



Address: Tayuan Diplomatic Office Building
#14 Liangmahe South Road, Unit #1, Suite 032, Beijing
Zip code: 100600
Tel: +86-10-85325910
Fax: +86-10-85325038
E-mail: gei@geichina.org
Website: www.geichina.org

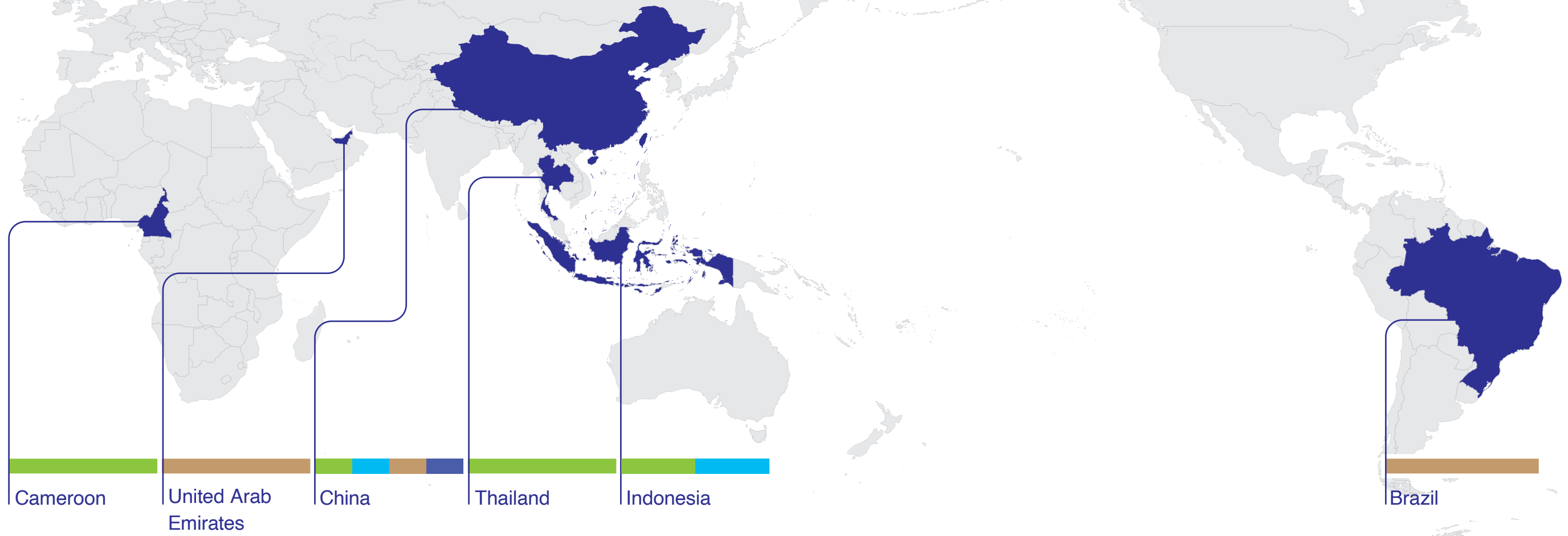


2023 Annual Report
Global Environmental Institute

Project Distribution | Classification

Drawing approval number: GS(2016)1663

Deadline: 2023.12



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Energy and Climate Change

On September 22, 2020, at the General Debate of the 75th Session of the United Nations General Assembly, Chinese President Xi Jinping announced China's commitment to peaking carbon dioxide emissions before 2030 and striving to achieve carbon neutrality before 2060 (referred to as the "dual carbon targets"). On January 19, 2023, China's State Council Information Office released a white paper titled "China's Green Development in the New Era," which further clarifies the country's commitment to green development and extensive application of low-carbon production methods. The key strategies outlined by the white paper include promoting the green transformation of traditional industries, developing low-carbon energy, building a green transport network and increasing resource use efficiency.

With the deepening of the China-ASEAN comprehensive strategic partnership, cooperation in the energy sector between the two enters a new chapter. China and ASEAN share similar economic foundations and a mutual commitment to promoting low-carbon development and transitioning to clean energy. Collaboration between China and ASEAN in these areas follows historical trends and serves both parties' shared interests and needs.

In alignment with the dual carbon targets, the Global Environmental Institute (GEI) continued its efforts in 2023 to foster low-carbon development and energy transition in China's industrial sector, explore carbon sequestration and emission reduction approaches in agriculture and rural areas, and introduce China's experience in low-carbon transportation development to Southeast Asia.



China

① Countywide PV Planning in Shanxi Province



Two years ago, GEI, in cooperation with the Shanxi Low-Carbon Environment Center and Shanxi Coshare Innovation Institute of Energy & Environment, launched the Countywide PV Planning Project encompassing two counties in Shanxi Province. Specifically, the project aims to facilitate rural solar PV development, focusing on Wenshui County and Xing County situated in western Shanxi as part of Lvliang City. In 2023, we conducted in-depth studies of rooftop photovoltaic resources in these two counties. We and partners examined the sizes, structures, materials, and potential rooftop utilization ratios of public, residential, and industrial buildings. We collected on-site drone images and measurements, which can help us analyze the rooftop PV potential and serve as reliable references for subsequent analysis of power generation potential and business operation models.

② Low-Carbon Rice Farming Research in China

Agriculture, including livestock production, plays a critical role in addressing climate change, while also being vulnerable to climate change. Traditional rice farming is the second largest source of methane emissions in the agriculture sector after animal husbandry. Given China's large agriculture industry, it is vital to develop and adopt low-carbon rice farming approaches for emissions reduction and carbon sequestration in rural areas to help meet the country's dual carbon targets.



In July 2023, GEI visited the Wuchang Chuanbeidao Rice Farmers' Professional Cooperative in Heilongjiang Province to explore new strategies for emissions reduction and carbon sequestration in rural areas. Our trip involved examining the "Duck-Fungus-Rice Farming" model, fertilization quantification, the straw return-to-field practices, rice growing management, and other relevant aspects. Later, in September, we went to Zhuxiaohui Village in Xitang Town, Jiashan County, Zhejiang Province, where a "low-carbon smart farming" pilot project was underway, the first in the Yangtze River Delta Integration Area. During our visit, the project operator Zhejiang Agricultural Group explained the main achievements of the project in reducing methane emissions. We have identified that the project's experience includes land leveling, land quality improvement, efficient water-saving irrigation, paddy field "zero-drainage," and a digital twin monitoring system.

In 2024, GEI plans to deepen the research by analyzing rice planting policies, fertilizer application quantities, and the electrification of agricultural machinery in major rice-producing regions, such as Heilongjiang Province, Zhejiang Province, and Guangxi Province.



③ Green Industrial Zone

In September 2022, GEI launched the "China-Indonesia Exchange Project on Studying China's Zero-Carbon Industrial Park Pathways." This project is designed to organize reciprocal visits between China and Indonesia to introduce China's experiences in developing low-carbon industrial parks to Indonesian policymakers and industrial practitioners.

After preliminary field research of various industrial parks and economic development zones in China, GEI organized the first China-Indonesia Communication and Exchange Activity in October 2023. A group of Indonesian government officials and experts visited three prominent Chinese industrial parks. In Tianjin TEDA Park, the delegation was introduced to the Park's intelligent environmental protection system. In Hunan Province, they toured the recycled water plant in the Liuyang Economic and Technological Development Zone, gaining insights into sewage treatment management experiences. Finally, at the Guangxi-ASEAN Economic and Technological Development Zone, the delegation observed and heard presentations from the managers on the comprehensive management model used in the Zone. Participants praised this exchange as highly valuable, citing its instrumental role in strengthening bilateral collaboration and facilitating the pursuit of a circular economy and green transition.

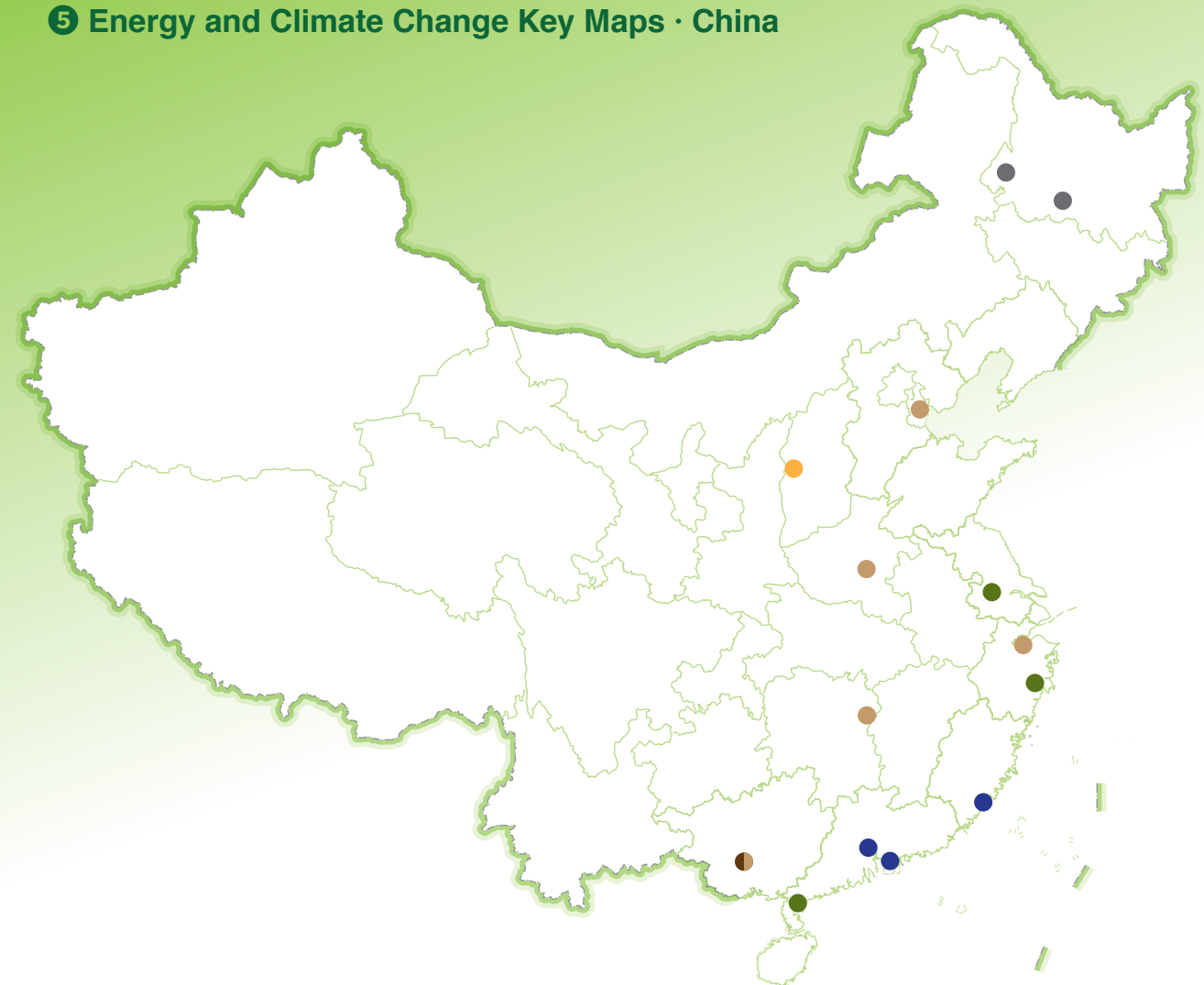
④ Low-Carbon Transportation



In September 2023, the GEI Energy and Climate Change Program collaborated with Indonesia's Provincial Government of Central Java to organize a week-long "China-Indonesia Public Low-Carbon Transport Exchange Visit." We arranged diverse activities for Indonesian government officials and scholars, including visiting local bus stations and electric car companies in China's southern cities of Xiamen, Guangzhou, and Shenzhen and talking with Chinese experts about Indonesian low-carbon transport network planning. Specifically, the Indonesian colleagues visited the Xiamen Municipal Natural Resources and Planning Bureau, Shenzhen Bus Group Intelligent Management Center, Guangzhou Institute of Energy Conservation, Chinese Academy of Sciences, Guangzhou Bus Control Center, and GAC Trumpchi Electric Car Factory. They also experienced firsthand the bus rapid transit (BRT) systems in Xiamen and Guangzhou and visited a bus control center and a public charging station in Shenzhen. The visits helped the Indonesian colleagues deepen their understanding of operational methods, data management, and electric bus promotion.



⑤ Energy and Climate Change Key Maps · China



● **Caijiaya Village, Xing County & Wenshui County, Lvliang (Shanxi Province)**

Countywide Solar PV Planning Project research and rooftop aerial mapping

● **Tianjin, Shaoxing (Zhejiang Province), Luohe (Henan Province), Liuyang (Hunan Province), Nanning (Guangxi Zhuang Autonomous Region)**

Visiting green industrial parks and studying the circular economy and management system

● **Nanning (Guangxi Zhuang Autonomous Region)**

Visiting rice farming research institutes for low-carbon agriculture communication

● **Zhanjiang (Guangdong Province), Ningbo (Zhejiang Province), Zhenjiang (Jiangsu Province)**

Research of biomass power plants and solar PV companies

● **Xiamen (Fujian Province), Guangzhou & Shenzhen (Guangdong Province)**

Field research on local public transportation systems and electric car companies

● **Wuchang & Qiqihar (Heilongjiang Province)**

Visiting rice fields and learning about organic agricultural planting and irrigation management



Indonesia

1 Field Research of Low-Carbon Development in Central Java

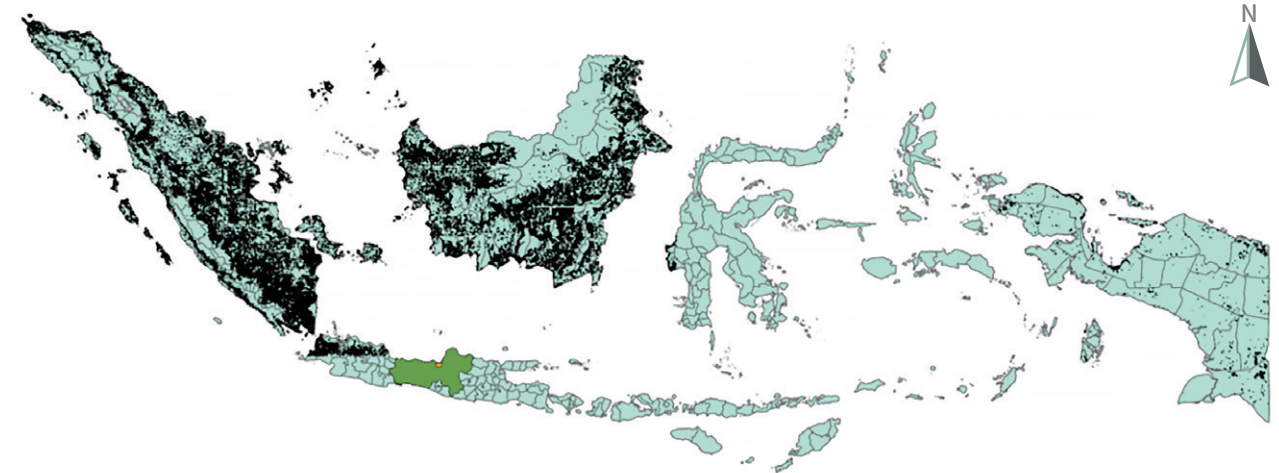
Indonesia has committed to reducing its greenhouse gas emissions by 29% by 2030. To achieve this national target, local governments, especially the transportation sector, play a critical role in bringing down the emissions. In this context, GEI, in collaboration with Indonesia's Institute for Essential Services Reform of Indonesia (IESR) and the German Corporation for International Cooperation (GIZ), has initiated a project to bridge the knowledge gap among policymakers in Central Java, Indonesia, regarding low-carbon transportation development. This project aims to facilitate stakeholders' coordination in Central Java and provide technical assistance to help the province pursuing its carbon net-zero goal while sustaining economic growth.

In August 2023, GEI, IESR and GIZ jointly hosted a workshop to communicate the transportation policy goals of Central Java and share successful practices from Germany, Thailand, and the Philippines, laying the basis for Central Java stakeholders to formulate low-carbon transportation policies. Subsequently, in November, GEI traveled to Indonesia to have more discussions on low-carbon transportation policy development with officials from the Central Java Provincial Transport Bureau, Central Java Construction Bureau, Semarang City Hall, and representatives from the bus operating agency and the IESR. The focus of the discussion was around the feasibility and potential for scaling up the use of electric buses, which was considered a critical step in low-carbon transportation development. Experts from China and Indonesia shared experiences and insights regarding the cost, operation, management, and construction of charging facilities for electric buses. After the meeting, GEI visited the Semarang Bus Terminal to experience the local BRT system and conduct preliminary research for the project.



2 Indonesia Palm Oil Production Research

In 2022, Indonesia and Malaysia accounted for more than 83% of the world's palm oil production. With its stable climate, Indonesia has become the world's largest palm oil producer. Palm oil is an indispensable part of Indonesian economy. At the same time, Indonesia is world's leading consumer of palm oil, consumed about 21.24 million tons in 2023, nearly 46% of the country's total palm oil production.



Based on the preliminary calculations, the palm biomass power generation potential in the picture is 24,034MW. This clean and stable power will help more Indonesian towns and villages avoid long-term power outages and electrical equipment damage caused by insufficient power supply.

In December 2023, GEI's Indonesian partner IESR arranged for us to visit the PKS. Permata Bunda palm oil mill in Palembang City. This trip not only offered us an opportunity to observe the entire process of palm oil production and processing, but also to gain insights into the process of biogas power generation using palm oil residues. This visit deepened our understanding of the pivotal role of oil palms in Indonesia's economic growth and energy sustainability. The information obtained from the trip, regarding Indonesia's biomass resource availability, scale, utilization status, and the need for carbon footprint reduction will inform the direction of our project aimed at supporting Indonesia's biomass development planning.

Furthermore, we noted that Indonesia has vast potential for biomass development given the abundance of other crops, such as coffee, rice, acacia, and sugar cane, in addition to oil palms. Therefore, the next collaborative project with IESR after the green industrial park and low-carbon transportation projects will focus on analyzing Indonesia's biomass power generation potential, with a view to helping Indonesia's Nationally Determined Contribution (NDC) and energy transition goals.

3 The Utilization of GEI's Low-Carbon Development Planning (LCD) Toolkits

In March 2023, GEI and IESR organized a series of technical training workshops and field research activities in Jakarta and Semarang, Indonesia. The training sessions were focused on introducing the Low-Carbon Development Planning (LCD) Toolkits jointly developed by GEI and our partners. With proven utility and user-friendliness in many Chinese cases, the toolkits hold promise for Indonesia in planning climate-aligned development by sector, including industry, energy, transportation, construction, agriculture (including forestry), and waste management. After the workshops, GEI and IESR took a field research trip to the Kendal and BSB industrial parks in Semarang, both under development, to obtain valuable references for our future collaboration with Indonesian partners on advancing green industrial parks.

Our trip to Indonesia culminated in co-hosting a meeting in Jakarta with Indonesia's Ministry of Energy and Mineral Resources (MEMR). The main theme of the meeting was to introduce Indonesia's national biomass resource assessment methodology, where GEI was honored to demonstrate how the Renewable Energy Implementation Toolkit (REI) can help identify appropriate locations for biomass power stations and perform biomass power potential analysis and planning.

4 Energy and Climate Change Key Maps · Indonesia



- **Jakarta, Semarang (Central Java)**
 Conducted research on the local Bus Rapid Transit (BRT) system
- **Palembang (South Sumatra)**
 Visited the PKS. Permata Bunda palm oil mill in Palembang City
- **Jakarta metropolitan area**
 Industrial Park visiting

13 Thailand

1 China-Thailand Exchanges on Rice Planting and Low-Carbon Development

Thailand is one of the world's top rice-producing and exporting countries. Therefore, reducing greenhouse gas emissions from rice planting and optimizing water consumption in rice fields is crucial for Thailand to meet its NDC goals. In this context, GEI's Low Carbon Development Planning (LCD) Toolkits may help Thailand and other Southeast Asian countries optimize its agrarian policies to reduce carbon emissions and increase agricultural carbon sequestration. Thus, we decided to initiate a project in Thailand to pilot low-carbon rice farming and associated policy formulation.

In July 2023, GEI visited the Thai Ministry of Agriculture and Cooperatives, where we had extensive discussions with the Ministry's Department of Rice and Department of Agriculture. Our discussions focused on developing the framework of a collaborative project on low-carbon rice policy planning. In addition, Thai experts briefed us on their ongoing efforts in agricultural emissions reduction and carbon sequestration and the status of Thailand's Voluntary Emission Reduction Program, known as T-VER. At the end of October, GEI arranged for Thai experts to visit several Chinese institutions, including the China-ASEAN Technology Transfer Center in Beijing, the Rice Research Institute under the Academy of Agricultural Sciences in Guangxi Province, and the Guangxi Branch of the Chinese Academy of Science and Technology Development. The Chinese and Thai experts engaged in extensive discussions covering rice planting technology, fertigation management, agricultural machinery and technology, and low-carbon agricultural development. These activities culminated in signing a Memorandum of Understanding for Cooperation at the end of 2023 between Thailand's Department of Rice and China's Academy of Science and Technology Development (Guangxi). The agreement aims to facilitate low-carbon rice farming in the two countries.





Cameroon

1 "Envoy of Light": Research Forestry Communities in Cameroon



The purpose of GEI's African Solar Power Project is to demonstrate the improvement of local residents' livelihoods and well-being through forest conservation efforts. One important aspect of the project is to increase electricity supply in communities near forests. In this context, GEI traveled to Cameroon in mid-October 2023 to research rural communities' electricity situation and needs. At the recommendation of Cameroon's Ministry of Forestry and Wildlife, GEI conducted research in four unelectrified rural communities situated across the southern, eastern, and central regions of Cameroon. Our field study included talking with local forestry department officials, communicating with village chiefs and community leaders, conducting household interviews, and compiling information about local population, geography, forest resources, primary livelihoods, lifestyles, energy usage, and participation in community forest conservation.

Based on the comprehensive research findings, in 2024 GEI will carry out stakeholders consultation and ultimately select two villages to implement small-scale renewable energy pilot projects, one featuring a cooperative model and the other household based approach.



Ecosystem Conservation and Community Development

Ecosystems are the foundation of life on Earth and the keystone for the sustainable development of human society. For years, GEI has championed the combination of employing bottom-up and top-down approaches in nature conservation. We have fostered the emergence of China's marine conservation efforts and spearheaded biodiversity conservation and restoration in China and ASEAN countries. In supporting community-based conservation, we have delivered livelihoods capacity-building training, expanded market opportunities, helped local communities develop eco-service-oriented economies, and provided recommendations for government decision-making.

21 China

1 Ecosystem Restoration

Protecting China's "Water Tower" with Swiss Pharmaceutical Company

Heitutan (literally "black soil beach") in the Sanjiangyuan area ("Three-River Sources") is an ecological deterioration phenomenon of plateau alpine meadows. It refers to grassland degradation, sparse vegetation, exposed land, and intensified soil erosion caused by overgrazing, rodents, freeze-thaw, wind/water erosion, and other factors. Severely degraded grasslands have resulted in bare land, seriously threatening the ecological balance of Sanjiangyuan.

In April 2023, GEI and Swiss pharmaceutical company Galderma's China subsidiary launched a special collaborative project named "Feeling Touched Begins from Skin." Supported by Galderma, GEI worked closely with local communities to rehabilitate 300 mu (200,000 m², 50 acres) of Heitutan degraded grasslands in Baiyu Township, Jiuzhi County, Qinghai Province, located on the Qinghai-Tibet Plateau at an altitude of over 4,200 meters. The project has generated 300 employment opportunities and extra incomes for local families. In addition, the project provided

capacity-building workshops for local herders on sustainable grazing and grassland management. Our project has been able to engage many local women – nearly half of the participants were female – and motivate them to contribute to nature conservation.

Both GEI and Galderma are non-governmental players committed to contributing to nature conservation. We look forward to further opportunities to collaborate with Galderma in Sanjiangyuan on water and ecosystem conservation. Sanjiangyuan, known as China's "water tower," plays a significant role in maintaining ecosystem functions and ensuring water supply. To date, GEI has supported more than 20 communities in carrying out wildlife conservation, ecological monitoring, handicraft making, and eco-tourism. We aim to help local communities develop an eco-service-oriented economy and explore the harmonious coexistence of human beings and nature.



Mangrove Rehabilitation at the Estuary of Jiulong River

Mangrove forests are a critical wetland ecosystem that keeps coastal zones healthy. Mangroves in China are naturally found in Hainan, Guangdong, Guangxi, Fujian, Zhejiang, Hong Kong, Macau, and Taiwan. China has established nearly 30 mangrove reserves, covering about 74.8% of its total area of mangroves, and is one of the few countries having a net increase in mangrove areas. In 2022, GEI launched a mangrove restoration and conservation project in Zhangzhou, Fujian Province, with support from the China Environmental Protection Foundation (CEPF) and Hellobike Low Carbon Fund. The objective of the project is to rehabilitate the degraded mangroves at the estuary of Jiulong River in Fugong Town, where mangroves were once widespread but severely degraded due to various human activities such as aquaculture, sand mining, coastal development, and invasive species invasion.

In 2023, GEI invited our Indonesian partner, the YAGASU Foundation, to visit our mangrove restoration project site in Zhangzhou, Fujian Province. During the visit, the Indonesian experts and Fugong Forestry Station officials held discussions on the status quo of mangrove conservation and technical innovations in China and Indonesia. As of the end of 2023, the project had restored 6.56 mu of mangrove at the estuary of Jiulong River and planted 30,780 mangrove saplings. The survival rate of the saplings in the first year was 99%, and 94% in the second year, indicating that 29,153 saplings have survived and are in good condition. After the rehabilitation, the surrounding environmental conditions have significantly improved, and the *Sporobolus alterniflorus*, an invasive species, has been massively reduced in the project area.

② Eco-Service-Oriented Economy

I Eco-Service Field Research in Xiaojin County

Last year, at the invitation of the government of Xiaojin County of Ngawa Tibetan and Qiang Autonomous Prefecture and the Yunhe Centre, GEI visited Xiaojin County to research local cases about eco-service-oriented economic development. The team held in-depth discussions with local government officials and village leaders, gaining valuable information and insights. Based on the findings, GEI and the local officials jointly analyzed the potential resources and favorable conditions in Xiaojin County for developing an eco-service-oriented economy and mapped out future work plans.



I Joint Field Study with African Colleagues on “Future Community” Development

In early June 2023, GEI organized a visit for representatives of African social organizations from the African CSO Biodiversity Alliance (ACBA) Qingshan Village to learn its innovative community development model. Qingshan Village is located in Huanghu Town, Hangzhou, Zhejiang Province, with a population of over 2,600 people. The village is nestled amidst mountains, with three sides surrounded by them, and has 29.9% forest coverage. Northeast of the town lies the Longwu Reservoir, which supplies drinking water to two villages. In recent years, Qingshan Village has successfully addressed the pollution problem plaguing the Longwu Reservoir and surrounding water sources. Its key experiences include setting up a Longwu Water Quality Improvement Trust Fund, adopting centralized scientific management of the forest, and raising various resources to develop green industries. The village has embraced an effective "co-build, co-govern, co-benefit" approach.

During the visit, the team had the opportunity to learn about multi-stakeholder community-based conservation firsthand. They toured the water source conservation project site and Qingshan Nature School, as well as participating in a hands-on activity of making creative handicrafts. African partners were highly impressed

by Qingshan Village's "future community" model and engaged in lively discussions on topics of public participation and the relationships between communities, social organizations, and local government. GEI and ACBA expressed intentions to continue such exchanges aimed at improving local capacities of both Chinese and African CSOs in eco-service-oriented economic development.



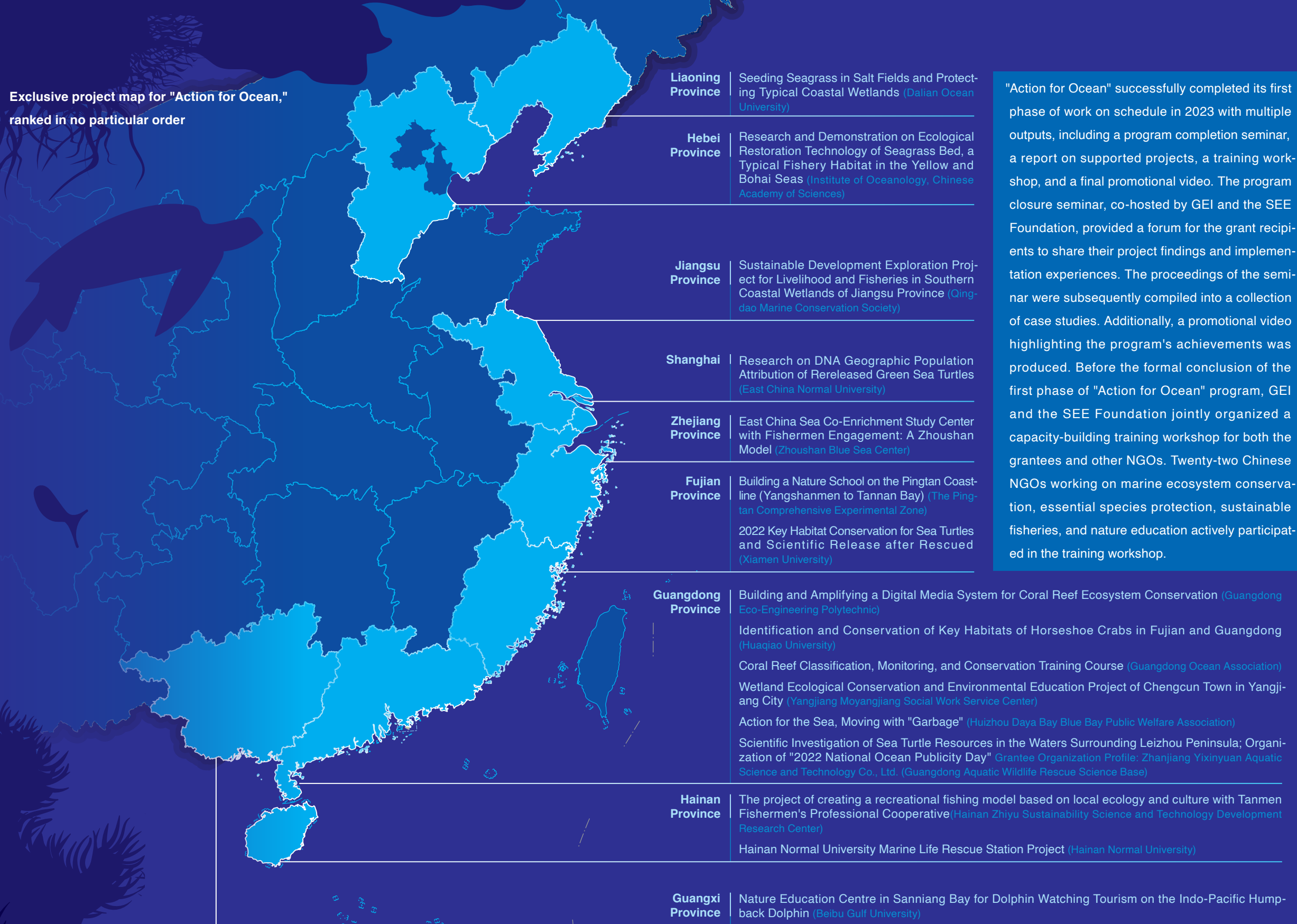
3 Marine Conservation: Action for Ocean



In early 2022, the Global Environmental Innovation Fund (GEIF) of GEI set up a special fund for marine conservation. With financial support from the David and Lucile Packard Foundation, the GEI Marine Special Fund commenced its first grant program, "Action for Ocean," in partnership with the Beijing Entrepreneur Environmental Protection Foundation (SEE Foundation). "Action for Ocean" focuses on supporting emerging marine conservation organizations to grow and play effective roles in ocean protection. In the first phase, the program provided grants to 16 local organizations across Guangdong, Hainan, Fujian, Zhejiang, and Hebei Provinces. These grants have supported a variety of projects, ranging from sustainable fisheries and community development to conservation of critical ecosystems and key species.

Through directly supporting 16 grantee organizations, the first phase of "Action for Ocean" program has inspired over 130 domestic organizations to enhance their efforts in marine conservation across 10 coastal provinces and municipalities in China. These collective actions directly benefited over 33,000 people and made a broad impact on more than 33 million. The project cases at the 14th Meeting of the Conference of the Parties (COP14) to the Ramsar Convention on Wetlands and at the Fourth China Ocean NGO Forum. Since its launch, "Action for Ocean" has produced 43 short videos for social media and received millions of views. The program has also been mentioned over a hundred times by formal media outlets.

Exclusive project map for "Action for Ocean," ranked in no particular order



"Action for Ocean" successfully completed its first phase of work on schedule in 2023 with multiple outputs, including a program completion seminar, a report on supported projects, a training workshop, and a final promotional video. The program closure seminar, co-hosted by GEI and the SEE Foundation, provided a forum for the grant recipients to share their project findings and implementation experiences. The proceedings of the seminar were subsequently compiled into a collection of case studies. Additionally, a promotional video highlighting the program's achievements was produced. Before the formal conclusion of the first phase of "Action for Ocean" program, GEI and the SEE Foundation jointly organized a capacity-building training workshop for both the grantees and other NGOs. Twenty-two Chinese NGOs working on marine ecosystem conservation, essential species protection, sustainable fisheries, and nature education actively participated in the training workshop.

4 Ecosystem Conservation and Community Development Key Maps · China



● **Xining (Qinghai Province)**

Cooperating with the Civil Society Alliance for Biodiversity Conservation (CSABC) and the Civil Society Protected Areas Alliance to jointly organize the seminar on Non-official Protected Areas in Supporting Achieve China's Biodiversity Conservation Goals

Being the official member of the Snow Leopard Conservation Alliance

● **Nanning (Guangxi Zhuang Autonomous Region)**

Assisting grassroots customs enforcement to combat Illegal wildlife trade through material aid

● **Nanning (Guangxi Zhuang Autonomous Region)**

Assisting grassroots customs enforcement to combat Illegal wildlife trade through material aid

● **Qilian Mountain National Park (Qinghai Region)**

Field research in Dehaling City, Tianjun County, Qilian County, and Menyuan County

Writing and editing the *Analysis of Ecotourism Restrictions and Strategies in the Qinghai Region of Qilian Mountain National Park*

● **Dandong (Liaoning Province)**

Co-hosting the Community Co-Management and Eco-Tourism Development Workshop

2

Indonesia

1 Community-based Biodiversity Conservation

The unique and critical ecosystems in East and Southeast Asia possess rich biodiversity. However, this wealth is under threat from deforestation, rapid loss of biodiversity and habitats, as well as illegal wildlife trade (IWT). Due to connectivity of geographical landscapes and the presence of ecological corridors and densely populated indigenous peoples and local communities (IPLC), reducing these environmental threats is not easy, requiring regional collaboration and the participation of domestic CSOs and IPLC. Therefore, in 2021, 11 environmental NGOs and CSOs from 8 countries initiated the "East and Southeast Asia Community Conservation Network (EASACCN)."

As part of EASACCN's initiatives, GEI visited the YAGASU Foundation, a member organization, and the sites of its mangrove nursery and restoration project in East Java in February 2023. The visit also included observing a mangrove education lesson at a local school and participating in a women's Batik cloth printing workshop. It provided valuable insight into the positive impact of the project on economic development and environmental conservation in local communities.

In October 2023, GEI went to Indonesia again to host the annual EASACCN symposium in Medan, North Sumatra. Representatives of organizations and experts from China, Indonesia, Thailand, Laos, Cambodia, Myanmar, the Philippines, and Vietnam attended the conference. Since its establishment, the EASACCN has collaborated with 51 communities to enhance the management of over 40,000 ha of land, resulting in reducing 10.5 million tons of carbon by Indigenous People and Local Community (IPLC) and increasing local incomes by 30%. The Symposium served as a platform for sharing successful experiences and relevant case studies, fostering enhanced communication and cooperation among network members and laying a solid foundation for subsequent carbon offset and biodiversity conservation work.



2 Ecosystem Conservation and Community Development Key Maps · Indonesia



● **East Java**

Visiting local partner – Yagasu Foundation's mangrove restoration project in East Java

● **Medan (North Sumatra)**

Hosting the EASACCN annual meeting and visiting the mangrove conservation reserve area



Multi-Stakeholder Collaboration



China Brazil Sustainable Beef Supply Chain

China is the world's largest importer of agricultural products, and its agricultural exports rank fifth in the world in terms of value. The stable supply and sustainable development of agricultural products worldwide are crucial to China's food security. In recent years, sustainable agricultural product supply chains have gained prominence on the international stage in the context of tackling climate change. The environmental risks associated with agricultural product production and trade, such as deforestation, ecological impacts, land conversion, and supply chain carbon emissions, are important issues that China needs to discuss and cooperate with other countries. By increasing import and export of sustainable agricultural products, China will not only enhance its own food security, but also strengthen its credibility in addressing climate change and biodiversity conservation. This proactive stance will solidify China's image as a responsible country.

Since 2018, GEI has worked to promote sustainable supply chain of agricultural commodities, including beef, soybeans, palm oil, and rubber. We have conducted research in some Latin American and Southeast Asian countries. In Brazil, Indonesia, Thailand, and Lao PDR, we have forged partnerships to facilitate multi-stakeholder communication and collaboration. Our goal is to cultivate China's market for green agricultural import. Toward this objective, we work to raise public awareness about green supply chains, establish sustainable agricultural certification mechanisms between China and producers, and advocate the implementation of trade, customs, financial, and other policies that incentivize the importation of sustainable agricultural products.

① Brazil's Presidential Delegation Member Visits GEI

During Brazilian President Lula da Silva's state visit to China in April 2023, China and Brazil signed a Joint Statement on Strengthening the China-Brazil Global Strategic Partnership, which includes measures for enhancing trade facilitation, boosting agricultural exchange development, and fortifying production and supply chain resilience. The two countries also released a joint statement on combating climate change, vowing to effectively implement laws on curbing illegal import and export, eliminate global illegal logging and deforestation, and encourage exchanges and cooperation on forest conservation, sustainable management, and ecological rehabilitation.

On April 13, Rafael Rodrigues, Head of the Office for International Affairs, Ministry of Environment and Climate Change (MMA) of Brazil, visited the GEI office. Representing the new Minister of MMA, Marina Silva, Mr. Rodrigues engaged in productive discussions with GEI project staff on a range of mutually interested environmental topics for potential cooperation. Mr. Rodrigues commended GEI for establishing a multi-level communication platform between Chinese and Brazilian governments, research institutions, enterprises, NGOs, and communities. He stressed that promoting bilateral exchanges and bilateral consensus is critical to ensuring effective Brazil-China sustainable development cooperation.

② Mato Grosso Delegation Explores Beef Supply Chain in China

In May 2023, representatives from Mato Grosso State visited China to promote sustainable beef export from Mato Grosso to China, signifying the mutual intention of establishing a China-Brazil sustainable beef supply



chain. The delegation comprised officials from the Mato Grosso State Government, the Mato Grosso Meat Institute (IMAC), and the Brazilian Association of Beef Exporters (ABIEC). GEI accompanied the Mato Grosso delegation visiting key stakeholders in China's beef industry, importers, provincial government agencies, banking sectors, and research institutions in Beijing, Tianjin, Shanghai, Xi'an, and Chongqing.

As the Chinese market is still in the early stage of accepting sustainable beef imports, the visit served to raise the awareness among Chinese beef importers, business associations, and policymakers. Going forward, GEI will strive to promote public and industry's understanding and enhanced policy guidance and financial incentives for the development of sustainable beef supply chains, which can significantly contribute to the mitigation of deforestation and climate change.

③ China-Brazil Sustainable Beef Trade Conference

To help Chinese meat importers and processors better understand Brazil's sustainable beef supply and enhance the cooperation between Chinese and Brazilian counterparts on low-carbon beef trade, GEI, in collaboration with the Tianjin Meat Industry Association and PICC Tianjin Binhai Branch, organized the "China-Brazil Sustainable Beef Trade Development" Conference in December 2023. Industry representatives and experts from China and Brazil shared the current status and trends regarding sustainable agricultural product supply chains in their respective countries. The specific topics presented by the speakers include Brazil's continuous traceability system for low-carbon beef and agricultural products, the EU zero deforestation bill, international economic development trends in the post-epidemic era, and other key issues, such as the development trend of beef trade and the impact of domestic beef supply on global beef trade.

④ Visiting Brazil's Ministry of Environment and Climate

In November 2023, GEI embarked on the first project research trip to Brazil to delve into beef production and supply chains. We met with representatives from a range of relevant government departments, businesses, and CSOs to deepen our understanding of Brazil's beef industry and the potential opportunities for increasing deforestation-free beef supply from Brazil to China.

In Brasilia, the Tropical Forest Alliance and Proforest convened a multi-stakeholder meeting on Brazilian soy and cattle, which provided GEI with excellent opportunities to speak with participants from various government departments, companies, financial institutions, and CSOs. Additional meetings were arranged for GEI to meet officials of the Ministry of Agriculture, Livestock and Food Supply (MAPA) and the Ministry of Environment and Climate (MMA) to gain more insights into government perspectives on commodity-related deforestation issues and explore avenues for expanding China-Brazil sustainable agriculture cooperation. These meetings highlighted the importance of furthering relevant data research and enhancing south-south cooperation as the next steps.

⑤ Field Research in the States of Para and Mato Grosso



After the meetings in Brasilia, GEI proceeded to Para and Mato Grosso, two of Brazil's largest beef-producing and exporting states. In Para, we visited the State Secretariat of Environment and Sustainability to learn about its Selo Verde ("Green Label") program, which has been adopted state wise to monitor the forest and

environment status of the producer farms. In Mato Grosso, we visited Marfrig's slaughterhouse and two large farms, where we observed how cattle were raised, fattened, and eventually slaughtered for export to the world, including China. Additionally, the local partner GS1 Brazil organized supply chain stakeholders to have a discussion with GEI on how to jointly facilitate traceability along the supply chain with different stakeholders. It was an informative and valuable trip for GEI. The information we have learned and the insights and perspectives we have obtained help us to prioritize future work on promoting China-Brazil deforestation-free beef supply chains. The priorities will include stepping up awareness raising, developing robust traceability systems, and formulating supportive policies and financial incentives in the Chinese market.

6 Multi-Stakeholder Collaboration Key Maps

China-Brazil Sustainable Beef Supply Chain · China



- **Beijing**
Head of the Office for International Affairs, Ministry of Environment and Climate Change (MMA) of Brazil, visited the GEI office
- **Tianjin**
Organizing the "China-Brazil Sustainable Beef Trade Development" Conference

- **Beijing, Tianjin, Shanghai, Chongqing, Xi'an (Shaanxi Province)**
Mato Grosso delegation visiting key stakeholders in China's beef industry, importers, provincial government agencies, banking sectors, and research institutions

China-Brazil Sustainable Beef Supply Chain · Brazil



- **Brasília**
Meeting with officials from the Ministry of Agriculture, Livestock and Food Supply (MAPA) and the Ministry of Environment and Climate (MMA)
- **The state of Para and Mato Grosso**
Visiting slaughterhouses and large farms to conduct field research

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China-Africa Biodiversity Conservation

① Dialogue on China-Africa Biodiversity Conservation

In May 2023, Mr. Kaddu K. Sebunya, CEO of the African Wildlife Foundation (AWF), visited the GEI office. GEI and AWF reviewed past collaboration and explored future opportunities. Mr. Sebunya appreciated GEI's efforts in organizing the exhibition of "We are the Nature: Benjamin Mkapa African Wildlife Photography Awards" in Kunming and Beijing. He further expressed his eagerness to work with China on law enforcement against illegal wildlife trade and enhancing China-Africa relationship by increasing communications and exchanges.

In May 2023, the African CSO Biodiversity Alliance (ACBA), held its first in-person roundtable meeting in Beijing. ACBA was initiated in 2020 by GEI and the African Wildlife Foundation to promote biodiversity conservation in Africa and its current membership exceeds 80 Civil Society Organizations (CSOs). During the Beijing roundtable meeting, representatives from more than 20 Chinese CSOs and ACBA's core members had productive discussions on two overarching goals of the Kunming-Montreal Global Biodiversity Framework: the sustainable use of biodiversity and equitable sharing of benefits. Furthermore, the participants delved into the role of local communities and indigenous peoples in achieving biodiversity goals and the significance of Chinese and African CSOs participating in global environmental governance.

② The 8th Webinar of the Platform for Africa-China CSOs Dialogue on Biodiversity Conservation



The Africa-China CSOs Biodiversity Dialogue Platform was established in 2020 by GEI and the African Wildlife Foundation to encourage Civil Society Organizations (CSOs) to collaborate on biodiversity conservation. More than 160 CSOs have joined the Platform. It aligns its mission with the global targets of the Kunming-Montreal Global Biodiversity Framework and supports indigenous peoples and local communities in biodiversity conservation.

In October 2023, GEI hosted the 8th webinar of the Platform virtually, with the theme of "Whole of Society Approach: Review and Implementation of National Biodiversity Strategies and Action Plans (NBSAPs)." Representatives from over forty institutions from China and Africa attended. Edward Samuriwo, Director of the Ministry of Environment and Natural Resources in Zimbabwe, LIU Li, the Research Associate of the Nanjing Institute of Environmental Sciences (NIES) of the Ministry of Ecology and Environment, and JIANG Xueyuan, Senior Project Specialist at the Greenovation Hub, delivered speeches on a variety of topics, including the developments and dynamics of NBSAPs in Zimbabwe, the revision of NBSAPs in China, and analytical suggestions for NBSAPs under the "Kunming-Montreal Global Biodiversity Framework." All the participants underscored the importance of mainstreaming biodiversity issue in all sectors of society to ensure effectiveness of conservation initiatives.



Participation of non-state entities in global environmental issues



**COP28
UAE**

1 The COP28 UN Climate Change Conference

The COP28 UN Climate Change Conference in Dubai, the United Arab Emirates, marked the biggest gathering of its kind. Some 85,000 participants, including more than 150 Heads of State and Government, such as the secretary-general of the United Nations Antonio Guterres, Prime Minister of the United Kingdom Rishi Sunak, President of France Emmanuel Macron, Brazil's President Luiz Inácio Lula da Silva, and Prime Minister of India Shri Narendra Modi, attended the Conference from 30 November to 13 December 2023. During COP28, GEI held an official side event and four other events at the China Pavilion to advocate for the acceleration of global climate actions and active involvement of environmental NGOs.

Addressing Developing Countries' Technical and Financial Gaps through North-South-South Cooperation

On December first, GEI, in cooperation with the Center for Climate Strategies (CCS), Shanxi Co-share Innovation Institute of Energy and Environment, and Guangzhou Institute for Energy Conversion of the Chinese Academy of Sciences, jointly hosted the official side event titled "Addressing Technical and Financial Gaps in Developing Countries through North-South-South Cooperation" at the China Pavilion.

The objective of the side event was to facilitate knowledge sharing and technology transfer experience in low-carbon and renewable energy development planning, emphasizing the

pathway from the US to China and then from China to other developing countries. GEI introduced its joint research with the Institute for Essential Services Reform of Indonesia (IESR) regarding Indonesia's biomass potential. North-South-South cooperation on sustainable development of biomass energy, based on scientific analysis, can greatly help Indonesia's energy transition efforts, curbing its greenhouse gas emissions, reducing the reliance on fossil fuels, and facilitating economic development in rural areas. This type of cooperation will aid Indonesia's move towards a sustainable future and contribute to global climate change mitigation.



China-Brazil Sustainable Agricultural Supply Chain Cooperation

During COP28, GEI hosted two seminars in Dubai on topics of China-Brazil's sustainable agricultural product supply chains. One seminar shared current initiatives by both private sectors and state governments of Mato Grosso and Para to reduce deforestation and climate risks from beef production, and also discussed the potential for increasing China's market access to sustainably produced beef from Brazil. The other seminar focused on exploring opportunities and prospects to scale up China's collaboration with Brazil, especially the state governments of Amapa and Rondonia. In addition to the two seminars, GEI organized an event at the China Pavilion, inviting Brazilian and Chinese government officials and industry associations to present their work on ensuring deforestation-free beef production and trade.

Introducing Low-Carbon Rural Development Pathways

At this side event, GEI gave an overview of China's progress, technologies, and experience in advancing rural energy transition and renewable energy deployment. We also shared information on GEI's on-going project in China's Shanxi Province, which promotes solar PV installation and renewable energy planning at rural county level. Our event provided valuable information to South-east Asian and African participants concerning low-carbon energy planning and development.

Case Sharing of China-ASEAN Mangrove Conservation

GEI's mangrove conservation project aims to facilitate collaborations among government departments, enterprises, CSOs, and communities in mangrove conservation, restoration, and sustainable management. Currently, our project is focused on promoting collaboration between multiple stakeholders across ASEAN countries. At GEI's side event held in the China Pavilion, we presented an overview of various long-term efforts, research findings, and achievements in ecosystem conservation within the China-ASEAN region. Then, speakers from five ASEAN countries introduced the status of their respective country's mangrove forests and shared their perspectives on possible future regional actions.

2 Training Chinese Civil Society Organizations on the Global Biodiversity Framework



To advance biodiversity conservation and strengthen the role of non-state actors, especially women, in implementing the Kunming-Montreal Global Biodiversity Framework, GEI organized an Advanced Capacity-Building Workshop for Chinese CSOs in November 2023. We were able to invite experienced instructors from the Ministry of Ecology and Environment, Chinese Academy of Environmental Sciences and the Center for International Cooperation and Exchange, as well as from the Nanjing Institute of Environmental Sciences and Peking University. These experts provided comprehensive interpretations of the four goals and 23 targets listed in the Kunming-Montreal Framework, as well as detailed analysis of the China National Biodiversity Conservation Strategy and Action Plan (2011-2030). Over 60 participants from environmental CSOs nationwide actively engaged in discussions on issues related to biodiversity conservation in China.

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Public Events

GEI has actively improved public awareness of environmental conservation in the past year. We hosted diverse public events in Beijing and Dali, Yunnan, where we invited diverse groups, such as families, students, and photography enthusiasts, to participate and gain a comprehensive understanding of the significant environmental issues, including mangrove restoration, wildlife protection, preventing desertification, water source conservation, and grassland management.

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① The Wild World in the City: Photography Exhibition in the Beijing Zoo

Between May and June of 2023, GEI and the African Wildlife Foundation (AWF) jointly organized a photography exhibition titled "We are the Nature: Benjamin Mkapa African Wildlife Photography Awards" at the Beijing Zoo. The exhibition has improved the public's understanding and support for wildlife conservation in Africa and globally, facilitated exchanges of non-state actors in China and Africa, and increased the willingness of Chinese and African civil society organizations to conserve biodiversity. The exhibition was praised by all sectors of society.



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荣誉摄影奖 Highly Honored
拍摄者: Pierluigi Rizzato, 意大利 Italy

② Restoration and Rebirth: Documenting the Conflict and Integration of Nature and Humanities



In September 2023, GEI and Greenpeace co-hosted a photo exhibition titled "Restoration and Rebirth: Documenting the Conflict and Integration of Nature and Humanities" at the 10th Dali International Photography Exhibition. Embarking from Yunnan Province and traveling across mountains, rivers, lakes, and seas, the observant photographers and artists used their camera lenses to capture and record the complex and intriguing interactions between humans and nature. They highlighted the fragility of the ecosystems within major nature reserves and provided audiences with spectacular and impactful visual experiences.

This photography exhibition opened a window for the audiences to explore the boundaries and the boundlessness and the integration of ecological civilization and sustainable development. Through this exhibition, we hope to make more people appreciate the inestimable value of biodiversity and nature reserves for human society, be motivated to participate actively in environmental conservation, and further promote the harmonious coexistence between man and nature.

③ Sustainable Development Online Training for OCBC

In October 2023, GEI held two online sustainability training workshops for the Overseas Chinese Wing Hang Bank (OCBC) (China) to enhance its employees' responsiveness to the Bank's "net zero emissions" initiative and promote the development of green finance, such as supporting industrial customers' clean energy, environmental protection, and energy conservation projects. The themes of the two training workshops were Achieving the Carbon Emission Reduction Goals in Financing Projects and Responsible Financing: Refusal Financing Targets in OCBC's Sustainable Development Strategy." Experts in wildlife conservation, overseas investment and international trade, renewable energy technology, and former policy banks provided training for over 500 employees from OCBC China and Southeast Asia countries.



④ "Wild Animals and Where to Find Them"

In early spring in Beijing, cooperating with Beijing Guanglu Culture Communication Co., Ltd., GEI hosted two family day events in the so-called "most beautiful bookstore" - Zhongshuge. Together with the creator of the cartoon image – Tuzhuaizhuai – and environmental experts and front-line wildlife rescuers from China, Thailand, and Namibia, the guests talked about the funny things about wild animals worldwide and some exciting stories about saving wild seals. All the participants left the events with their handmade, unique bookmarks made from mangrove leaves from the GEI's project site in Zhangzhou, Fujian Province.

⑤ Environmental Conservation Courses at Daystar International Bilingual School

At the end of 2023, GEI participated as a guest speaker in the special environmental conservation courses and social innovation day activities of Daystar International Bilingual School, and shared our story of protecting the "Chinese Water Tower" Sanjiangyuan and preventing desertification in Chagannur grassland in Inner Mongolia. We believe that by helping the next generation develop a sense of environmental responsibility and care for the planet, we will create a brighter, more sustainable future for those who come after it.

⑥ Public Events Key Maps · China



● Beijing

Hosted with AWF about the "We are the Nature: Benjamin Mkapa African Wildlife Photography Awards" at Beijing Zoo

Organized "Wild Animals and Where to Find Them" family day event

Organized "Earth Hour Trivia Night"

Participated in the special environmental conservation courses and Social Innovation Day activities of Daystar International Bilingual School

● Dali, Yunnan Province

GEI and Greenpeace co-hosted a photo exhibition titled "Restoration and Rebirth: Documenting the Conflict and Integration of Nature and Humanities" at the 10th Dali International Photography Exhibition

Business Activity Table

From January 1, 2023 to December 31, 2023 (in RMB)

Income	Non restrictive	Limitations	Total
Donation income	19,086,891.84	45,600.00	19,132,491.84
Service revenue	520,210.00	122,000.00	642,210.00
Other income	1,090,132.97	0	1,090,132.97
Total income	20,697,234.81	167,600.00	20,864,834.81
Expenditure	Non restrictive	Limitations	Total
Business Activity Costs	14,695,180.94	0	14,695,180.94
Other expenses	84,149.43	0	84,149.43
Total	14,779,330.37	0	14,779,330.37
Changes in net assets	6,085,504.44	0	6,085,504.44

Balance Sheet

From January 1, 2023 to December 31, 2023 (in RMB)

Assets	Beginning (2023.1.1)	Ending (2023.12.31)
Current assets	66,241,757.09	72,319,775.24
Fixed assets	147,817.40	131,863.58
Total Assets	66,389,574.49	72,451,638.82
Liabilities		
Current liabilities	71,088.70	47,648.59
Long term liabilities	0	0
Total liabilities	71,088.70	47,648.59
Net assets		
Unrestricted assets	66,318,485.79	72,403,990.23
Restricted assets	0	0
Total net assets	66,318,485.79	72,403,990.23
Total net assets and liabilities	66,389,574.49	72,451,638.82