Project Distribution | Classification

Deadline: 2023.12

1. Energy and Climate Change
   - 01: China
   - 11: Indonesia
   - 12: Cameroon

2. Ecosystem Conservation and Community Development
   - 21: China
   - 22: Indonesia

3. Multi-Stakeholder Collaboration
   - 31: China-Brazil sustainable beef supply chain
   - 32: China-Africa Biodiversity Conservation
   - 33: Non-state actors' participation in global environmental issues

4. Public Events
   - 41: China

5. Financial Report
   - 37
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.
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 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.

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.
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.
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 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 the 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.

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.
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.

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.

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
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.
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 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.
Eco-Service-Oriented Economy

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.

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.
Marine Conservation: Action for Ocean

In early 2022, the Global Environmental Innovation Fund (GEIF) of GEI set up a special fund for maritime 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 16 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 over 18 million views. The program has also been mentioned over a hundred times by Chinese media outlets.

“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.

### Project Cases

#### Liaoning Province
- Seeding Seagrass in Salt Fields and Protecting Typical Coastal Wetlands (Dalian Ocean University)

#### Hebei Province
- Research and Demonstration on Ecological Restoration Technology of Seagrass Bed: a Typical Habitat in the Yellow and Bohai Seas (Institute of Oceanology, Chinese Academy of Sciences)

#### Jiangsu Province
- Sustainable Development Exploration Project for Livelihood and Fisheries in Southern Coastal Wetlands of Jiangsu Province (East China Sea Fisheries Research Institute, China Agriculture University)

#### Shanghai
- Research on DNA Geographical Population Distribution of Breached Green Sea Turtles (Shanghai Ocean University)

#### Zhejiang Province
- East China Sea Co-Enrichment Study Center and Fisherman Engagement: A Zhoushan Model (Zhuoce Blue Sea Center)

#### Fujian Province
- Building a Nature School on the Pingtan Coastline (Yancheng City (Yangjiang Moyangjiang Social Work Service Center))

#### Guangdong Province
- Building and Amplifying a Digital Media System for Coral Reef Ecosystem Conservation (Guangdong Ocean Association)

#### Hainan Province
- Coral Reef Classification, Monitoring, and Conservation Training Course (Hainan Normal University Marine Life Rescue Station Project (Hainan Normal University))

#### Guangxi Province
- Developing Key Habitat Conservation for Sea Turtles and Scientific Release after Rescued (Hainan Normal University)

### Grants Overview

#### Guangdong Province
- Coral Reef Classification, Monitoring, and Conservation Training Course (Guangdong Ocean Association)
- Building and Amplifying a Digital Media System for Coral Reef Ecosystem Conservation (Guangdong Ocean Association)
- Scientific Investigation of Sea Turtle Resources in the Waters Surrounding Leizhou Peninsula; Organization for Marine Conservation in the Yellow and East China Sea (Guangdong Ocean Association)

#### Hainan Province
- Scientific Investigation of Sea Turtle Resources in the Waters Surrounding Leizhou Peninsula; Organization for Marine Conservation in the Yellow and East China Sea (Guangdong Ocean Association)
- Action for the Sea, Moving with “Garbage” (Huizhou Daya Bay Blue Bay Public Welfare Association)
- Scientific Investigation of Sea Turtle Resources in the Waters Surrounding Leizhou Peninsula; Organization for Marine Conservation in the Yellow and East China Sea (Guangdong Ocean Association)
- Building a Nature School on the Pingtan Coastline (Yancheng City (Yangjiang Moyangjiang Social Work Service Center))

#### Jiangsu Province
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Ecosystem Conservation and Community Development Key Maps · 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.
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.

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China Brazil Sustainable Beef Supply Chain

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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 efficiently 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 Gross, 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 Gross, 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.
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
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.

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 Samurirwo, 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.
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 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.

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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 pathways 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.

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Addressing Developing Countries’ Technical and Financial Gaps through North-South-South 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 Southeast Asian and African participants concerning low-carbon energy planning and development.
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 Environments 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.
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.

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.

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.
"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.

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.
### Business Activity Table

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

<table>
<thead>
<tr>
<th>Income</th>
<th>Non restrictive</th>
<th>Limitations</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Donation income</td>
<td>19,086,891.84</td>
<td>45,600.00</td>
<td>19,132,491.84</td>
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<tr>
<td>Service revenue</td>
<td>520,210.00</td>
<td>122,000.00</td>
<td>642,210.00</td>
</tr>
<tr>
<td>Other income</td>
<td>1,090,132.97</td>
<td>0</td>
<td>1,090,132.97</td>
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<tr>
<td>Total income</td>
<td>20,697,234.81</td>
<td>167,600.00</td>
<td>20,864,834.81</td>
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</table>

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Non restrictive</th>
<th>Limitations</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Activity Costs</td>
<td>14,695,180.94</td>
<td>0</td>
<td>14,695,180.94</td>
</tr>
<tr>
<td>Other expenses</td>
<td>84,149.43</td>
<td>0</td>
<td>84,149.43</td>
</tr>
<tr>
<td>Total</td>
<td>14,779,330.37</td>
<td>0</td>
<td>14,779,330.37</td>
</tr>
</tbody>
</table>

| 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)

<table>
<thead>
<tr>
<th>Assets</th>
<th>Beginning (2023.1.1)</th>
<th>Ending (2023.12.31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td>66,241,757.09</td>
<td>72,319,775.24</td>
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<tr>
<td>Fixed assets</td>
<td>147,817.40</td>
<td>131,863.58</td>
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<tr>
<td>Total Assets</td>
<td>66,389,574.49</td>
<td>72,451,638.82</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Liabilities</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liabilities</td>
<td>71,088.70</td>
<td>47,648.59</td>
</tr>
<tr>
<td>Long term liabilities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total liabilities</td>
<td>71,088.70</td>
<td>47,648.59</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Net assets</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted assets</td>
<td>66,318,485.79</td>
<td>72,403,990.23</td>
</tr>
<tr>
<td>Restricted assets</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total net assets</td>
<td>66,318,485.79</td>
<td>72,403,990.23</td>
</tr>
</tbody>
</table>

| Total net assets and liabilities | 66,389,574.49 | 72,451,638.82 |