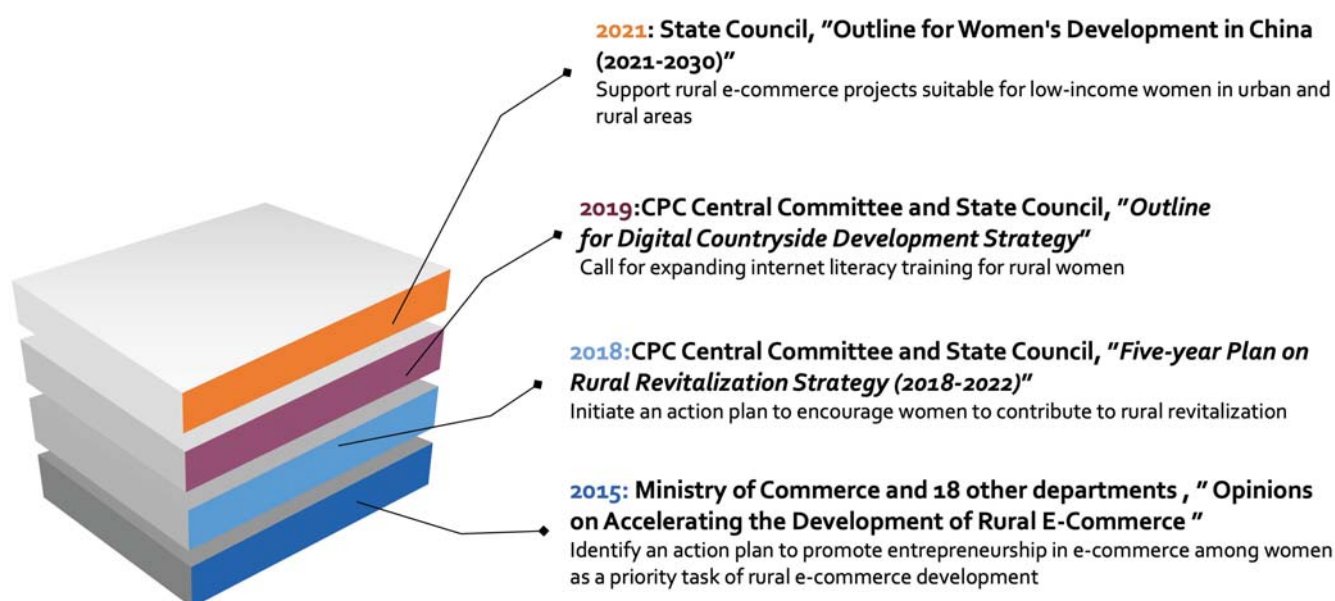


Figure 4: National policies related to rural women's participation in e-commerce activities

Targeted finance acts as the linchpin to breaking the “capital bottleneck” that hinders rural women from launching or scaling e-commerce ventures. As early as 2009, China placed women’s access to credit on the policy agenda, introducing subsidized micro-guaranteed loans for female entrepreneurs. A decade later, in 2019, the ACWF and the People’s Bank of China issued a joint circular, expanding policy tools by requiring financial institutions to design products specifically for women entrepreneurs – injecting new momentum into female-led ventures across the country. Driven by national policies and the rural revitalization strategy, local governments have rolled out specialized credit lines, channeling targeted funds to fuel women’s entrepreneurial activities. Beyond these products, banks and micro-credit providers have combined targeted finance with inclusive financial instruments to broaden support. To reach rural women more efficiently, lenders have also streamlined documentation requirements, shortened approval times, and moved the entire application process online – enabling applicants to secure working capital without leaving their farms or putting down their phones.

Policy implications: what’s next on the agenda

Investment in human capital is pivotal for enabling the rural women’s participation in e-commerce and their empowerment. On the one hand, investment in basic education must be boosted, with consistent efforts to ensure girls have the same access to basic education as boys, laying a fundamental foundation for enhancing women’s cognitive abilities and learning capacity. On the other hand, specialized and tailored e-commerce training should be launched for rural women, and a long-term mechanism should be established to track outcomes and refine programs continuously. Moreover, it is important to nurture local talent while attracting external professionals.

Capable women, returned female graduates, and women leaders are encouraged to engage in rural e-commerce. Then, with women’s federations, cooperatives, and e-commerce associations serving as bridges, more women can be supported in joining the sector, and a positive cycle can be fostered.

The accumulation of social capital is a critical cornerstone for rural women to participate in e-commerce and attain empowerment. At the community level, a cultural environment that supports rural women’s participation in e-commerce should be proactively cultivated, with new role models and success stories showcased to reinforce their sense of pride in the work and responsibility toward their ventures. At the organizational level, cooperative exchange platforms, such as women’s federations dedicated to the rural e-commerce sector, ought to be established. These platforms can host the training sessions, exchange events, and other activities to help rural women integrate into broader e-commerce networks. By enhancing the connections to external resources, rural women’s social capital can be expanded more profoundly and sustainably.

The policy support system serves as the fundamental guarantee for rural women to participate in e-commerce and attain empowerment. Women’s Federations must continue to play a pivotal role, utilizing diverse measures – such as publicity guidance, training demonstrations, policy incentives, and incubation services – to fully facilitate rural women’s employment and entrepreneurship in the e-commerce sector. E-commerce enterprises, by contrast, should leverage their strengths in technology and supply chains to reduce rural women’s entrepreneurial barriers through targeted preferential support. The government, meanwhile, should consistently enhance the hardware environment (e.g., rural e-commerce infrastructure) and financial support for rural women’s e-commerce engagement, including guiding financial institutions to innovate financial products and service models. Additionally, it is essential to establish and refine interdepartmental coordination mechanisms and government-enterprise cooperation frameworks, integrating efforts from multiple stakeholders (government, market entities, social organizations, etc.) to forge a strong synergy. This collective force will drive the robust development of rural women’s e-commerce initiatives and solidify policy guarantees for rural women to achieve effective empowerment in e-commerce.

4

Youth leadership and rural revitalization



Youth at the heart of rural development: the role of the German Rural Youth Association (BDL)

Theresa Schmidt

Federal Chairwoman, German Rural Youth Association (BDL), Germany

Growing up on a family farm in North Hesse, surrounded by fields of grain and dairy cattle, I have witnessed firsthand both the beauty and the fragility of rural life. The farm has always been more than an economic unit; it has been a space of belonging, learning, and responsibility. Yet, I have also experienced the doubts that many young people in rural Germany face: Will there be meaningful perspectives for us in the countryside? Can we make a living, build communities, and shape our futures outside of urban centers?

These questions have defined much of my journey, from training in banking and insurance with a focus on agriculture, to studying agricultural sciences in Göttingen, and ultimately to my role as Federal Chairwoman of the German Rural Youth Association (Bund der Deutschen Landjugend, BDL). They are also at the heart of this contribution to Harvest, which aims to shed light on how rural youth in Germany organize, advocate, and envision their role in sustainable rural development.

The history and mission of the BDL

The BDL is the largest rural youth organization in Germany, representing over 100,000 members aged 15 to 35 across 18 regional associations. Founded in the aftermath of World War II, the BDL was built on the belief that young people in rural areas deserve opportunities to grow, to lead, and to contribute actively to society (<https://www.landjugend.de/landjugend/>). Since its very foundation, the BDL has been committed to democratic principles: the executive board has always been elected on a parity basis between women and men, ensuring equal participation and representation. This commitment to inclusivity and democratic legitimacy is a cornerstone of our identity.

From the beginning, the organization combined three dimensions:

1. Community building through local clubs and events
2. Political representation as the independent youth organization of the German Farmers' Union, the German Wine-Growers' Association, and the German Association of Rural Women
3. Education and empowerment, fostering skills, confidence, and international exchange

The BDL's mission remains consistent: to create and preserve perspectives for young people in rural areas – so they can live, work, and thrive where they choose.

Current work and approaches

Today, the BDL operates at the intersection of tradition and transformation. We empower young people to act as drivers of change while remaining rooted in their local communities.

Promoting youth engagement: At the local level, thousands of youth clubs offer spaces for participation and leadership. These grassroots structures allow young people to plan projects, debate local issues, and develop a sense of responsibility. At the national level, the BDL advocates for youth interests in political debates – ranging from agricultural policy to rural infrastructure, education, and climate adaptation.

Bridging agriculture, society, and politics: We see ourselves as mediators between the farming community and the wider society. Many young members come from agricultural backgrounds, but many others join because they care about rural life and its future. The BDL fosters dialogue with policymakers, NGOs, and businesses to highlight rural perspectives.

International cooperation: The BDL is actively involved in European and global networks, e.g., CEJA (European Council of Young Farmers), RYE (Rural Youth Europe), and WFO (World Farmers' Organisation). Every year, rural youth meet at European and global gatherings to exchange views, build partnerships, and represent the voices of the younger generation in agriculture and rural development. These engagements are vital not only for sharing experiences but also for building solidarity across borders.

Looking ahead, we are particularly open to strengthening dialogue with young farmers and rural youth organizations in China. In addition to socio-political differences, our context also differs in scale and intensity. However, we face many similar challenges: demographic shifts, climate impacts, digital transformation, and the question of how to keep young people engaged in rural communities. An exchange between German and Chinese rural youth could be highly enriching. By sharing our experiences, we can learn from one another's approaches, identify innovative pathways, and support each other in building resilient, vibrant, and sustainable rural regions. The BDL stands ready to contribute to this dialogue, believing that international cooperation among rural youth is not only desirable but necessary for the future of global agriculture.

Achievements and challenges

ACHIEVEMENTS

Policy influence: The BDL has shaped debates on agricultural reform, rural infrastructure, and youth opportunities. Our members contributed to the Commission for the Future of Agriculture (Zukunftskommission Landwirtschaft, ZKL), where I personally had the honor of representing rural youth. In this diverse forum, which brought together farmers, environmentalists, scientists, consumers, retailers, and NGOs, youth representatives played a key role. Even when groups such as the BDL and BUNDjugend had different perspectives, we managed to demonstrate that listening, understanding, and compromise are the only way forward. This spirit of bridge-building was a defining achievement (further information: <https://www.bmlch.de/DE/themen/landwirtschaft/zukunftskommission-landwirtschaft.html>).

In general, we are regularly present in the Bundestag, where we speak with members of parliament about agricultural and rural issues, as well as youth policy matters. Each year, we present a harvest crown to the Federal Youth Minister (Picture 1) as well as to the Agriculture Committee of the Bundestag, using the occasion to engage in dialogue.

We also participate in various events in Berlin and across the country, where we present our positions that we develop annually in working groups together with our delegates. At the end of 2023 and the beginning of 2024, large demonstrations took place in response to political budget cuts. We also took part in these, and ultimately, the subsidy for so-called agricultural diesel was reinstated.

Since the Commission on the Future of Agriculture and the successful involvement of youth, as well as the farmers' protests, we as young people have been represented much more frequently on discussion panels. In some cases, I was even invited to speak about rural youth and our demands on podcasts or in television interviews.

The German Federal Ministry of Agriculture, Food, and Regional Identity (BMLEH) has also launched its own youth participation strategy, which includes us in association talks, delegation trips, and events. For example, as



mentioned later, I was able to travel with the Parliamentary State Secretary for agriculture to the United Arab Emirates and with the Minister of Agriculture to Africa. They also implemented a Policy Youth Forum (Picture 3)

Vocational Competition of the German Rural Youth (Berufswettbewerb der deutschen Landjugend): The BDL organizes this competition every two years, and it is the largest extracurricular vocational competition in Europe. Thousands of young professionals in agriculture, winegrowing, horticulture, and forestry compete in theory and practice. It strengthens participants' vocational skills, builds community, and demonstrates the excellence of rural youth to the broader public (Picture 2).



Visibility of youth voices: We have raised awareness about the importance of keeping young people in rural areas, preventing depopulation, and ensuring equal access to education and digital tools.

International recognition: By taking part in delegations abroad – whether to Ethiopia, the UAE, or within Europe – we have positioned German rural youth as active partners in global conversations on food security and rural development.

Furthermore, the international seminar for rural youth leaders, which takes place every two years in Herrsching, Bavaria, Germany, is a good example. Funded by the BMLEH, it is open for applications from committed young people from all over the world. I have already met many rural youth representatives from Asia there (for more information, visit <https://www.international-herrsching-seminar.de/>)

CHALLENGES

Outmigration and demographic change: Many young people still leave rural areas in search of education and jobs in cities. This weakens social networks and local economies.

Digital and infrastructural gaps: While urban centers accelerate, rural areas often struggle with connectivity, transportation, and access to healthcare.

Climate change and sustainability: Rural communities, especially farmers, are on the frontlines of climate impacts. Adapting farming systems while ensuring livelihoods is a pressing concern.

Representation and diversity: As society changes, we must ensure that the BDL remains inclusive – not only of traditional farm youth, but also of all young people who see the countryside as their home. Everyone is welcome in rural youth. We are open to all and exclude no one. Intercultural exchange is important to us – the more diverse the rural youth is, the better. What we do not want is extremism; it has no place with us. In rural youth, you learn early on that democracy keeps rural areas just as livable as functioning infrastructure does.

A vision for the next five to ten years

As Federal Chairwoman, I strongly believe that the next decade will be decisive for rural youth in Germany and beyond. My vision for the BDL is rooted in five priorities:

1. Strengthening participation: Every young person in rural Germany should have a voice in shaping their community. We will expand democratic training, digital participation platforms, and local youth parliaments.

Furthermore, we will regularly organize events, where young people work together with local stakeholders, and youth forums in which political demands are directly developed and presented to decision-makers.

2. Sustainable farming and climate resilience: The BDL will advocate farming practices that balance productivity with environmental care. We aim to equip rural youth with the skills to lead the green transition. We are committed to implementing the outcomes of the Commission on the Future of Agriculture, which brings together all these elements. We also strengthen personality development trainings at rural educational centers, which we already have (<https://lernen-im-gruenen.de/>), and actively promote the support of young talents. We are convinced: without youth, there is no future!

3. International solidarity: Rural challenges are global. By deepening our cooperation with partners in Europe, Africa, and Asia, we can learn from one another and jointly promote food security and rural revitalization. Participation in the World Farmers' Organization, exchange programs, and international seminars, such as the leadership seminar in Herrsching, strengthen mutual learning and solidarity across borders.

4. Inclusivity and diversity: We want the BDL to reflect the richness of rural youth identities – whether male or female, farmers or non-farmers, newcomers or long-time residents, or people with different cultural backgrounds. Rural life should be open to all who wish to contribute. Through cultural activities like traditional harvest festivals, intercultural exchange projects, and targeted inclusion programs, we ensure that diversity becomes a lived reality within rural youth.

5. Building bridges between rural and urban: By communicating openly and showcasing the creativity and innovation of rural youth, we will help overcome stereotypes and foster mutual understanding. Events like the nationwide “Tag des offenen Hofes” (Open Farm Day, <https://www.bauernverband.de/kalender-veranstaltungen/termin/tag-des-offenen-hofes>), where urban residents are invited to visit farms, or our presence at the International Green Week in Berlin, give us a platform to explain modern rural life, agriculture, and youth perspectives directly to the wider public.

We are trying to attract new members, among other things, through activities that energize rural areas, e.g., by sprucing up a village square, organizing a blood donation drive, or doing other creative projects. We also did this in 2024, when the Rural Youth Organization turned 75. On that occasion, we carried out “75-hour campaigns” where everyone could participate. People saw how fun and engaging Rural Youth is, and many wanted to join. Additionally, we advocate for ensuring that funding is secured, e.g., in the federal Child and Youth Plan, and that it continues to be adjusted for inflation, so that support for exchanges and similar activities is always guaranteed.

We also want to become more attractive through social media, reaching young people where they are and showing them that being part of Rural Youth is exciting and meaningful. Currently, as Rural Youth, we are not yet on TikTok, but that is definitely part of the future. If we want to truly engage young people, platforms like this are probably unavoidable. We are active on Instagram and share various news there, so for now, Instagram can serve as our main platform. It has also become clear, e.g., during the previously mentioned farmers' protests, that a lot of content went viral on Instagram, TikTok, and YouTube. This not only brought more followers to the Rural Youth Instagram account but also introduced young people to the organization in the first place. This should definitely be further developed and expanded.

Furthermore, we can learn a lot from international initiatives like the Chinese Rural Revitalization Initiatives to make our rural areas more attractive and sustainable. We face significant challenges as more young people leave rural areas in search of opportunities in cities. This is why Rural Youth is committed to improving rural infrastructure, including digital and mobile connectivity, as well as ensuring essential services such as schools and healthcare. Retaining skilled workers in these areas is vital, and agriculture plays a central role as both employer and economic stabilizer, alongside other local businesses. Looking abroad can give us valuable insights to strengthen and sustain our rural communities.

A key focus, especially with the upcoming UN International Year of Women in Agriculture, is also addressing the needs of women in agriculture. Currently, in Germany, only 11% of farm management positions are held by women, even though many women perform the same work as men on paper. Various factors contribute to this disparity, but it is essential to create greater security for women regarding insurance, pensions, and the distribution of childcare and care responsibilities. In rural areas, it is especially important to ensure that kindergartens remain open and that women, or those who are raising children, have support and opportunities to balance childcare with pursuing a career. Next year, it is important to highlight gender equality in rural areas, challenge outdated stereotypes, and continue promoting parity, which BDL has supported on the board since our foundation.



Conclusion

The German Rural Youth Association is more than an organization; it is a movement of young people determined to shape the future of rural life. Our strength lies in the combination of tradition and innovation, local engagement and international outreach, practical problem-solving and visionary thinking.

As I reflect on my own path – from a farm in North Hesse to representing over 100,000 rural youths – I am convinced that the vitality of rural areas depends on the energy, ideas, and courage of the younger generation. By investing in rural youth, Germany and its partners can ensure that the countryside remains not a place of departure, but a place of opportunity, hope, and belonging.

For more information about the organization of rural youth, please visit the following website: www.landjugend.de





Cooperative
development
and rural
revitalization





Mengdingshan Academy's participation in and support for China's rural revitalization practices

FOCUSING ON PEOPLE, CULTIVATING ORGANIZATIONS, AND SUPPORTING SUSTAINABLE RURAL DEVELOPMENT

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I. Background of the college's establishment

China is a major agricultural country, and issues concerning agriculture, rural areas, and farmers – the “three rural affairs” – have long been a core concern of the country. In recent years, the Chinese government has introduced and implemented a series of strategies and plans, such as “advancing comprehensive rural revitalization” and “building an agricultural powerhouse.” Among these, a key task is to enhance smallholders’ ability to integrate organically with modern agriculture and large markets.

To some extent, we can regard the field of the three rural affairs as a vast market, with immense value and development potential. The key stakeholders involved in value distribution across this sector are the government, the market (capital), and farmers. However, given the household-based organizational model and individually managed farming operations, it is difficult for individual farmers to effectively engage with the market. Therefore, for hundreds of millions of Chinese farmers, effective cooperation is essential.

Experience from around the world shows that cooperatives serve as an effective organizational vehicle and a key driving force for collective farmer development. Through mutual assistance among members, cooperatives promote resource sharing and risk sharing, and play an important role in areas such as agriculture, finance, consumption, and production.

Since the Farmers’ *Specialized Cooperatives Law of the People’s Republic of China* came into effect in 2007, the number

of cooperatives has grown rapidly. As of October 2024, China had 2.14 million registered cooperatives and 15,000 cooperative federations.¹ Despite this large number, the overall quality of development varies greatly. In recent years, agricultural authorities have issued multiple policies to support the standardization and high-quality development of cooperatives.

Recognizing the distinctive role of cooperatives in modern agriculture and rural revitalization, as well as the historic opportunity for a transformation from quantitative to qualitative development, the establishment of the Sichuan Mengdingshan Cooperative Development Training Academy (hereafter referred to as the Mengdingshan Academy) was initiated around 2020.

On 9 February 2021, Mengdingshan Academy was officially established as a social enterprise registered with the Sichuan Provincial Department of Civil Affairs and supervised by the Sichuan Provincial Department of Agriculture and Rural Affairs. The China Rural Development Foundation (formerly the China Foundation for Poverty Alleviation), together with the Ya’an Municipal People’s Government of Sichuan Province, the School of Public Policy and Management of Tsinghua University, the Department of Sociology at Peking University, the Rural Governance Research Center at Renmin University of China, the China Social Policy Research Center at the Chinese Academy of Social Sciences, the Academy of Agronomy and Biotechnology at China Agricultural University, and the Food and Agriculture Organization of the United Nations (FAO) Representation in China, jointly supported its establishment.

¹ Statistics come from Chinese ministry of agriculture and rural affairs website



II. Development philosophy and pathways

Mengdingshan Academy is China's first – and so far, the only – public-interest training institution focused on cooperative development, with cooperative chairpersons as its primary training targets.

We believe that China's cooperative sector has entered a new stage – shifting from quantitative growth to qualitative improvement. The key development strategy in this new phase is “classified cultivation,” with three main trends: standardized streamlining, union-based quality improvement, and service empowerment.

As cooperatives evolve, they typically face one of three paths: 1) orderly exit, 2) maintaining the status quo, or 3) reform and optimization. Those who must exit should receive scientific guidance and procedural support to do so smoothly. Cooperatives wishing to continue should focus on standardization, while those with strong motivation, solid industrial foundations, and high potential should be supported to improve their “linking farmers” mechanisms and grow larger and stronger.

From years of observation and practice, we believe that developing a high-quality cooperative requires several key conditions:

1. **Capable and committed leadership:** a reliable chairperson whose motivation, understanding, and management skills determine the cooperative's success.
2. **Sound internal governance:** compliance and effectiveness are prerequisites for sustainable development and external support
3. **Integration of high-quality resources,** including production, technology, supply chains, marketing, branding, finance, and knowledge
4. **Ongoing professional guidance and services**
5. **Accurate and systematic policy support**

Based on these principles, Mengdingshan Academy has developed a “public-interest training + market-oriented service” model. Working with agricultural departments at all levels, it selects outstanding cooperative chairpersons

nationwide and provides structured capacity-building through organizational development, field visits, and international exchange. The academy also integrates high-quality partners across the agricultural value chain to build an international, platform-based support system for the long-term growth of cooperative leaders.

III. Major achievements

Mengdingshan Academy has achieved notable results in talent cultivation, policy research, international exchange, resource integration, and brand development.

Talent cultivation:

As of 27 September 2025, Mengdingshan Academy has conducted 103 training sessions, training a total of 5,499 participants (of whom over 20% are women), covering 24 provinces and more than 600 counties. About 10% of graduates have become model cooperative leaders, generating strong demonstration effects and directly benefiting over a million farmers through their cooperatives.

Policy research:

Mengdingshan Academy has established a Policy Research Center and a Case Development Center. Each year, it collaborates with expert teams to undertake research projects and submit policy recommendations to the Ministry of Agriculture and Rural Affairs (MARA) and higher decision-making bodies. Nearly ten reports have received instructions from senior leaders. Meanwhile, the Mengdingshan Academy is developing a China-foreign cooperative case database, aiming to become a world-class resource for both policy research and teaching. The first twelve cases are expected to be published this year.

International exchange:

Mengdingshan Academy has established partnerships with international organizations, including the FAO, UN Women, and the UN Office for South-South Cooperation, to host agricultural exchange activities. In October and December 2024, it organized two study missions, sending 30 cooperative chairpersons to Germany, the Netherlands, and Spain to learn about modern agriculture and cooperative development.

Resource integration:

Apple, JPMorgan Chase, and Qiming Venture Partners have provided special funding to support the college's development, with total funding exceeding RMB 100 million. Mengdingshan Academy has also partnered with leading agri-food enterprises, e.g., COFCO, Sinochem, DJI, JD.com, SF Express, Tmall, Pinduoduo, Hema, Pagoda, and Douyin, to offer long-term services for trainees.

Brand recognition:

In October 2024, Mengdingshan Academy won the Best Poverty Reduction Case Award at the Fifth Global Poverty Reduction Case Collection Event. In February 2025, it was rated as a 5A-level social organization. Dozens of provincial and ministerial leaders have visited the academy and given high praise. On 17 October 2023, Apple CEO Tim Cook visited and held in-depth discussions with two alumni, leaving a strong impression.

IV. Current challenges

Despite its remarkable progress, Mengdingshan Academy faces three long-term challenges:

1. **Building a strong and professional team.** The academy currently has six full-time staff, most of whom are from outside Ya'an. Working and living long-term in a rural area requires strong perseverance due to limited local conditions. With an average age of 32.5, the young team members, each with three to ten years of rural experience, still need space for professional growth.
2. **Diversifying income sources.** Financial sustainability is vital for institutional development. At present, the college's main funding comes from public-interest training projects commissioned by the China Rural Development Foundation, while other income channels remain limited. Exploring market-oriented operations will therefore be a priority in the coming years.

3. **Enhancing institutional visibility.** Among rural revitalization training organizations in China, few have achieved strong brand recognition. The same challenge applies to Mengdingshan Academy – insufficient visibility may limit its influence in advancing the cooperative sector. The core of influence lies in faculty and curriculum as well as trainees and learning sites; expanding these two dimensions is essential for strengthening the college's brand.

V. Internationalization strategy

Historically, the cooperative movement originated in Europe during the 19th-century Industrial Revolution. In 1844, 28 textile workers in Rochdale, England, founded the Rochdale Society of Equitable Pioneers, marking the beginning of the modern cooperative movement. Its principles – voluntary membership, democratic management, and distribution of surplus based on transactions – later became the foundation of the International Cooperative Alliance (ICA).



Today, countries such as the US, Japan, and those in Europe attach great importance to cooperatives, which play key roles across agriculture, finance, consumption, insurance, education, and healthcare. For example, Germany's Raiffeisenbanken are jointly owned by cooperative members who are also their clients. These banks focus on providing optimal financial services to members, reinvesting profits to enhance member benefits – creating a resilient and sustainable model.

In China, cooperatives currently exist only in the agricultural sector. Drawing from international experience, we believe that the “family farm + cooperative + enterprise” model represents an important development pathway. Mengdingshan Academy hopes to apply this model in China by collaborating with like-minded domestic and international partners to empower cooperative chairpersons, nurture cooperatives, and support sustainable rural development.

To this end, the academy will continue advancing three major initiatives:

1. Building a China-foreign cooperative case database through in-depth analysis of European cooperative models to aid research and learning
2. Organizing international study tours for Chinese cooperative leaders to Europe, helping them broaden their vision and ideas through on-site learning
3. Hosting international agricultural exchanges jointly with partners such as the Sino-German Agricultural Center, UN Women, and FAO to foster dialogue between Chinese and foreign farmers, introduce advanced concepts, and share China's rural development stories.

VI. Vision for development

Considering global and domestic trends, market opportunities, and its own resource endowment, Mengdingshan Academy has made it its mission to promote the high-quality development of cooperatives with Chinese characteristics. Its medium- to long-term goal is to become a nationally and globally influential “Farmers' Business School.”

Over the next five years, the academy plans to train 10,000 additional cooperative chairpersons and nurture a group of models – or even “unicorn” – cooperatives in the key regions of China. The benchmarks for a model cooperative are:

1. at least 1,000 households as members
2. an annual output value of no less than RMB 100 million
3. annual member dividends of no less than RMB 1 million

Mengdingshan Academy will continue to advance high-quality policy research, develop domestic and international cooperative case studies, and organize high-level international exchanges. It will summarize and replicate effective mechanisms and experiences to help more farmers see hope and achieve shared prosperity.

VII. Trainee story

Ms Mi Ping is a member of the Wuyuan Planting and Breeding Farmers' Cooperative in Mingshan District, Ya'an City (picture: woman with Apple CEO Tim Cook). As the eldest daughter in her family, she began working after junior high school to take on family responsibilities, which made her especially eager to learn. Before joining Mengdingshan Academy, she, like many rural women, was hardworking and dependable but not particularly skilled in communication or cooperation.

In July 2022, Mi Ping attended a week-long cooperative management training at Mengdingshan Academy. She recalled that it was “deeply inspiring and eye-opening.” She realized that running a cooperative is a highly professional task requiring a wide range of knowledge. However, as her understanding was still limited, many questions remained unanswered after the first session.

In July 2023, she returned to the academy for another training, saying: “My foundation was weak, and I didn't fully understand everything the first time. As long as Mengdingshan Academy allows, I want to attend more sessions – even just as an auditor – until I truly grasp the ideas and methods taught here. Only then can our cooperative continue to improve.”

Since then, she has actively participated in every opportunity, including study visits to Zhejiang and Shanghai in December 2022, to Beijing and Hebei in June 2023, introducing Ya'an tea culture to Apple CEO Tim Cook in October 2023, and joining a study tour to Europe in October 2024.

By September 2025, when she returned for another training, Mi Ping had undergone tremendous growth – becoming a capable professional cooperative manager. Her communication and business management skills had improved significantly. This time, her goal was clear: to connect with peers, share resources, and lead her cooperative members toward better development. Mi Ping has become an outstanding example of a female leader in China's rural communities.





DCZ phase III: a retrospective



Friederike Dörfler
*Agricultural Counselor,
German Embassy in Beijing*

As the third phase of the Sino-German Agricultural Centre (DCZ) comes to a close, it is a good time to look back on over a decade of successful Sino-German cooperation. Since its beginning, this initiative has been an essential platform for fostering our cooperation in the agricultural sector. It has brought together knowledge as well as experience and created networks to make agriculture both more sustainable and more productive. The annual highlight and flagship event of this agricultural collaboration is the Sino-German Agricultural Week. During my three-year posting as Germany's Agricultural Counselor in Beijing, vice ministers from the agricultural ministries of both countries have opened the event each year, underscoring that agricultural development is a political priority in both countries.

There is no other country with a project of similar scope and significance. In this way, the German agricultural ministry, as the founder of DCZ, significantly contributes to international agricultural collaboration. Ultimately, our joint objective is to ensure food security for a growing global population, especially in the face of climate-related weather extremes. Precision farming, digitalization, modern soil-conserving machinery, and resilient crop varieties are all key components of this mission.

In each of these areas, we have much to learn from one another, and the partnership has proven to be mutually beneficial.

This is what DCZ stands for: a space for collaboration and innovation. Even during the challenging Covid-19 pandemic, when many projects slowed down due to limited opportunities for direct contact, DCZ remained a valuable link, keeping our connection strong. Over the past three years, I have had the opportunity to witness how new formats like "DCZ TALKS", a webinar series, and new publications – like Harvest – have helped make DCZ and the project work of the German agricultural ministry even more widely recognized.

The German Embassy and DCZ worked together like a team, supporting each other, complementing one another's strengths, and organizing a range of impactful events on topics like animal welfare and the potential of German organic products in China, as well as study tours focused, e.g., on sustainable soil management.

As the project enters its fourth phase, it is being redesigned to continue its important work, focusing even more on today's global challenges. Unfortunately, I will not be accompanying this phase as Agricultural Counselor at the German Embassy, as my posting to China will have ended by the time this magazine is published. However, I will remain connected to the Sino-German Agricultural Center from Germany and look forward to continuing to follow and support the development of this unique project.



Snapshots of DCZ Phase III

SINO-GERMAN AGRICULTURAL CENTRE (DCZ) (2022 – 2025)

21 – 25
November
2022

The 8th Sino-German Agricultural Week is held online in Beijing, due to Covid-19. The five-day event focuses on tackling challenges to domestic and global food security. Three thematic forums explore how digital technologies, seed development, as well as the reduction of food loss and waste contribute to food security.



7 – 8 June
2023

Digitalization as a driver of sustainable agriculture and rural development is the focus of a study tour in Jiangsu Province taking place from 7 to 8 June 2023. Together with experts from Germany's digital experimental fields, we visit modern horticulture factories, aquaponics projects, and digital service stations in villages.



Aquaponics farm near Suzhou with water recycling system from fish tanks into plant beds



From left to right: DCZ experts Jürgen Ritter and Eva Sternfeld with short-term experts Jens Fehrmann (Technical University Dresden) and Chen Cheng (ZALF)

A workshop on food systems transformation at Nanjing Agricultural University brings together German and Chinese experts to discuss how digital technologies can open new pathways towards sustainable food systems.

6 June
2023

26 – 28 April
2023

25 April
2023

The Sino-German Entrepreneurs Forum on Smart Agriculture is held at the World Expo on Digital Agriculture (WEDA) in Weifang City, Shandong Province, organized by FECC. The forum explores the potential of digital tools and smart technologies to balance food security and environmental goals.



DCZ team with Managing Directors Wang Geng and Jürgen Ritter (sixth and seventh from the left), German Agriculture Counselor Friederike Dörfler (middle), and DLG China Managing Director Leely Zhang (third from the right)

09 June
2023

DCZ experts visit a farmers' seed bank at Yuefengdao Organic Farm in Kunshan, Jiangsu province, to learn how local farmers preserve and sustainably use agrobiodiversity.



DCZ Managing Director Jürgen Ritter and CLAAS China CEO Zhang Jinwang at CLAAS training center in Gaomi, Shandong Province

A study tour in Shandong Province shows how digitalization is transforming agriculture and rural areas in China. The tour involves a visit to the workshops and training center of German agricultural machinery manufacturer CLAAS in Gaomi City as well as a two-day field event in Shanghe County, showcasing how smart equipment is used to increase grain output.



From 11 to 17 July 2023, directors of eight CAAS institutes participate in a study tour to research institutions in Germany and France. Following the theme of "transformation of food systems", the study tour focuses on adaptation to climate change, bio-economy, and urban agriculture. A one-day workshop at the Leibniz Institute for Agricultural Engineering and Bio-Economy (ATB), as well as the signing of a memorandum of understanding between the CAAS Institute for Agricultural Resources and Regional Planning (IARRP) and the Leibniz Institute of Agricultural Development in Transition Economies (IAMO), are amongst the highlights of the trip.

High-level CAAS delegates with the Head of DCZ S&T Platform Eva Sternfeld (middle)

11 – 17 July
2023



Chinese Vice Minister Ma Youxiang (2nd from left) and German Parliamentary State Secretary Ophelia Nick (right) jointly open the 9th Sino-German Agricultural Week in Bengbu, Anhui Province.

Under the heading “The Future of Agri-Food Systems”, the 9th Sino-German Agricultural Week marks the first people-to-people exchange between high-level policymakers from both countries since the end of the Covid-19 pandemic. At the conference, a German delegation led by Parliamentary State Secretary Ophelia Nick meets with counterparts around Chinese Vice Minister of Agriculture Ma Youxiang to discuss future cooperation. The meeting sets the stage for the drafting of a Joint Action Plan on Agricultural Cooperation (2024 to 2028) to be signed by both countries in January 2024.

**31 October –
03 November
2023**

**1 – 8
September
2024**

Representatives from German research institutions and universities visit CAAS institutes in Beijing, Xinxiang, and Chengdu. The study tour ends with a Sino-German Conference on Innovative Approaches for Agriculture and Food Systems at the Institute of Urban Agriculture (IUA) in Chengdu.



**17 April
2024**

Together with DCZ experts, the German Federal Minister of Food and Agriculture Cem Özdemir visits an organic farm in Beijing.



At Pingren Farm, an organic producer in Beijing



At the Global Forum for Food and Agriculture (GFFA) in Berlin, DCZ hosts a Sino-German panel on biomass innovations, showcasing the latest applications of biomass for energy and material production.

**17 January
2025**



17 – 19 June
2024

German soil experts at a field site of Heilongjiang Academy of Agricultural Sciences

Scientists and business representatives discuss sustainable approaches to black soil protection at a workshop and field visit event in Harbin, Heilongjiang Province. The event is jointly organized by DCZ, the Heilongjiang Academy of Agricultural Sciences (HAAS), and the German Embassy in Beijing.

14 March
2025

In a DCZ Talks Webinar, Professor Fan Shenggen of China Agricultural University discusses China's food assistance programs and the FAO's Right to Food Guidelines.



Experts visit a bio-refinery and learn about the local agricultural by-product and waste collection system

A two-day workshop and field visits in Hefei and Bengbu, Anhui Province, explores the potential of biomass for bioenergy production as well as the opportunities and challenges of shifting toward a bio-based economy in China's rural regions.

24 – 25 April
2025

12 May
2025



DCZ Political Directors Guo Naying and Sebastian von Keyserlingk, together with their delegations, hold strategic talks in Beijing

Strategic talks between a delegation from the German Federal Ministry of Agriculture, Food and Regional Identity (BMLEH) and representatives from the Chinese Ministry of Agriculture and Rural Affairs (MARA) set the direction for future bilateral cooperation in the agriculture and food sector.



State Secretary Markus Schick and Vice Minister and Chief Veterinary Officer Tao Huaiying jointly open the 11th Sino-German Agricultural Week

20 May
2025

At the 3rd International Agrobiodiversity Congress in Kunming, Yunnan Province, the Sino-German Agrobiodiversity Network – initiated by DCZ in 2023 – presents results from a one-year exchange project on on-farm conservation and sustainable use of traditional crop varieties.



Tasting of products made from old crop varieties following the presentation of the Sino-German Agrobiodiversity Network

3 – 5 September
2025

In Chengdu, Sichuan Province, the 11th Sino-German Agricultural Week brings together high-level political representatives from both countries to explore green solutions and business opportunities that can transform agri-food systems and rural areas. Over three days, the program features bilateral meetings between policymakers, expert presentations and exchanges, field visits to farms and rural communities around Chengdu, as well as opportunities for business matchmaking.

3 July
2025



Keynote speakers Dong Hongmin from CAAS and Barbara Amon from the Leibniz Institute for Agricultural Engineering and Bioeconomy (ATB) in Potsdam

Together with the Chinese Academy of Agricultural Sciences (CAAS) and supported by the German Embassy in Beijing, DCZ hosts a Climate Talk on methane reduction in agriculture. The event highlights strategies to optimize livestock and cropping systems for mitigating agriculture's climate impact.



The DCZ team in October 2025

October
2025

11 June
2025

Representatives from industry, certification, and producer organizations join the DCZ for a panel discussion at Biofach Shanghai.



12 October
2025

DCZ hosts the German Agri-Business Innovation Forum in Pinggu, Beijing as part of the World AgriFood Innovation Conference (WAFI). A high-level roundtable explores the challenges and opportunities for German agri-tech in China.



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