



# 2018

## China Environmental Grantmakers Alliance (CEGA) Report



CEGA - Building a New Environmental Future



# CEGA

Building a New Environmental Future

## Chairman's Message

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China Environmental Grantmakers Alliance (CEGA), which was founded on 29 January 2018, released the first version of 2018 CEGA Report at China Foundation Forum last November. The report was well received by the philanthropy sector as it was produced according to the grants information shared by foundations in the same field for the first time.

Since this April, we have revised the report according to the audited 2018 data in March 2019 to reflect the most authoritative and accurate environmental funding information of 2018. Meanwhile, this report has included CEGA partners' judgments on funding trends, funding strategies of each foundation, analysis of environmental non-profit organizations' projects, domestic environmental policy analysis and an overview of international environmental conventions. Now we are very pleased to release this China Environmental Grantmakers Alliance (CEGA) 2018 Report (Revised).. We would appreciate your views, suggestions and expectations on this report so that we can improve our work in the future.

Going forward, we will continue to develop our CEGA Annual Report. We hope our report will provide key information about environmental funding timely and inspire the field to continuously explore the direction of environmental funding in China from the perspective of strategic philanthropy to maximize the social benefits of environmental grantmaking.. We hope to join hands with all of you to build a better environment future.

Thanks to Corporate Citizenship in Action for compiling this report and CEGA members for their contribution to the report. Special thanks to China Foundation Center for supporting CEGA operation.



*CEGA Co-Chair  
Lei Yongsheng*



*CEGA Co-Chair  
Zhang Li*

## Profile of CEGA



– 环境资助者网络 –

Founded on January 29, 2018, CEGA is a platform for the communications and collaborations among Chinese environmental grantmakers. Its mission is to employ the concept of strategic philanthropy, promote the collaboration and development of environmental grantmakers, guide the grant direction of environmental charity and maximize the social benefits of environmental charitable funds.

CEGA isn't an independently registered legal person and operates by relying on CFC. CEGA sets up the Decision-making Committee to guide its operation. The first Decision-making Committee is composed of SEE Foundation, Alibaba Foundation, Beijing Qiaonyu Foundation, Shenzhen Mangrove Wetlands Conservation Foundation, Lao Niu Foundation, Guangdong Harmony Foundation, The Paradise International Foundation, Vanke Foundation, China Green Carbon Foundation, China Environmental Protection Foundation and Friends of Nature Foundation. Each term of the Committee is three years. The Chairman of the Committee is constituted by election of the Committee. Lei Yongsheng, Director of Lao Niu Foundation, and Zhang Li, Secretary General of SEE Foundation, are the first co-chairs of CEGA. Zhang Ruiying serves as the first Executive Director of CEGA.

### Major work areas of CEGA :

1. Establishing the Data Center for Environmental Charity Organizations, comprehensively analyzing environmental charity projects and providing support for the work of the members;
2. Issuing the annual white paper of environmental charity and guiding the future work direction of environmental charity;
3. Organizing and convening the annual CEGA meeting and promoting the communications among the members and enlarge impact of environmental grantmaking as whole;
4. Promoting international communications and collaborations in environmental philanthropy field and organizing the members to attend important international conferences in relevant fields; and
5. Putting in place the classification standards for environmental charity projects and the influence assessment indicator system, thus evaluating the social influence of environmental charities in a systematic and correct way.

# CEGA Highlights



China Environmental Grantmakers Alliance (CEGA) Launching Ceremony  
29 Jan 2018, Beijing



Attending the Environmental Grantmakers Association (EGA) Annual Meeting  
30 Sep to 3 Oct 2018, North Carolina, USA



Attending the Global Climate Action Summit and the launching of Chinese Enterprises' Climate Action  
12-15 Sep 2018, California, USA



First Decision-Making Committee Meeting of CEGA  
18 May 2018, Beijing



First International Environmental Philanthropy Dialogue of CEGA  
28 August 2018, Beijing

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Based on the most authoritative environmental grant information provided by CEGA members, this report analyses the main areas of current environmental grant in China and shares judgments of CEGA grant makers on future trends of environmental grant. The report also includes the current development of environmental non-profit organizations, relevant cases, domestic environmental policy analysis and an overview of international environmental conventions.

■ Annual Analysis of CEGA Environmental Grantmakers:

- Analyse fields, locations, grant scales, assessments, etc. of the project grant based on the 2018 grant list shared by CEGA members.
- Interview with the Secretary-General and grant officials of CEGA members, introduce assessment of the industry and the development of various segments, suggestions for grant targets, judgments on grant trends, and expectations on non-profit environment protection in the next 3-5 years from the perspective of grant makers. Meanwhile, share the specific work methods of the grant makers and their experience of cooperating with grant targets. On the one hand, practitioners working on non-profit environment protection will be more aware of the development and future trend of grant. On the other hand, open information about environmental grant will encourage more grant makers to think about how to build this industry, thus invoking higher level cooperation.

■ Environmental Protection Non-profit Organizations in China: Annual Development, Working Methods and Relevant Cases:

- Based on the preliminary classification reached by consensus, this report mainly updates in five segments: Species protection and forest, grassland and wetland protection in ecological protection field; solid waste pollution control in pollution control field; clean energy, low-carbon economy and carbon trading in climate change response field; environmental legislation, supply chain and green consumption in environment management field and a special focus on ecology conservation and poverty alleviation in response to national policy on targeted poverty alleviation.
- As environmental issues are beyond national boundaries and global, China takes an ever active role in interna-

tional environmental affairs. Thus, this report also introduces important international environmental conventions and their development, in the hope that domestic actors could adopt a more international perspective and align with international action framework, making China's environmental practices contribute to international environmental initiatives.

## Major Conclusions of this Report:

- In 2018, 11 members of CEGA provided support of a total about RMB 287 million Yuan to Chinese non-profit environment protection industry, accounting for 44.6% of the total annual operating activity costs.
- Fields that received grant from CEGA members in 2018:
  - *Ecological protection field attracts most grant, totalled about RMB 117 million Yuan, which accounts for 41% of the total grant. 191 projects were funded, whose number ranked the second. The next field is major special projects, where its 215 projects received RMB 59.14 million Yuan, accounting for 20% of the total grant. Publicity and education projects are traditional fields of environmental grant and its 106 projects received about RMB 50 million Yuan, accounting for 17%. Pollution control is an important field of environmental protection and its 103 projects received about RMB 29 million Yuan which accounts for 10%. Climate change is a relatively new segment in China, and its 103 projects received more than RMB 22 million Yuan grant, which is 8%. Environmental legislation is less funded. Its grant received and projects number are the lowest, accounting for 4%.*
  - *In segments of each field, species and habitat project of ecological protection field received grant more than RMB 40 million Yuan. It is followed by forest protection, which received more than RMB 24 million Yuan. Initiatives in publicity and education field received grant valued more than RMB 23 million Yuan. Climate adaptation in climate change field received grant exceeding RMB 21 million Yuan. Segments that receive grant from RMB 15 million Yuan to RMB 20 million Yuan also include Ecological Protection – Natural Reserve Management, Major Special Projects – Green Supply Chain and Infrastructure Construction, Publicity and Education – Nature Education, Pollution Control – Water Pollution Control and Major Special Projects – Ecology Conservation and Poverty Alleviation and Sustainable Livelihood.*
  - *Segments that did not receive grant in 2018 are: Pollution Control – Soil Pollution Control, Climate Change – Clean Energy, Low-Carbon Consumption, Publicity and Education – Information Disclosure and Major Special Projects – Green Finance and Ecological Compensation.*
- We could see from grant information of 737 projects provided by CEGA members in 2018 that SEE Founda-

tion funded 530 projects, which is the most; Lao Niu Foundation's projects received highest single grant, averaging at more than RMB 5 million Yuan. Geographically, funded projects are located mainly in Northwest, East, South China and nationwide and each of these regions have more than 90 projects on average. Inner Mongolia is the province that have most funded projects (104). It is followed by nationwide projects (94) and projects located in Guangdong Province (82). Other provinces have less than 50 projects. Regions that have the most densely-distributed fund projects are Northwest China and Inner Mongolia, among which the "100 Million Haloxylon" project of the SEE Foundation is the most important project.

- In terms of the amount of the grant, 431 projects (58.6%) received less than RMB 100,000 Yuan, 206 projects (28%) received grant from RMB 100,000 Yuan to RMB 500,000 Yuan, 37 projects (5%) received grant from RMB 500,000 Yuan to RMB 1 million Yuan, 52 projects (7%) received grant from RMB 1 million Yuan to RMB 5 million Yuan, 7 projects received grant valued from RMB 5 million Yuan to RMB 10 million Yuan, and 3 projects received fund valued more than RMB 10 million Yuan. Among 737 projects, almost 87% of them received grant valued less than RMB 500,000 Yuan.
- In terms of evaluation, 61% of them are evaluated by the Foundation, 35.2% of them are not evaluated and 3.8% of them are evaluated by third parties. Among 62 projects that received grant worth more than RMB 1 million Yuan, 46.6% of them are not evaluated, 34.4% of them are evaluated by the Foundation and 19% of them are evaluated by third parties. Among the 3 projects that received RMB 10 million Yuan, 1 of them has conducted an evaluation.
- Grantmakers have a lot of tacit agreement and consensus regarding the status quo and development trend of the non-profit environmental protection industry. First, some key words are widely mentioned when referring to the development trend of non-profit environmental protection, such as technological innovation, public awareness, segment differentiation, professional organization brand project and cross-border cooperation. Second, most grant makers believe that projects, organizations and people are inseparable, and funding organizations can promote development in this industry in a more systematic way. Moreover, people's quality and commitments are important in the operation of funding. Meanwhile, this report also found that CEGA's grant makers generally not only provide financial support, but also provide growth-related capacity building, communication network and resource links for recipients.

# 4

## CEGA Environment Grantmaker Annual Analysis

### 4.1 Introduction to Members and Grant

Currently, CEGA has 11 members who are also major contributors to China's environmental funding sector, and they are SEE Foundation, Alibaba Foundation, Beijing Qiaonyu Foundation, Mangrove Conservation Foundation, Lao Niu Foundation, Harmony Community Foundation, Paradise International Foundation, Vanke Foundation, China Green Carbon Foundation, China Environmental Protection Foundation, and Friends of Nature Foundation. Their basic information is as follows:

| Name               | Founded Time | Principle of the Institution                                                                                                                                                                                                                                                                 | Area of Work                                                                                                                                                              | Brand Projects (Environment Protection)                                                                                                                                                                                                                                                           |
|--------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEE Foundation     | 2008         | Committed to supporting and funding Chinese NGOs that are working on environment protection, building a social protection platform for entrepreneurs, NPOs and the public to jointly promote ecological protection and sustainable development.                                              | Based on the development of the industry, it focuses on desertification prevention, green supply chain and pollution control, ecological protection and nature education. | 100 Million Haloxylon, Groundwater Protection, Green Supply Chain, Blue Guardian, Birds Protector, Sanjiangyuan Reserve Protection, Noah's Ark, Smile of the Yangtze River, Green Home, Green Partners                                                                                            |
| Alibaba Foundation | Dec 2011     | Create an atmosphere for public good to develop public welfare, promote sustainable development between people and society, people and nature, fund key projects including water environment protection, environment protection publicity and support the development of environmental NPOs. | Water environment protection, environment protection publicity and support the development of environmental NPOs.                                                         | Clean Source Action, XIN Partners Initiative, China Water Source Protection Charity Trust, AMAP Environmental Map, National Nature Education Forum, Middle School Students (Wuhan) Nature Notes Contest, China Nature Book Award, Taoyuanli Nature Center, Green Vest Project, Little River Chief |

| Name                             | Founded Time      | Principle of the Institution                                                                                                                                                                                                                                                                                       | Area of Work                                                                                                                                                                                                          | Brand Projects (Environment Protection)                                                                    |
|----------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|                                  |                   |                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                       | Youth Water Conservation Plan, Nature Carnival, Travel Frog Charity Tour, Wild Friends, Fish Paradise      |
| Mangrove Conservation Foundation | 2012              | Protect and restore mangroves through environmental education, public participation, scientific research and conservation activities, protect mangrove resources and biological diversity, promote coastal wetland protection represented by mangroves                                                             | Environmental education publicity, public participation organization, scientific research and conservation activities that protect mangrove resources and biological diversity                                        | Coastal wetland conservation, public environmental education, industry support and scientific research     |
| Lao Niu Foundation               | 2004 <sup>1</sup> | Principle: Be grateful as helping others is also being helped by others; educate people and take responsibility of the society."<br><br>Mission: "Promote education as it is the root of a nation, protect environment as it is the root of existence, contribute to public welfare as it is the root of society." | Environmental protection, cultural education, industry promotion, poverty alleviation and disaster relief, etc.                                                                                                       | Ecology restoration and protection, wetland protection, carbon neutrality, environmental capacity building |
| Harmony Community Foundation     | 2009              | Promote traditional Chinese culture that calls for charity to help the poor and those in need, based in Guangdong, provide assistance to communities in need and promote poor communities to change and develop sustainably.                                                                                       | Support hardware and software construction for poor communities to develop sustainably; support local government and academic institutions' experiment and research on changing poor communities and promoting public | Harmony Environmental Fund, etc.                                                                           |

1. Founding time of "Inner Mongolia Lao Niu Public Welfare Development and Promotion Association"

| Name                              | Founded Time                               | Principle of the Institution                                                                                                                                                                                                                                                                                               | Area of Work                                                                                                                                                                                                                                                                                       | Brand Projects (Environment Protection)                                                                                       |
|-----------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                            |                                                                                                                                                                                                                                                                                                                            | welfare charity; support community development projects of NPOs.                                                                                                                                                                                                                                   |                                                                                                                               |
| Beijing Qiaonyu Foundation        | 2012                                       | Principle: Focus on the Earth and actively promote China's public welfare industry<br><br>Mission: Protect the Earth, protect nature, protect biological diversity                                                                                                                                                         | Promote education and help the elderly, help the poor and who in need, support and promote urban and rural ecology improvement and public infrastructure construction                                                                                                                              | Tianshan Qiaonyu Natural Reserve, Nangqian Qiaonyu Natural Reserve, Changhai Qiaonyu Natural Reserve, etc.                    |
| Paradise International Foundation | Sichuan, 2011; Shenzhen, 2015 <sup>1</sup> | Protect our beloved pure land with the mentality of public welfare, scientific methods and commercial channels                                                                                                                                                                                                             | Protect key habitats, benefit communities by developing natural products, provide experiences of nature to the public                                                                                                                                                                              | Laohegou Natural Reserve, August Forest Natural Reserve, Xicaohai Social Welfare Reserve, etc.                                |
| Vanke Foundation                  | 2008                                       | Mission: Build a sustainable community and beautiful future homeland                                                                                                                                                                                                                                                       | Green environment protection, conservation of historic building, children health, education development, targeted poverty alleviation, etc.                                                                                                                                                        | Community Waste Management, Snow Leopard Protection on Mount. Everest, UN Climate Conference, Garbage Sorting                 |
| China Green Carbon Foundation     | 2010                                       | Promote afforestation, forest management and other related emission reduction activities, reduce deforestation in response to climate change, publicize relevant knowledge, raise public awareness and capacity to cope with climate change, support and improve Chinese forest ecological benefit compensation mechanism. | Support carbon sink forest building, forest and woodland protection, support the society's participation in afforestation, desertification control, etc, support carbon sink measurement, monitoring and setting related standards, publicize the function of forests in combating climate change. | Forestry carbon sink project, "Greening the Motherland and Low Carbon Action" Tree-Planting Day, Carbon Neutral Project, etc. |

1. Paradise International Foundation (Sichuan) was founded in Sep 2011, and Paradise International Foundation (Shenzhen) was founded in July 2015.

| Name                                      | Founded Time | Principle of the Institution                                                                                                                                                                                                         | Area of Work                                                                                                                                                                                                                                              | Brand Projects (Environment Protection)                                                                                                                                                                                      |
|-------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| China Environmental Protection Foundation | April 1993   | Wide collection, collect from people and use for people, protect the environment and benefit humankind.                                                                                                                              | Support China's environment protection course, support and participate in international environment protection activities                                                                                                                                 | China Environment Award, Rookie Green Alliance Public Welfare Fund, China Environmental Law Public Welfare Platform, Salute to Environment Protectionists and Walk Towards Ecological Civilization, Sand "Reining" Plan, etc |
| Friends of Nature Foundation              | 2003         | Principle: Advocate environment protection and promote social harmony.<br><br>Vision: In a society where people and nature are in harmony, everyone can enjoy safe resources and beautiful environment.<br><br>Mission: In a society | 1. Work with Chinese grassroots environmental organizations and volunteer organizations to promote wide and effective public participation.<br><br>2. Work with Chinese grassroots environmental organizations, professional institutions and policy pro- | Public Interest Litigation Network, Zero-Waste Alliance, Once Grassland                                                                                                                                                      |
| Friends of Nature Foundation              | 2003         | where people and nature are in harmony, everyone can enjoy safe resources and beautiful environment.                                                                                                                                 | motors to facilitate sustainable and effective environmental policy advocacy.<br><br>3. Coordinate with various forces and support civil environmental protection actions to test the environmental quality.                                              |                                                                                                                                                                                                                              |

## Overview of the Grant Amount in 2018

All 11 CEGA members provide funding information on environmental protection:

- In 2018, 11 environmental grant makers provided RMB 287 million yuan for China's environmental protection public welfare sector.

- In terms of the amount of funding, the China Environmental Protection Foundation provided the most funding, with a total funding of RMB 93.2 million yuan; followed by SEE Foundation, with a total funding of RMB 79.02 million yuan. Other foundations with a fund amount between RMB 10 million yuan to RMB 50 million yuan are Alibaba Foundation, Lao Niu Foundation, China Green Carbon Foundation, Vanke Foundation and Paradise International Foundation. Foundations with a fund amount less than RMB 10 million yuan are Beijing Qiaonyu Foundation, Friends of Nature Foundation, Harmony Community Foundation and Mangrove Conservation Foundation.
- In terms of the ratio of grant (in environmental sector) to operation activities cost, the highest one is China Environmental Protection Foundation, which reaches 94.59%. It is followed by SEE Foundation (58.64%), Paradise International Foundation (53.56%), China Green Carbon Foundation (51.65%), Beijing Qiaonyu Foundation (38.57%), Alibaba Foundation (33.52%), Harmony Community Foundation (21.97%), Vanke Foundation (20.05%), Lao Niu Foundation (16.33%) and Mangrove Conservation Foundation (4.03%). Some foundations like Vanke Foundation make grants not only to environment protection projects.

|   | Name           | Funding Area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2018 Business Activities Cost (10,000 yuan) | 2018 Fund Amount (10,000 yuan) | Fund to Business Activities Cost Ratio |
|---|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------|----------------------------------------|
| 1 | SEE Foundation | <ul style="list-style-type: none"> <li>• Ecological protection: species and habitat, wetland protection, grassland protection, sea protection, desertification control, natural reserve management;</li> <li>• Pollution control: water pollution control, air pollution control, solid waste management, chemicals environment management</li> <li>• Climate change: energy conservation and efficiency boost, low-carbon economy, climate adaptation</li> <li>• Publicity and education: nature education, environment education, policy publicity, action advocacy Environmental legislation: environmental litigation, policy study</li> </ul> | 13476                                       | 7902                           | 58.64%                                 |

|   | Name                                             | Funding Area                                                                                                                                                                                                                                            | 2018 Business Activities Cost (10,000 yuan) | 2018 Fund Amount (10,000 yuan) | Fund to Business Activities Cost Ratio |
|---|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------|----------------------------------------|
|   |                                                  | <ul style="list-style-type: none"> <li>Major special projects: green supply chain, green Belt &amp; Road, ecology conservation and poverty alleviation, sustainable livelihood, innovation and entrepreneurship, infrastructure construction</li> </ul> |                                             |                                |                                        |
| 2 | Alibaba Foundation                               | <ul style="list-style-type: none"> <li>Ecological protection: natural reserve management</li> <li>Pollution control: water pollution control</li> <li>Publicity and education: nature education</li> </ul>                                              | 8551                                        | 2866.70                        | 33.52%                                 |
| 3 | Beijing Qiaon-yu Foundation (2017 data provided) | <ul style="list-style-type: none"> <li>Ecological protection: natural reserve management</li> <li>Major special projects: industry infrastructure construction</li> </ul>                                                                               | 2478.3                                      | 955.76                         | 38.57%                                 |
| 4 | Mangrove Conservation Foundation                 | <ul style="list-style-type: none"> <li>Ecological protection: wetland protection, sea protection</li> <li>Publicity and education: natural environment education</li> <li>Major special projects: CECA cooperation projects</li> </ul>                  | 1648                                        | 66.40                          | 4.03%                                  |
| 5 | Lao Niu Foundation (2017 data provided)          | <ul style="list-style-type: none"> <li>Ecological protection: forest protection, wetland protection</li> <li>Climate change: climate adaptation</li> <li>Major special projects: CECA cooperation projects</li> </ul>                                   | 13286                                       | 2170.00                        | 16.33%                                 |
| 6 | Harmony Community Foundation                     | <ul style="list-style-type: none"> <li>Pollution control: water pollution control, solid waste management</li> <li>Climate change: climate adaptation</li> <li>Publicity and education: nature education, environmental</li> </ul>                      | 1202.3                                      | 264.15                         | 21.97%                                 |

|    | Name                                      | Funding Area                                                                                                                                                                                                                                                                                                                                                                                            | 2018 Business Activities Cost (10,000 yuan) | 2018 Fund Amount (10,000 yuan) | Fund to Business Activities Cost Ratio |
|----|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------|----------------------------------------|
|    |                                           | education <ul style="list-style-type: none"> <li>• Major special projects: green supply chain</li> </ul>                                                                                                                                                                                                                                                                                                |                                             |                                |                                        |
| 7  | Paradise International Foundation         | <ul style="list-style-type: none"> <li>• Ecological protection: species, habitat and sea protection</li> <li>• Publicity and education: environmental education</li> </ul>                                                                                                                                                                                                                              | 2490.27                                     | 1333.67                        | 53.56%                                 |
| 8  | Vanke Foundation                          | <ul style="list-style-type: none"> <li>• Ecological protection: species, habitat, wetland and sea protection</li> <li>• Pollution control: solid waste pollution control</li> <li>• Climate change: climate adaptation</li> <li>• Publicity and education: environment education, policy publicity, action advocacy</li> </ul>                                                                          | 7151.6                                      | 1433.86                        | 20.05%                                 |
| 9  | China Green Carbon Foundation             | <ul style="list-style-type: none"> <li>• Ecological protection: natural reserve management</li> <li>• Climate change: climate adaptation</li> <li>• Publicity and education: environment education, action advocacy</li> </ul>                                                                                                                                                                          | 3554.1                                      | 1835.60                        | 51.65%                                 |
| 10 | China Environmental Protection Foundation | <ul style="list-style-type: none"> <li>• Ecological protection: species, habitat, forest, grassland, sea protection, desertification prevention, natural reserve management</li> <li>• Pollution control: water pollution control, solid waste management, chemicals environmental management</li> <li>• Publicity and education: environmental education, policy publicity, action advocacy</li> </ul> | 9704.9                                      | 9179.49                        | 94.59%                                 |

|    | Name                         | Funding Area                                                                                                                                                                                                                                                                                                                                                                                                                | 2018 Business Activities Cost (10,000 yuan) | 2018 Fund Amount (10,000 yuan) | Fund to Business Activities Cost Ratio |
|----|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------|----------------------------------------|
|    |                              | <ul style="list-style-type: none"> <li>• Environmental legislation: environmental litigation, legal assistance, policy study</li> <li>• Major special projects: green supply chain, ecology conservation, poverty alleviation and sustainable livelihood, ecological award, innovation and entrepreneurship, industry infrastructure construction</li> </ul>                                                                |                                             |                                |                                        |
| 11 | Friends of Nature Foundation | <ul style="list-style-type: none"> <li>• Ecological protection: grass-land protection</li> <li>• Pollution control: solid waste management, chemicals environment management, physical pollution control</li> <li>• Environmental legislation: environmental litigation</li> <li>• Major special projects: ecology conservation, poverty alleviation and sustainable livelihood, innovation and entrepreneurship</li> </ul> | 775.4                                       | 706.84                         | 91.16%                                 |

*\*This chart lists project grant in environment protection field.*

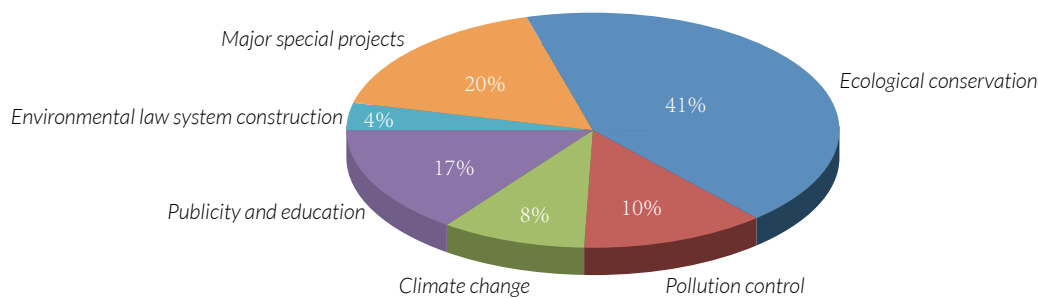
## Overview of the fields that received grant in 2018

The classification of grant fields listed above is approved online by CEGA decision-making committee on 22 March 2019 (See as follows).

| I<br>Ecological<br>Protection | II<br>Pollution<br>Control                                                     | III<br>Climate<br>Change                    | IV<br>Publicity<br>and Education | V<br>Environmental<br>Law System | VI<br>Major Special<br>Projects                                         |
|-------------------------------|--------------------------------------------------------------------------------|---------------------------------------------|----------------------------------|----------------------------------|-------------------------------------------------------------------------|
| 1. Species and habitat        | 1. Water pollution control                                                     | 1. Energy conservation and efficiency boost | 1. Nature education              | 1. Environmental legislation     | 1. Green supply chain                                                   |
| 2. Forest protection          | 2. Air pollution control                                                       | 2. Clean energy                             | 2. Environmental education       | 2. Environmental litigation      | 2. Green finance                                                        |
| 3. Wetland protection         | 3. Soil pollution control                                                      | 3. Low-carbon economy                       | 3. Policy publicity              | 3. Legal assistance              | 3. Green Belt & Road                                                    |
| 4. Grassland protection       | 4. Solid waste management                                                      | 4. Low-carbon consumption                   | 4. Action advocacy               | 4. Policy study                  | 4. Ecology conservation, poverty alleviation and sustainable livelihood |
| 5. Sea protection             | 5. Chemicals environment management                                            | 5. Climate adaptation                       | 5. Information disclosure        |                                  | 5. Ecological compensation                                              |
| 6. Desertification prevention | 6. Physical pollution control (radioactive noise, light and thermal pollution) |                                             |                                  |                                  | 6. Ecological award                                                     |
| 7. Natural reserve management |                                                                                |                                             |                                  |                                  | 7. Innovation and entrepreneurship                                      |
|                               |                                                                                |                                             |                                  |                                  | 8. Industry infrastructure construction                                 |
|                               |                                                                                |                                             |                                  |                                  | 9. CEGA cooperation projects                                            |

Among six major funding fields, 10 grant makers have contributed in ecological conservation, 8 grant makers have contributed in publicity and education and major special projects, 6 in pollution control, 5 in climate change response, and only 4 (SEE Foundation, Alibaba Foundation, China Environmental Protection Foundation and Friends of Nature Foundation) have contributed in environmental law system construction. Choices of funding fields reflect different focuses of various grant makers.

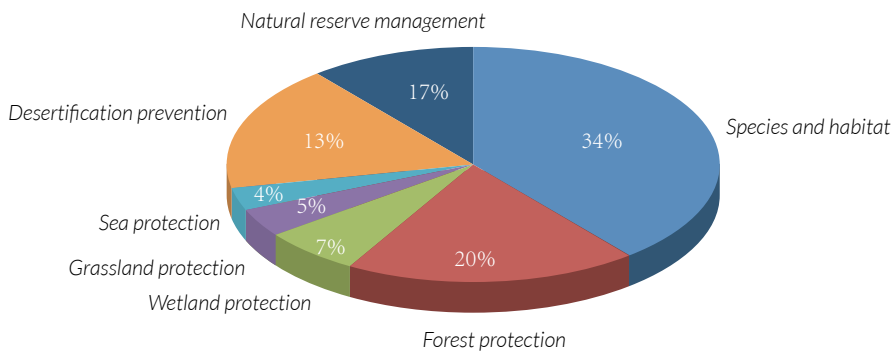
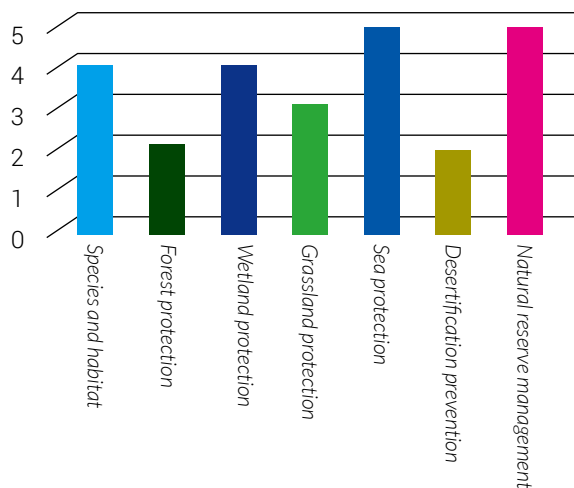
|                                       | Total Grant    | Number of Funded Projects | Number of Grant Makers |
|---------------------------------------|----------------|---------------------------|------------------------|
| Ecological conservation               | 116,930,122.90 | 191                       | 10                     |
| Pollution control                     | 28,935,753.45  | 103                       | 6                      |
| Climate change                        | 22,049,828.23  | 103                       | 5                      |
| Publicity and education               | 48,351,410.40  | 106                       | 8                      |
| Environmental law system construction | 12,355,117.64  | 14                        | 4                      |
| Major special projects                | 59,144,950.66  | 215                       | 8                      |



Total grant amount and number of grant makers have almost same ranks in these fields. Ecological conservation field, a field that draws most attention received almost RMB 117 million Yuan from 10 grant makers in 2018, nearly twice the number of the second. The amount of grant accounted for 41% of the total grant and the number of projects reached 191. The next field is major special projects which have plentiful segments. 215 of them received funding of about RMB 59.14 million Yuan, accounting for 20%. Publicity and education field is a traditional field in environment protection grant and 106 projects of this field received funding of almost RMB 50 million Yuan, accounting for 17%. Pollution control is an important field in environment protection and 103 projects received RMB 29 million Yuan (10%). Climate change is a new

segment in China and its 103 projects received more than RMB 22 million Yuan (8%). Environmental law system construction wins relatively fewer attention: its number of funded projects and the amount of funds are the least, accounting for 4%.

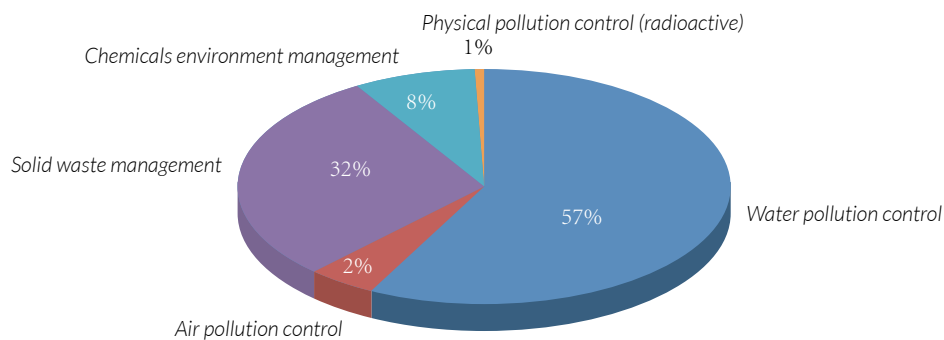
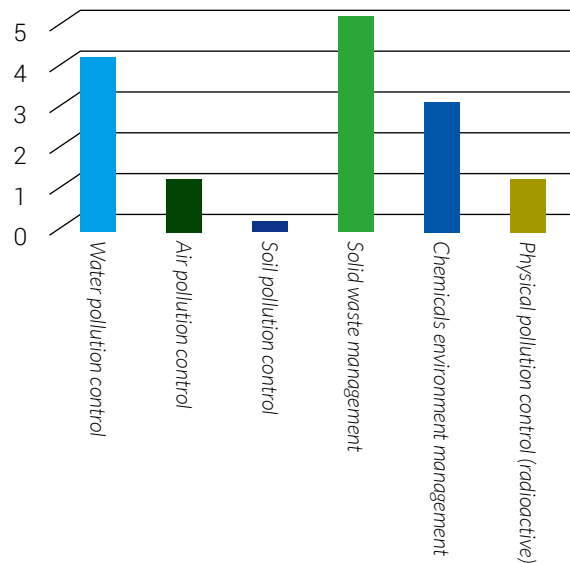
The following is an analysis of sectors that receive various attention.



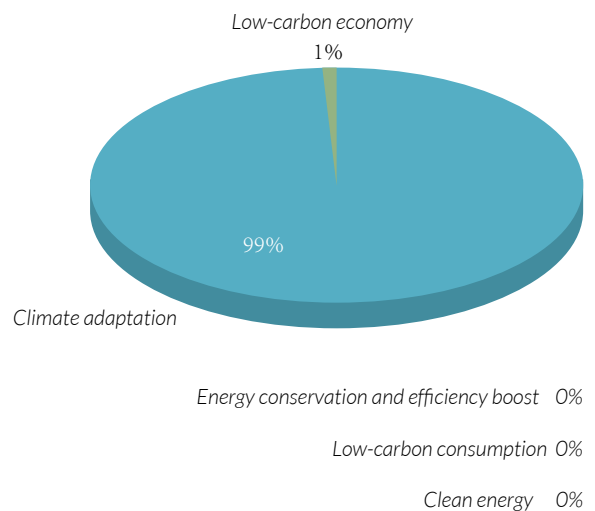
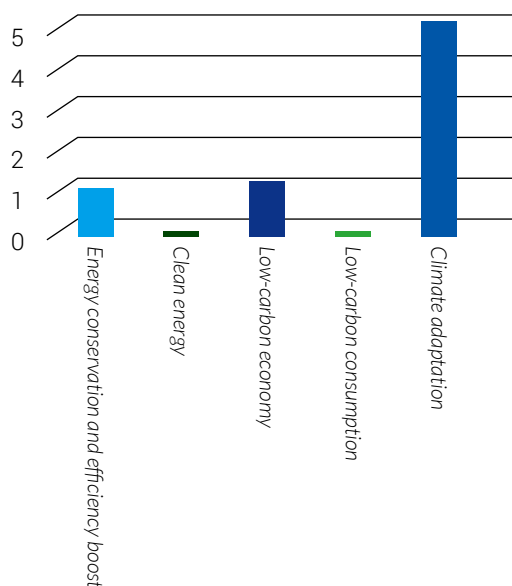
- Ecological conservation field is divided into 7 segments based on protection targets.
  - In terms of the number of grant makers, sea protection and natural reserve management segments received grant from 5 grant makers, which is the most; wetland protection and species and habitat protection segments follow next, and they received grant from 4 grant makers. Fewer grant makers contributed in grassland protection, desertification prevention and forest protection.
  - In terms of the amount of fund, species and habitat protection received grant worth RMB 40 million Yuan, accounting for one third in the whole field, while the number of funded projects is 131, which accounts for two

thirds of the total 191 projects. Forest protection follows next. Although only 3 grant makers out of 11 provided funds, the funds reached about RMB 24 million Yuan, which accounts for 1/5 in the ecological protection field. Natural reserve management segment received RMB 20 million Yuan of grant, which accounts for 17% and desertification prevention segment received almost RMB 15 million Yuan of grant, which accounts for 13%. Grassland protection received about RMB 5.62 million Yuan of grant, a relatively lower amount from fewer grant makers. Wetland protection and sea protection, though popular, attracted not much grant: the hot-spot segment in the last two years –sea protection received less than RMB 500,000 Yuan from 5 grant makers in 2018.

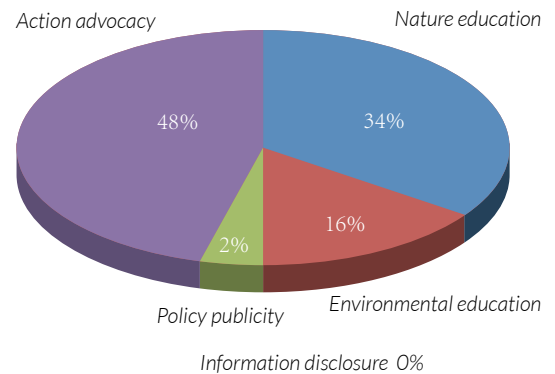
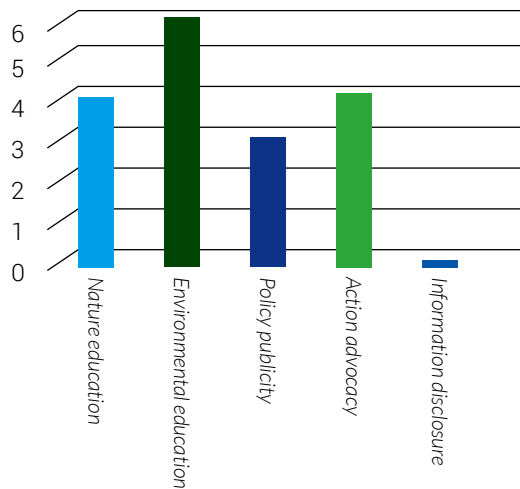
- China Environmental Protection Foundation and SEE Foundation have focused on 6 segments out of a total of 7 segments, and their focuses are the widest.



- Pollution control field is divided into 6 segments based on control targets.
  - In terms of the number of grant makers, 5 of 6 grant makers that focus on pollution control focus on solid waste management and water pollution control, and these segments boast long history and rich experience. Although air pollution segment is a hot-spot recently, only SEE Foundation funded its projects. Besides, only Friends of Nature Foundation funded physical pollution control segment. In 2018, no CEGA members funded soil pollution control.
  - In terms of the amount of grant, water pollution control received more than RMB 16 million Yuan, which accounts for 57%. 74 projects in this segment received grants and the number accounts for more than 79% in pollution control field; therefore, it is the most heated segment in this field. Solid waste management follows next as its 16 projects received about RMB 9.3 million Yuan of grant. Chemicals environment management accounts for 8%, receiving almost RMB 2.3 million Yuan. Fewer members contributed in air pollution control segment and it received RMB 740,000 Yuan of grant, which accounts for 2% in this field. Physical pollution control accounts for 1 %.
  - SEE Foundation focused on 4 of 6 segments in this field while China Environmental Protection Foundation and Friends of Nature Foundation focused on 3 segments.



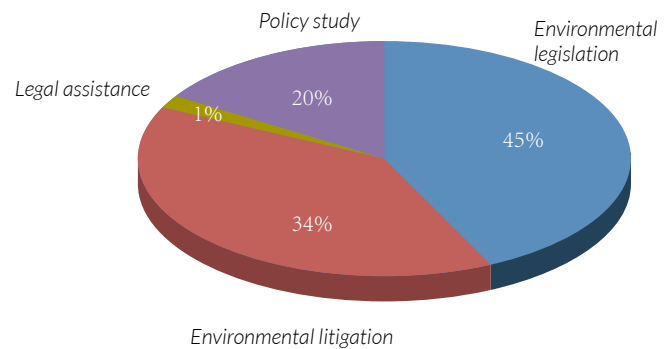
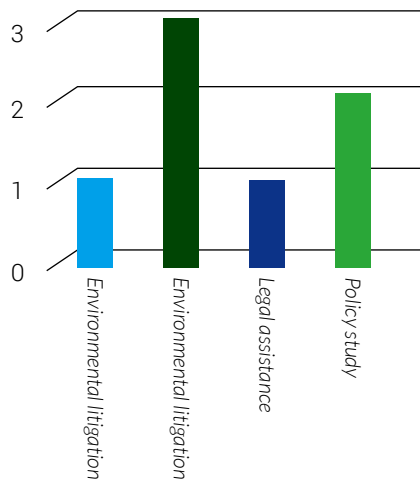
- Climate change response field is divided into 5 segments.
  - In terms of the number of grant makers in this field, all 5 of them funded projects in climate adaptation segment, and they are SEE Foundation, Lao Niu Foundation, Harmony Community Foundation, Vanke Foundation and China Green Carbon Foundation. Only SEE Foundation funded low-carbon consumption and energy conservation and efficiency boost segments. In 2018, no CEGA members funded clean energy and low-carbon economy projects.
  - In terms of the amount of fund, climate adaptation projects received 99% of the fund in this field, which reaches almost at RMB 22 million Yuan.
  - SEE Foundation focuses 3 of 5 segments.



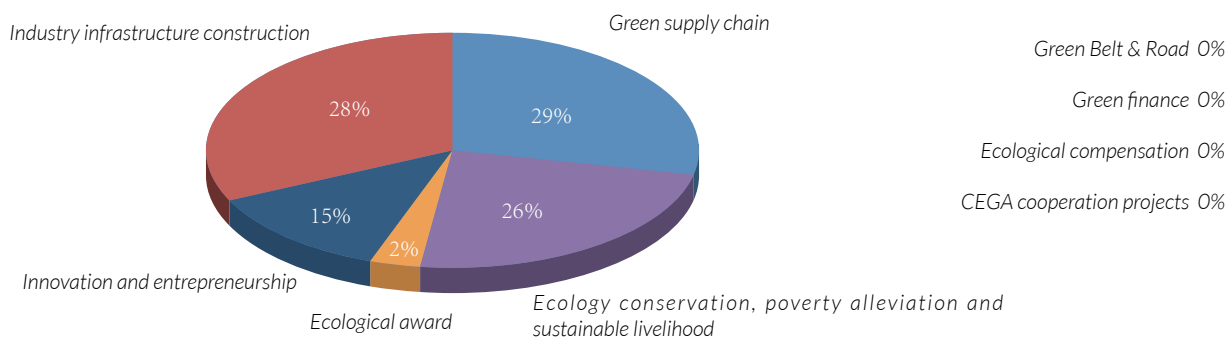
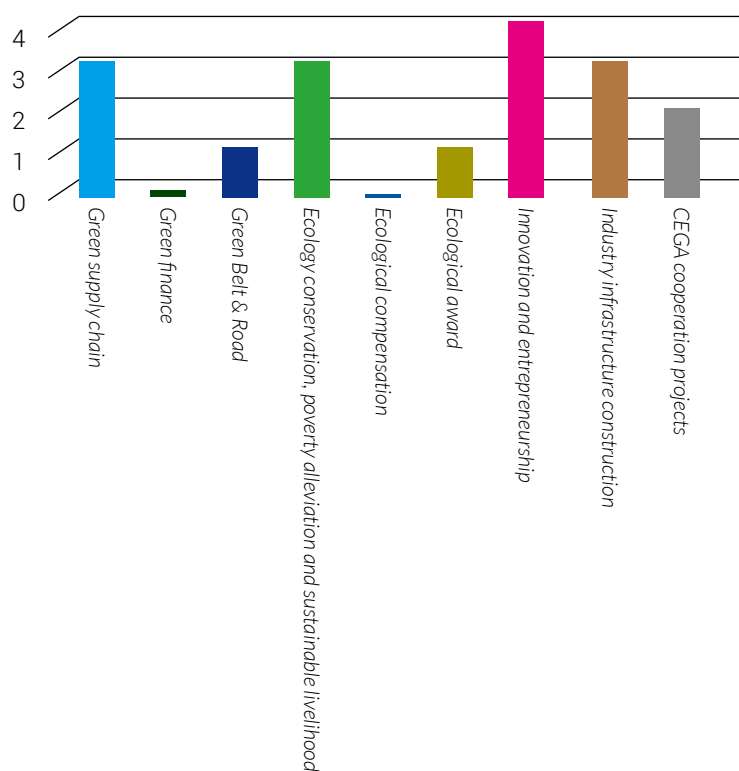
- Publicity and education field is divided into 5 segments.
  - In terms of the number of grant makers, 6 of 8 grant makers in this field funded environmental education, 4 members funded action advocacy and nature communication and 3 members funded policy publicity. In 2018, no CEGA members funded information disclosure projects.
  - In terms of the amount of the grant, action advocacy received almost half of the grant, which reaches RMB 23 million Yuan. Nature education segment received RMB 16 million Yuan of grant, which accounts for 1/3. 61

projects in this segment were funded, which accounts for 1/2 of the total 106 projects in this field. Environmental education accounts for 16% and policy publicity accounts for 2%.

- SEE Foundation focuses 4 of the 5 segments in this field, while China Environmental Protection Foundation and Vanke Foundation focuses 3 segments.



- Environmental law system construction field is divided 4 segments.
  - In terms of the number of grant makers, 3 of 4 funded environmental litigation and they are SEE Foundation, China Environmental Protection Foundation and Friends of Nature Foundation. Two members focused on policy study while one member, the Alibaba Foundation focuses on environmental legislation. Another member focuses on legal assistance. China Environmental Protection Foundation funded 3 segments other than environmental legislation.
  - In terms of the amount of grant, environmental legislation received 45% grant (5.6 million yuan) even though only one member makes grant. Environmental litigation received 4.18 million yuan, which accounts for 34%. Policy study received almost 2.5 million yuan as grant. Legal assistance received relatively lower grant and only 1 project received 105,000 yuan as grant.



- Major special projects are divided into 9 segments.
  - In terms of the number of grant makers, innovation and entrepreneurship received grant from 4 members. Green supply chain, ecology conservation, poverty alleviation and sustainable livelihood, industry infrastructure construction all have grants from 3 members. 2 members supported CEGC cooperation projects and 1 member supported green Belt & Road, which is SEE Foundation. China Environmental Protection Foundation supported ecological award segment. In 2018, no CEGA members supported green finance and ecological compensation projects.

- *In terms of the amount of grant, green supply chain received almost 17 million yuan, which accounts for 29%. Industry infrastructure construction accounts for 28% and received grant exceeding 16 million yuan, while 96 projects were funded, accounting for 45% of the total 215 projects in this field. Ecology conservation, poverty alleviation and sustainable livelihood received more than 15 million yuan, which accounts for 26%. Innovation and entrepreneurship accounts for 15%. And 95 projects of them, together with the same number of projects in the infrastructure construction segment, account for 88.8% of the total number of projects.*

## 4.2 2018 Grant Project Analysis

Based on grant information of 737 projects provided by 11 grant makers, we have analysed their field, location, fund and effectiveness and provide further details about representative annual cases of each members.

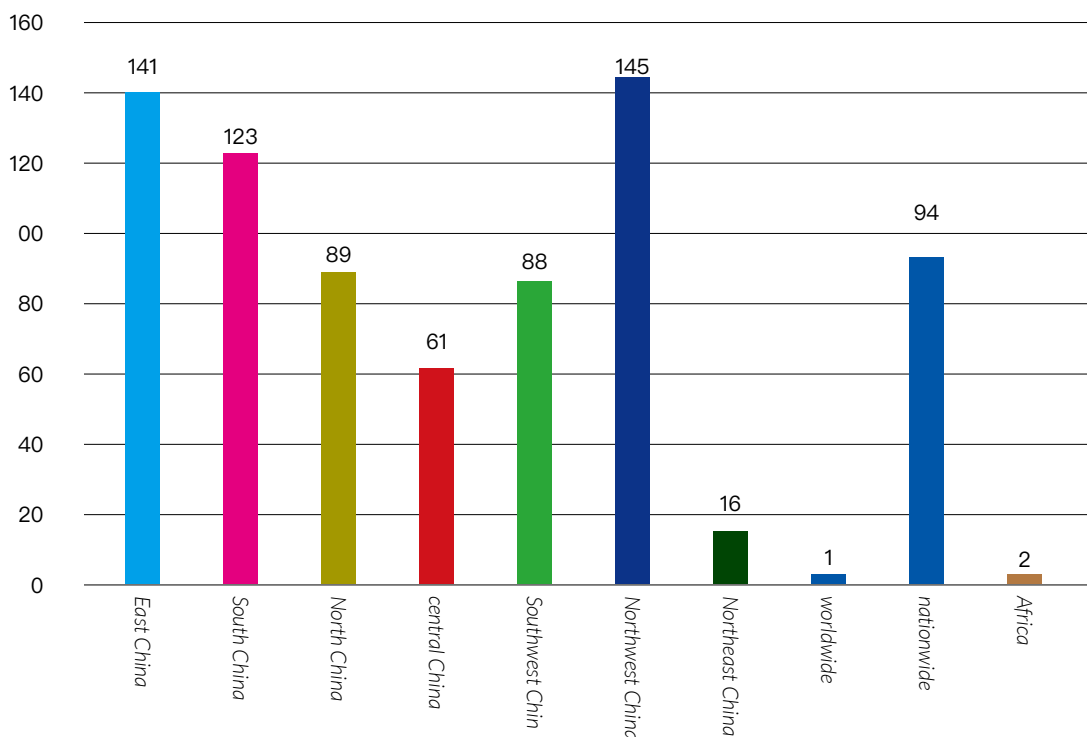
- In terms of the number of projects, SEE Foundation provided grant information of 530 projects. China Environmental Protection Foundation followed next and provided information of 65 projects.
- In terms of the average grant sum per project, Lao Niu Foundation's average grant is 5.425 million yuan. Paradise International Foundation follows next and its average grant is 2.6673 million yuan. Beijing Qiaonyu Foundation's average grant is 1.9112 million yuan and China Environmental Protection Foundation's average grant is 1.4339 million yuan. Other foundations' average grants are less than 1 million yuan.

| No. | Name                                      | Total grant amount | Number of grant projects | Average grant amount (10,000 yuan) |
|-----|-------------------------------------------|--------------------|--------------------------|------------------------------------|
| 1   | SEE Foundation                            | 79,020,368.87      | 530                      | 14.9                               |
| 2   | Alibaba Foundation                        | 28,666,708.80      | 37                       | 77.48                              |
| 3   | Beijing Qiaonyu Foundation                | 9,557,578.18       | 5                        | 191.12                             |
| 4   | Mangrove Conservation Foundation          | 664,000.00         | 10                       | 6.64                               |
| 5   | Lao Niu Foundation                        | 21,700,000.00      | 4                        | 542.5                              |
| 6   | Harmony Community Foundation              | 2,641,536.00       | 34                       | 7.77                               |
| 7   | Paradise International Foundation         | 13,336,746.00      | 5                        | 266.73                             |
| 8   | Vanke Foundation                          | 14,338,643.67      | 18                       | 79.66                              |
| 9   | China Green Carbon Foundation             | 18,356,808.35      | 20                       | 91.78                              |
| 10  | China Environmental Protection Foundation | 91,794,923.14      | 65                       | 143.39                             |
| 11  | Friends of Nature Foundation              | 7,068,392.61       | 9                        | 78.53                              |

### 4.2.1 Location of the projects

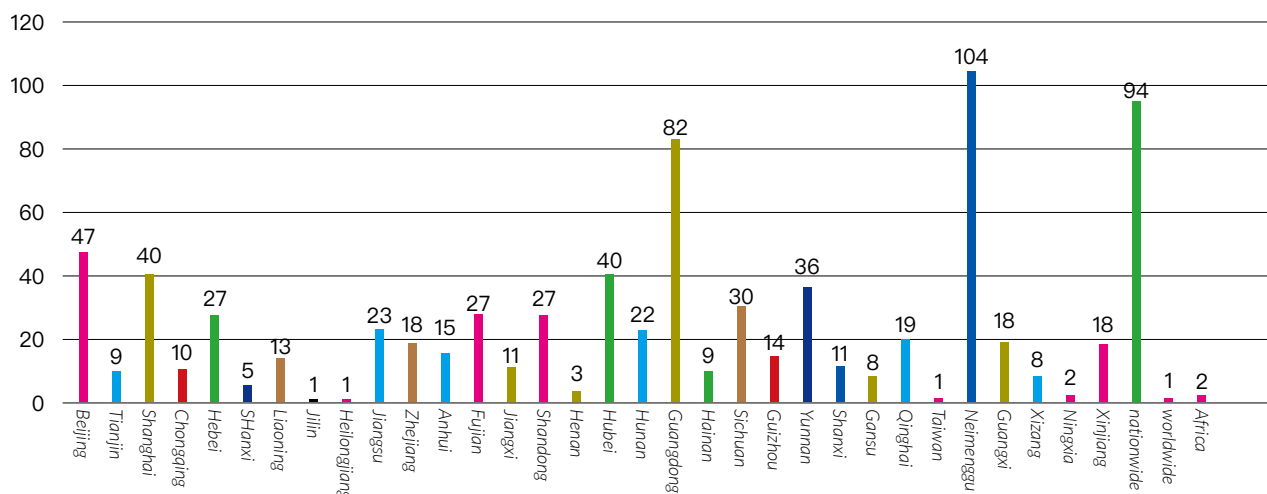
Among the 737 projects, 145 are located in Northwest China, 141 are located in East China, 122 are located in South China and 94 are nationwide projects. 89 projects are located in North China, 88 are located in Southwest China and 61 are located in central China. Relatively fewer projects located in Northeast China (16), Africa (2) and 1 is a worldwide project.

In a word, 11 grant makers support most projects in Northwest China, East China and South China; nationwide projects and projects in North China, Southwest China and Northeast China receive less support.



*Note: A project might cover different regions.*

In terms of the provinces, most (104) projects are located in Inner Mongolia and 94 projects are nationwide projects. 82 projects are located in Guangdong Province and other provinces have fewer than 50 projects. Only 1 project is located in Heilongjiang Province, Jilin Province, Taiwan Province and only 1 project is a worldwide one.

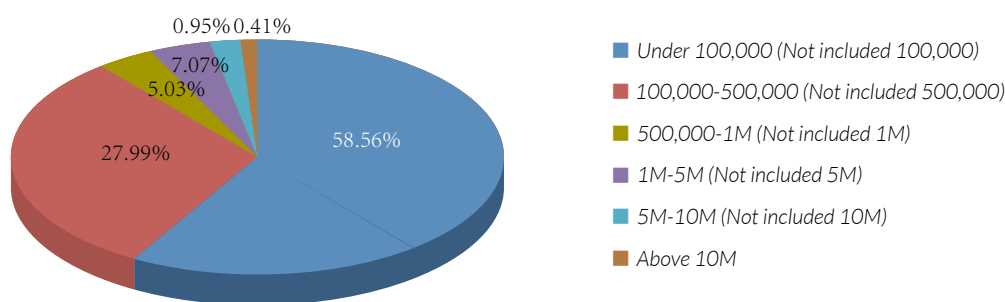


For projects located in Northwest China, 86 of them are in climate change field, which accounts for 60%. For projects located in Inner Mongolia, 84 of them are related to climate change and most (81) of them belong to the “100 Million Haloxylon” project of the SEE Foundation in Alxa League. If “100 Million Haloxylon” project is not counted, regions that receive most grant are East China and South China.

In East China, 84 projects are ecological protection projects, 35 projects are about pollution control. In South China, 38 projects are major special projects, 36 projects are about pollution control. Among them, 86 projects in Guangdong Province have 31 projects that are major special projects. Besides, 38 of 94 nationwide projects are publicity and education projects.

## 4.2.2 Project and Grant Distribution

In terms of the amount of grant to 737 projects, almost 3/5 projects received less than 100,000 yuan, 28% of projects received 100,000 to 500,000 yuan, 37 projects received 500,000 to 1 million yuan, 52 projects received 1 million to 5 million yuan, 7 projects received 5 million to 10 million yuan. Three projects had grants that reach 10 million yuan.



Among the 62 projects that received more than 1 million yuan, 24 projects are about ecological protection, 12 projects are about publicity and education, 10 projects are major special projects, 6 projects are about pollution control, 5 projects are about climate change, 5 projects are about environmental law. Segments are sparsely-distributed. Segments that have more than 5 projects of 1-million-yuan grant are: Ecological protection – species and habitat protection (9), publicity and education – action advocacy (6), climate change – climate adaptation (5), ecological protection – natural reserve management (5).

Among them, three projects received more than 10 million yuan of grant, and they are “Lao Niu Carbon Sink Forest” project (29.07 million yuan) of Lao Niu Foundation, “Rookie Green Alliance Public Welfare Fund” project (15.7 million yuan) and “Belt & Road Ecological Protection Project” (10.55 million yuan) of China Environmental Protection Foundation.

#### **4.2.3 Project Effect Evaluation**

Based on the 733 pieces of project evaluation information, 447 projects are evaluated by the Foundation, which accounts for 61%. 258 projects are not evaluated, which accounts for 35.2%. 28 projects are evaluated by third parties, which accounts for 3.8%. Moreover, 4 projects do not have evaluation information; we have learned that China Green Carbon Foundation has one of them and it is evaluated.

- Foundation Evaluation: 91% of Alibaba Foundation's projects, 80% of Beijing Qiaonyu Foundation's projects, 68% of China Green Carbon Foundation's projects, 64% of SEE Foundation's projects and all 4 projects of Lao Niu Foundation are evaluated by the Foundation. 339 projects are evaluated internally by SEE Foundation. 35% of Harmony Community Foundation's projects and 11% of Mangroves Conservation Foundation's projects use this evaluation method.
- Third Party Evaluation: Among the 28 projects that are evaluated by third parties, SEE Foundation has 8 projects, Mangroves Conservation Foundation has 7 projects and China Green Carbon Foundation has 6 projects. Alibaba Foundation, China Environmental Protection Foundation and Friends of Nature Foundation have projects that use this evaluation method.
- Not-Evaluated: Projects of China Environmental Protection Foundation, Friends of Nature Foundation and Lao Niu Foundation and most projects of Harmony Community Foundation are not evaluated.
- Moreover, among 62 projects that receive more than 1 million yuan grant, 58 projects provide evaluation information and 46.6% of them are not evaluated. 34.4% of them are evaluated by the Foundation, 19% of them are evaluated by third parties. One project of the three projects that receive more than 10 million yuan has been evaluated.

#### 4.2.4 CEGA Members Yearly Representative Cases



### SEE Foundation Yearly Representative Case

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#### 1) Fujian Birding Association: Meet with Green Partners' Professionalism

Since its founding in 2003, Fujian Birding Association has conducted many large and meaningful research and protection projects, aiming to protect dozens of endangered species like *Thalasseus bernsteini* and *Eurynorhynchus pygmeus* and habitats like uninhabited islands in Fujian and Min River estuary wetland. By 2017, Birding Association has organized over 400 public bird watching activities, which attracted nearly 40,000 people, trained about 60 active members and achieved good results in protection projects. Though highly acclaimed, bird watching activities do not attract new members and lose some regular members as they cease to be passionate and active.

After joining Green Partners, Yang Jin, the head of the Association and his partners see through the problems analysed by the tutor: they have paid too much attention on protection projects and failed to serve their members. Moreover, they lacked administrative expenses and volunteers cannot carry out tasks in the long run no matter how devoted they were. These problems are also faced by all birding associations in China. Therefore, Green Partners work to gradually solve these problems in three years under the guidance of tutors.

- First Year: Birding Associations should first have a steadily increasing group of members and then expand the projects. Birding Associations organized many bird watching activities, internal communications and trainings to strengthen the ties among members. This worked pretty well as many regular members and ghosted members reappeared.
- Second Year: Develop systematic bird watching training courses. The two-month long course includes one indoor training, three field practice and one test. Through the whole year, more than 400 people participated in the course and more than half of them joined the Association after the course, bringing fresh blood to the Association.
- Third Year: Birding Association selected more than 50 members to join its "Eagle Plan" which trains core members and future leaders.

"Three tutors of various characteristics from Green Partners helped us to analyse different prob-

lems in the Association. With their help, we found out it needs more than care to fulfil successful protection: correct methods are also a necessity”, so said Yang Jin.

## 2) Green Home Eighth Season Partner – Shanghai Haorun Environmental Protection Technology Co., Ltd

Shanghai Haorun Environmental Protection Technology Co., Ltd was founded in August 2017 by three experienced professionals in textile and garment industry. They try to recycle PET materials as raw materials for the traditional textile industry, so as to reduce the PET pollution of this industry. In March 2018, Green Home supported them and encouraged the founders and the core team to devote themselves full-time into environmental protection entrepreneurship. Green Home has brought two changes to them:

First, the effectiveness and repeatability of their core technology are verified, and their mission is clearer. The core team will continue to focus on their mission.

Second, they have clearly defined themselves so as to utilize the resources in a more reasonable way.

Green Home will support Haorun to achieve the following organizational goals:

- Short-term goals:
  - a. *Continue to promote product customization and service, reaching RMB 800,000 yuan of sales in 2018;*
  - b. *Record raw material consumption data of all orders, and regularly publicize the updated data;*
  - c. *Actively participate in industry-related environmental protection public welfare projects, such as China Picking-up and write down records and summaries of these projects;*
  - d. *Continue to promote the integration and cooperation of the industry supply chain.*
- Medium and long term goals:
  - a. *Develop its own yarn and thus its unique fabrics;*
  - b. *Cooperate with large-scale brand companies in the textile and apparel industry to promote the supply of raw materials in scale;*

- c. *Realize the closed-loop of the domestic PET plastic bottle industry chain and disclose the chain's information so as to achieve high-efficiency raw material verification at a lower cost.*

In 2018, the B-side business of the Haorun Team worked well. Now, they have been discussing the verification of front-end industry chain with several organizations.



## **Alibaba Foundation Yearly Representative Case**

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### **1) Green Network – Environmental Map Project**

AMAP integrates technological empowerment and public awareness, seamlessly connecting enterprise advantages with social resources. Its good cooperation with governments has demonstrated that it could be “a huge push from the cooperation between civil society organizations and commercial companies to the data application of government information system”. On June 5th, Alibaba Foundation was the only corporate foundation to publish this project at the National Theme Day Event of the World Environment Day. As AMAP is widely used, its environmental map should be influential. Therefore, various local governments actively seek cooperation. The existing government cooperation includes:

- The Information Center of the Ministry of Ecology and Environment provided soil environmental data for the establishment of a national soil environment big data platform;
- The Health and Family Planning Commission of Shandong Province added on its “Shandong Health” app a new function to look up environmental data, including water, air, soil and information of polluters. This app can alert people of air, ground water, pollution and other public health factors according to the location of its users; therefore, people can take precautions in advance to avoid health injuries.
- Departments of Environmental Protection in Guangdong, Shaanxi, Jilin, Guizhou and other provinces provided data to manage soil and emergencies.
- It provided Environmental Planning Institute of the Ministry of Ecology and Environment with environmental data for macro environmental planning.
- Smart City Platform (environmental information sector, including water, air and polluters)

of Jiaying Government is being developed.

- Environmental Emergency Management Platform (environmental database sector, including water, air, soil and polluters) of the Department of Environmental Protection in Guangdong is being developed.

## 2) XIN Partner Plan

In 2017, Alibaba Foundation initiated the strategic funding plan “XIN Partner Plan”. This plan aims to provide long-term strategic support and resources to the most influential, innovative and potential NGOs in environmental protection sector. This plan will help these organizations make breakthroughs and cooperation to cope with major and complex environmental issues, so as to create a sustainable future for human, society and the nature. The first XIN partners include Beijing He Yi Green Foundation, Beijing Institute of Public and Environmental Affairs, Beijing Friends of Nature Foundation and Changsha Green Hunan Environmental Science Center. We built together a “XIN Partner strategic cooperation model” to improve domestic environmental agencies’ capacity building, empower the industry and solve environmental issues, especially water environment issues, efficiently and effectively.

## 3) Continue to promote the development of the nature education industry

- Facilitate the establishment of a national nature education network, publish the industry development plan (regional nature education network, talent training, industry research, industry event), support the National Nature Education Forum for five consecutive years.
- Create excellent experience of nature – “Nature Carnival” (Including: nature concert, creative ecology market, eco-friendly costumes show, nature book fair, nature recital pavilion, open space, nature experience workshop, etc.) has become a festival for children in Hangzhou. In the future, it will be expanded into 10 domestic cities.
- Encourage public reading and writing of nature, host “China Nature Book Award” which received more than 300 books from 57 publishers and attention from 1.3 million people.
- Organize Wuhan Middle School Students Nature Notes Contest which enters 28 parks that are nature education bases and more than 150 middle schools and primary schools.

The contest covers 300,000 students. It strives to explore an “urban mode” for nature education that wins government support, organizations’ participation and benefits public. This mode will also be promoted nationwide.



## Beijing Qiaonyu Yearly Representative Case

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### 1) Reserve building – Qinghai Nangqian

Qinghai Nangqian Baizha forest farm is one of the demonstration projects under the Felid Protection Strategy of Beijing Qiaonyu Foundation. It is located at the Sanjiangyuan Region, which is the source of the Yangtze River, the Yellow River and the Lancang River. This region is most diverse biologically in its rivers, glaciers, snow mountains and plateaus. This region is a biological function area that has widest domestic influence and important influence on the world’s climate.

When building the reserve, we not only supported their own manpower, but also supported two experienced institutions: Global Environmental Institute and Chinese Felid Conservation Alliance (CFCA).

- Global Environmental Institute: It mainly assists us in investigating and planning sustainable development and livelihood upgrading of the community, as well as helps us in conducting the pilot projects in Bamai Village about community protection and sustainable livelihood. For example, it helps villagers to develop eco-tourism, fritillaria cirrhosa cultivation and handcraft production as alternative livelihoods, in order to divert from not eco-friendly livelihoods like destructive tourism, grazing and cordyceps digging. On the other hand, villagers also receive basic training in technology and other aspects and they have built necessary infrastructure, such as vigorously developing organic animal husbandry so as to increase income and use fewer natural pastures.
- CFCA mainly works to conduct scientific research in project-located areas, such as placing facilities for wild animal observation, hydrological observation and meteorological observation. They would obtain basic observation data and conduct preliminary processing and research to build an ecological database for the project-located region. It also conducted comprehensive ecological background survey in Baizha forest farm to study large felid an-

imals in the region. CFCA conducted a socio-economic baseline survey to provide a data base for setting protection and livelihood development plan. This March, CFCA's infrared cameras captured the precious picture of snow leopard hunting bison. As an indicator species, the existence of snow leopard proves that the ecosystem is well protected and provides important factual basis for further scientific research.

The Foundation is still exploring how to standardize the pilot. Its successful experience will be extended to the other 7 natural villages in Baizha forest.

In the future, Beijing Qiaonyu Foundation will focus on resolving conflicts between human and animal and enhancing nature education. On one hand, it will rely on itself to build a scientific and standard natural reserve system. On the other hand, it will use support to realize further goals.



## Mangrove Conservation Foundation Yearly Representative Case

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### 1) Green Paper on Chinese Coastal Wetland Protection

The Green Paper is a biennial assessment report on the health status, conservation progress and hot-spot issues of China's coastal wetlands, especially wetlands that lack protection. It aims to create a coastal wetland health index, eco-system assessment and database to provide scientific guidance for the protection and management of China's coastal wetlands.

- **Project Goal 1:** Optimize the health index and integrate data of China's coastal wetlands, so as to build a Chinese coastal wetland health database and establish a more scientific and systematic level standard.
- **Project Goal 2:** Grassroot NGOs will select threatened wetlands. They should clarify selection methods and standards (1 page). For each wetland, they should provide information on the overview of the wetland, protection status-quo, threats, suggestions, etc. They should also enclose institutions that can protect that wetland and their contact information.
- **Project Goal 3:** Use the China Coastal Wetland Health Index and other indicators to

assess the current status of and threats to coastal wetlands, especially unprotected wetlands. Track and rank the health status of wetlands in coastal provinces (cities or autonomous regions), important international wetlands, important water bird habitats and natural reserves.

- **Project Goal 4:** Use methods like non-market valuation methods to assess the value of Chinese coastal wetlands ecological system service. Assess and rank the economic value of important international wetlands, important water bird habitats and natural reserves.

## 2) Chinese Coastal Wetland Protection Network Wetland Education Center

With the support of Lao Niu Foundation, the Wetland Management Division of the National Forestry and Grassland Bureau and Paulson Institute Foundation jointly advocated the establishment of the “China Coastal Wetland Protection Network”. Based on this, the Mangrove Conservation Foundation led the foundation of “Chinese Coastal Wetland Protection Network Wetland Education Center”. By building a number of representative wetland education center in China, this project aims to promote wetland education centers in China so as to make the publicity and education work in China more professional. This will ensure public support and social participation in effective coastal wetland protection. In 2018, this project has released the “CHINA Wetland Education Center Survey Report”, two trainings on operations and interpretations in wetland education centers, one set of CEPA toolkits and promoted these to 15 national wetland parks/ protected areas.



## Lao Niu Foundation Yearly Representative Cases

### 1) “Ecological Restoration and Protection (Lao Niu Carbon Sink Forest)” Project

Since 2010, the “Ecological Restoration and Protection (Lao Niu Carbon Sink Forest)” project has been dedicated to provide “harmonious ecological and economic development” feasibility plan suitable to arid and semi-arid areas that cover approximately one third of the total Earth land and spread over more than 50 countries and regions. With continuous investment, this project has made progress in stages:

- Model exploration: In 2010, they explored and demonstrated ecological restoration in

China's important ecological barriers – arid and semi-arid regions of Inner Mongolia and Lingee County from four aspects: climate adaptation, vegetation restoration, water resource management and green industry. They have restored nearly 40,000 mu of degraded land, planted more than 3.3 million trees which have a survival rate of over 90%. The number of species has increased from less than 30 to over 80. The amount of soil fixed annually reached 25,000 tons, and the total potential water storage capacity of soil increased from 4 million tons to 5.3 million tons. Soil erosion has been effectively controlled. In the next 30 years, it is expected to absorb and fix 220,000 tons of carbon dioxide, of which 160,000 tons have been subscribed by Walt Disney Company. Based on the results of ecological restoration, they explore the sustainable development model that entails a symbiotic relationship between economic development and ecological restoration. Through the smart climate agriculture, smart grassland management and other projects, they have benefited villagers from 13 administrative villages and helped cooperative households increase their income by more than 10,000 yuan per year.

- Promotion and improvement: Provide Xilin Gol League of Inner Mongolia with “Smart Grassland Development Plan” which plans to restore 50,000 mu grassland in 2019. Provide Chifeng city of Inner Mongolia with “Smart Climate Agriculture Development Plan” which has realized 1,000 mu in 2019. Provide Zhangjiakou city of Hebei Province with “30,000 mu of Winter Olympic Carbon Sink Forest Ecological Restoration Plan”, which has restored 30,000 mu of degraded land. Actively promote the globalization of ecological restoration and conservation. At present, the Foundation and the Nature Conservancy have worked together to discuss cooperation with Mongolia and expected to sign an agreement in 2019 and provide “Harmonious Development of Economy and Ecology” plan suitable to local conditions.

## 2) Lao Niu Wetland Protection Project

“Lao Niu Wetland Protection Project” mainly conducted two tasks. One is to promote frontier monographic study on wetlands, so as to provide scientific theoretical support for China's wetland protection. The second is to build and rely on the wetland network to carry out professional talent training and capacity building. It supports domestic wetland protection both from theory and management operations.

### **Monographic Studies:**

- Cooperate with the Paulson Institute to conduct research and publish the “China Coastal Wetland Protection Management Strategy Research”, which systematically sorts out the main problems existing in China’s coastal wetlands and proposes scientific and executable solutions. The research results have been adopted by domestic environmental protection organizations as a basis and guidance for coastal wetland protection.
- Compile “Poyang Lake Wetland Ecology Research Collections No.3”. This set of collections recorded valuable data of wintering water birds, plants, hydrology and meteorology in Poyang Lake since 1999, providing scientific support for the protection of Poyang Lake.
- Cooperate with the Tibet Pandeba Association to write the “Report on Plateau Wetland Protection and Community Sustainable Development”. 12,055 people from 29 administrative villages in Dingri, Nyalam and Jilong County have received environmental publicity and education. 50,000 mu of plateau wetland have been restored.
- Compile the “Research on China’s Mangrove Conservation and Restoration Strategy”, which analysed the spatial layout of the key reforestation projects in nearly 50,000 hectares of mangroves proposed by the National Forestry and Grassland Bureau and proposed specific protection and restoration plans.
- Compile and use the “Data Set of Chinese Coastal Water Birds and Habitats” to develop a mobile app, which is a water bird habitat query and information reporting system, and publish the “China Coastal Important Bird Area Comprehensive Report”.

### **Capacity Building:**

- Build “China Coastal Wetland Protection Network” and form an intersecting network with Yangtze River and Yellow River wetland protection networks. Thus, a large-scale wetland protection framework has been basically built. The online “Hong Kong Mai Po Wetland Management Training course” has provided professional guidance for 236 coastal wetland business officials and management professionals.

### **3) Carbon Neutrality Project (Lao Niu Zero Carbon Action)**

In order to curb the global greenhouse effect and promote emission reduction and carbon sink increase, the Foundation officially launched this project in 2011. This project will demonstrate how

to use carbon emissions generated by organizations or individuals directly or indirectly within a certain period of time and realize “zero emissions” target through afforestation or reduction or carbon emissions. Up to now:

- Conference Support: Lao Niu Foundation provided conference support for the 2016 China G20 Summit in Hangzhou and the China Green Company Annual Meeting (for 9 consecutive years) to realize “zero carbon conference”.
- 950 mu of forest have been restored, with a survival rate of over 87%. In the next 10 years, 8,878 tons of carbon dioxide equivalent will be “neutralized”.
- The concept of energy conservation and emission reduction has been passed to 1,000 enterprises, 50 environmental protection organizations and more than 23,000 people.



禾社区基金会  
Harmony Community Foundation

## Harmony Community Foundation Yearly Representative Case

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### 1) Guiyang Qianren Ecological Development Center (Water Pollution Prevention & Institutional Development Support)

In order to boost the leadership of private environmental protection organizations in South China, Harmony Community Foundation has been providing institutional development support for Guiyang Qianren’s ecology since July 2015. The first two support sessions carried out the “Guizhou Water Source Guardian Network Building” project, which explored the river protection work model that suits local conditions. In 2018, after evaluating the first two sessions, they have initiated a third support session to support the Network.

In 2017, Qianren Ecology launched its “Ottelia Acuminate Plan” to improve the local environmental protection forces and river protection works. The “Ottelia Acuminate Plan” includes three parts: the Guizhou River Protection Small Grant Project, the Guizhou River Protection Young Scientists Small Grant Project and the Guizhou Youth Environmental Protection Talent Training Program. It currently covers 6 prefectures and 6 major water systems in Guizhou. In the future, they will encourage and train local environmental protection forces through this plan and expand the network to 9 prefectures. Thus, they can facilitate the local river protection as it is near and suits

local conditions.

In response to the “river chief” system, Guizhou named 33 provincial river chiefs, and 13 of them are Qianren Ecology staff and volunteers, including 5 in the Pearl River basin. The third session of the project will focus on these 13 river chiefs to explore the support service system to river chiefs. This will improve the river chief system and river protection in Guizhou. Meanwhile, provincial river chiefs will become a knot connecting River Chief Offices in different levels, so as to build a network to solve river pollution problems and support the public and non-profit organizations to supervise pollution control and protect rivers and lakes. For example, the environmental investigation and protection of the upper reaches of the Wu River in specific areas, river protection in Guiyang and rural areas.

## **2) Shunde Shibao Sustainable Community**

Shiban Village is located in the southwest of Lunjiao Street, Shunde District, Foshan City, Guangdong Province. The area of the village is about 4.06 square kilometres, with a population of 7,300. It has 3,600 mu of farmland demonstration area, 700 mu of flower planting land and 220 fish ponds. Since the reform and development, enterprises such as home appliances, furniture, hardware, and electroplating in Shunde have developed rapidly. In the production process, heavy metals have entered the atmosphere, water and other environment and biological chains in various forms, and finally deposited in the soil. The Shunde District Government used multi-points monitoring analysis and found that heavy metal pollution in atmospheric dust presents typical industrial pollution characteristics. There are banana-plantation-based fish ponds, residential areas, primitive villages, and industrial parks in Shibao. As these areas of various forms are densely distributed, this place is selected by the Shunde District Government as a pilot program for rural quality environment.

The community building project was officially operated by the Big Dipper Social Work Service Center in 2014 as one of the first batch of community construction demonstration sites in Shunde District, Foshan City. The project team is committed to promoting the villagers to pay attention to and participate in community development issues such as people, culture, land, resources and scenery in the village. In the second half of 2017, Harmony Community Foundation began a survey of community environmental governance in the Pearl River Delta region. In the process, it reached a cooperation intention with the Big Dipper Social Work Service Center Shibao project team. In March 2018, it launched “Green Guard — Shibao Village Ecological Conservation Plan”. The main

cooperation includes:

- a. Self-organized villagers' cultivation: Shibana Banana Dream Economic Cooperatives, Shibana Community Micro-Fund;
- b. Green low-carbon community: domestic waste sorting, exploration of the CSA model of ecological agriculture, development of climate adaptation plan for agriculture and fisheries;
- c. Community research and needs scanning: household surveys, multi-stakeholder workshop support;
- d. Capacity building of the Big Dipper Social Service Environmental Protection Team

Harmony Community Foundation works with the Big Dipper to explore Shibana's innovative "Social service plus environmental protection" model and explore feasible solutions for community sustainable development and community's response to climate change.

### **3) Shunde Home Appliance Industry Green Supply Chain Construction (Supply Chain and Green Consumption)**

In response to the environmental pollution problems brought by the industrial manufacturing industry to the Pearl River Delta region and the widespread problems faced by SMEs in environmental supervision, the Harmony Community Foundation supports stakeholders like industry associations to promote green supply chain management in major home appliance companies in Shunde, so as to realize reduction of pollution and carbon and conservation of water and energy for SMEs in the whole industry.

Since 2017, Harmony Community Foundation has coordinated with Shunde Energy Conservation Association, the International Economic and Technological Cooperation Center of the Ministry of Industry and Information Technology and other institutions. The Foundation also worked with 8 leading local companies like Hisense Kelon and Media to set up a "Shunde Home Appliance Green Supplier Evaluation Standard". They encourage standard suppliers, so as to promote the compliance of small and medium-sized suppliers and their actions to reduce emissions and conserve energy.

This project has had a positive impact on Shunde's home appliance enterprises. It is expected that through the promotion of "Green Supplier Evaluation Standard" and the participation of more

leading enterprises, this project will effectively respond to the implementation of the national green manufacturing strategy and improve the environmental protection practice of the home appliance industry in the region. It is also conducive to phasing out backward production capacity and accelerating industrial upgrading.



## Paradise International Foundation Yearly Representative Case

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### 1) Public Welfare Natural Reserve: Guanba Natural Reserve Community Project

In 2017, the Paradise International Foundation and 23 NPOs jointly established the Land Trust Alliance to promote social organizations' participation in the construction and management of natural reserves. In 2018, the Alliance attracted external funds to fund natural reserves recognized by the Alliance. Guanba Natural Reserve Community is recommended by the Paradise International Foundation according to the Alliance's standards to be a project of "Ant Forest". As a result, the Ant Financial signed an "ecological poverty alleviation" cooperation agreement with Pingwu County of Sichuan Province and helped the latter to marketize its ecological honey.

Based on the progressive results of Guanba Natural Reserve Community Project, the Foundation also funded the Community to establish long-term plan in the following areas:

- Regular patrol and monitoring
- Anti-poaching emergency mechanism
- Nature Education

The above actions will ensure the Community to protect its 44.02 square kilometres of protected land in the next 10 years and benefit the community.

### 2) African Ranger Awards

The African Ranger Awards are sponsored by the Paradise International Foundation and Alibaba Foundation. The Awards will support 50 rangers in Africa annually with 3,000 dollars each and other technological support. In 2018, the Paradise International Foundation and 9 other interna-

tional environmental agencies formed a recommendation committee and a jury committee. They set rules and selected 50 rangers (including 5 late rangers) out of 146 who received the award on August 7th in Cape Town, South Africa.



## Vanke Foundation Yearly Representative Cases

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### 1) Urban Community Garbage Sorting

In 2018, Vanke Foundation and Woqi Foundation together supported 8 domestic social organizations to carry out garbage sorting practice in urban communities across the country. This project aims to solve three major problems of the current waste management system through social organizations: First, residents cannot sort out the waste in a sustainable way despite years of advocacy; second, social organizations cannot make breakthroughs other than copying despite rich experience; third, beneficial policies did not achieve clear results, neither solve cooperation problems among multi-stakeholders. We will explore solutions through funding, capacity building, action study, assessment and advocacy and release the results by the end of 2019.

### 2) 2018 Report on Reduction, Sorting and Recycling of Urban Community Garbage

In order to thoroughly assess the current status of the reduction, sorting and recycling of urban community garbage, Vanke Foundation and Dataway released a research report on garbage sorting confidence index targeted at urban residents. The report covers 17 cities, 102 communities, nearly 4,000 questionnaires and systematically analyses residents' awareness and actions, community management, government regulations, etc. The report concluded that most of the residents do not have enough awareness and understanding of garbage sorting. Meanwhile, 70% of the residential communities are not equipped with necessary facilities and more than half of the residential communities mix garbage of different kinds. Governments have not effectively supervised the use of disposable supplies, packaging reduction and plastic reduction. This report is very important in terms of garbage sorting and attracts the attention of various media. The data and conclusions in this report are cited by the Ministry of Ecology and Environment and the Ministry of Housing and Construction.



## China Green Carbon Foundation Yearly Representative Cases

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### 1) Kangbao County Ecological Restoration Project in Hebei Province

In order to improve the ecological environment of Kangbao County in Hebei Province, which is located in Beijing-Tianjin Sandstorm Source and Ecological Water Conservation Area, China Green Carbon Foundation has been funding Kangbao County to plant trees and grass in Mandetang Village and Kangbao Town since 2014 so as to repair the ecology. This special fund is sponsored by Spring Tour, Spring Airlines and 24 natural persons including Mr. Wang Zhenghua.

The project was designed by Beijing Forestry University. They fenced up 4011 mu of “grain for green” land and planted both arbor and shrubs to revegetate. They planted trees like *Pinus sylvestris* var. *mongolica*, eucalyptus, spruce, white birch, apricot, yellow thorn, clove, caragana, sea buckthorn and grasses like alfalfa and Leguminosae. They experimented to cultivate economic crops such as *cerasus humilis*, Huang Qi and Huang Qin. This project was supported by the Forestry Department of Hebei Province, the Forestry Bureau of Zhangjiakou City, the Kangbao County Government and its Forestry Bureau.

This project both mitigates and adapts to climate change. The benefits are various: it can increase farmers’ income, reduce poverty, protect biodiversity in Kangbao and reduce sandstorm damage in Beijing. In September 2017, it is checked and accepted by the Planning and Design Institute of the Department. It has planted over 280,000 various trees, with an average survival rate of 90%, among which that of *Pinus sylvestris* var. *mongolica* was over 99%. It has become a world-class demonstration project of ecological afforestation in the arid sandstorm area of North China.

### 2) Hong Kong Jockey Club East River Source Carbon Sink Forest Project

The project is an 8,000-acre carbon sink afforestation project implemented by HK Jockey Club to protect HK’s drinking water source in Longchuan County, Guangdong Province. This project uses native broad-leaved tree species that are suitable for local growth, such as *Castanopsis hystrix* Miq., *Castanopsis fissa*, *Schima* spp and *Liquidambar formosana* Hance, as afforestation species. Such a hybrid forest has over 710,000 trees with a high diversity and good ecological benefits. By now,

the survival rate and preservation rate are almost 100%. According to third parties, they are expected to absorb 210,000 tons of carbon dioxide in the next 20 years and mitigate climate change.



## China Environmental Protection Foundation Yearly Representative Cases

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### 1) Salute to Environment Protectionists and Walk Towards Ecological Civilization

#### Project Overview

- Time: Since April 2016
- Location: China
- Executive Organization: China Environmental Protection Foundation
- Cooperative Organizations: Sponsored by China Environmental Protection Foundation and China Foundation for Poverty Alleviation, co-organized by Tsinghua University Environmental College, UNEP China Representative Office, FAW-Volkswagen Automotive Co., Ltd.

Direct Output: For three years since its launching, the project has invested more than 1.5 million yuan in 60 environmental organizations. The environmental issues related to the project have been significantly improved.

Important Influence: Wide dissemination of Xi Jinping's ecological civilization thoughts; Social participation in environmental civilization construction and ecological protection.

Lessons Learned: Environmental organizations are an important force in environmental protection. They work at the grassroots level with tough conditions and limited funding. We hope that we can provide some funding to them and support their development, so as to let them better play their unique role in ecological civilization construction.

### 2) China Environment Award

The China Environmental Award was established in 2000 to recognize and reward groups and individuals who have made outstanding contributions to China's environmental protection cause.

This Award aims to be the highest social rewards in China's environmental protection field.

The award organization committee consists of 11 ministries and institutions including the National People's Congress Environment and Resources Protection Committee, the Population Resources and Environment Committee of the CPPCC and the Ministry of Ecology and Environment. The specific work is undertaken by the China Environmental Protection Foundation. The jury committee consists of experts, scholars, managers and social celebrities in ecological environmental protection and related fields.

The evaluation and awarding take 2 years and it is divided into 5 categories: urban environment, environmental management, corporate environmental protection, ecological protection, and environmental protection education. Up to now, we have awarded 215 groups (136) and individuals (79) who have made outstanding contributions to China's environmental protection. These award winners play an active role in their respective industries and fields, and they have contributed in promoting environmental protection concepts, innovating environmental technologies, and raising awareness of environmental protection.

After 19 years of development, the China Environment Award has gained a high reputation in the field of ecological civilization construction and environmental protection, which not only affects the environmental protection industry itself, but also drives various industries and regions. Third Parties regard this Award as professional, wide-ranging, comprehensive and influential. As a social award, this Award fully demonstrates its functions to approve, select and guide. The awards of five categories all serve to solve environmental issues and facilitate the participation of various forces in tackling environmental problems.

Meanwhile, the committee of the Award also hosted various events, such as travels, urban forums and experience exchanges, so as to boost the enthusiasm of people who participate in environmental protection, advocate green life concept and promote ecological civilization construction.

### **3) China Environmental Law Public Welfare Platform**

The China Environmental Law Public Welfare Platform aims to build capacity of legal professions, enhance the role of law in environmental protection and promote the rule of law.

- Capacity Building Projects in Environmental Legal Professions: We have hosted 10 training courses focusing on environmental legislation, law abiding and law enforcement,

environmental public interest litigation in China and US, ecology and environment damage assessment, public interest litigation system and other issues. More than 500 people attended the courses, including judges from the grassroots people's court, prosecutors, environmental protection civil organizations, environmental lawyers, environmental protection administrative staff, environmental protection enterprises, etc.

- Publish Chinese Environmental Law Series—we organize experts to compile this series of books and publish the first book *Selected Cases of Environment Public Interest Litigation*. This provides intellectual support for environmental law practitioners and environment protectors to better use law in environment protection.
- Environment Damage Assessment Fund—in response to lack of assessment fee in handling environmental civil public interest lawsuits, we set up this fund and funded 2 cases in 2018 with 100,000 yuan and 23,000 yuan respectively, which effectively facilitates the handling of the cases.
- Environmental Protection Civil Organizations Legal Capacity Building Fund—This fund supports the legal capacity building of environmental civil organizations legally registered in China, including but not limited to hiring professional personnel, conducting necessary training, and carrying out legal public welfare projects related to ecology and environment. The first group of recipients in 2018 consists 8 civil organizations, including Beijing Friends of Nature Foundation and All-China Environment Federation.

### 4.3 Grantmakers' Message

Most of the CEGA members are major grant makers in environmental protection. They have their focuses and work with frontline organizations, gathering experience in the development of the industry. This report will analyse current funding trends and make suggestions, as well as introduce the methods and experiences of grant makers.

#### 4.3.1 Current Status Evaluation of the Environmental Protection Industry and its Segments

In general, environmental NGOs in China have made great breakthroughs in quantity and quality in the past ten years. Not only the number of organizations has doubled, but also emerged a number of leading environmental organizations which have explored a successful development model on issues such as nature conservation, pollution prevention, and nature education. They also gained a certain international influence. However, more environmental NGOs are still in the early stages of development. They lack core competitiveness, talents and a stable workforce. The environmental protection public welfare industry in China is short of donors and grant makers.

As the environmental protection public welfare industry is regulated by relevant environmental mechanisms, Alibaba Foundation believes the mechanisms are imbalance across China. Fragmentation, overlapping and conflicts exist among various mechanisms. Such a decentralized legislative method hampers systematic environmental protection; thus, new legislation method must be established.

#### Current Status of Each Field and Challenges They Face

**Ecological Protection Field:** Many funders believe this field is more and more scientific and professional

- **SEE Foundation:** Civil organizations in this field have increased in quantity and quality. They have attached more importance to public scientific education, worked with the compulsory education system and facilitated the implementation of government protective policies.
- **Beijing Qiaonyu Foundation:** Many boutique organizations have emerged in biological diversity protection and they have obtained recognition and service procure orders from the government. Their decentralized distribution and elaborate division of labour may become future trends.

- **Paradise International Foundation:** Public welfare natural reserves are a mature business model which has successful demonstrations already and will attract more fund and donors.
- **Vanke Foundation:** Species protection organizations are more and more professional in scientific research and protection, but they should work on how to ensure that species conservation and community development work in harmony.
- **Lao Niu Foundation:** Nowadays, systematic solutions to species, habitats and eco-systems should be focuses of ecological protection. Ecological protection should also integrate with local economy and culture. Moreover, reducing land degradation and restoring degraded land should be priorities when protecting species diversity and the eco-system so as to ensure humankind's well-being.

**Pollution Control Field:** Development is uneven in that pollution investigation and corporate supervision is relatively mature while water protection and waste management need further improvement.

- **SEE Foundation:** As there are more mature methods of pollution investigation and corporate disclosure supervision, some organizations are exploring new models of development, so as to provide more solutions to pollution problems.
- **Alibaba Foundation:** In water protection segment, NGOs generally start late and do not develop very well. Their quantity and quality need to be improved.
- **Vanke Foundation:** There is too little strategic attention and support in waste management segment, thus creating a gap between the status-quo and the needs of governments and communities. It is beyond an environmental issue and it deserves responses from various agents, parts and perspectives.
- **Lao Niu Foundation:** Currently, pollution control can focus on our agricultural pollution, including the abuse of fertilizers and pesticides.

**Climate Change Response Field:** Lack of infrastructure; challenging but potential. Forestry is an important factor.

- **Vanke Foundation:** This is an emerging field which lacks systematic understanding and participation. This field faces huge challenges, as there are few public welfare resources and participating NPOs. Funders and operating organizations are weak. Efforts are mainly advocacy, not responses and professional research. There is insufficient strategic commu-

nication and cooperation with foreign institutions in the same field. However, the growth potential of this field is great. The main opportunity lies in remarkable actions of Chinese government, which can play a leading role in society.

- **China Green Carbon Foundation:** Due to the series of chain reactions generated by the US's exit from the Paris Climate Agreement, the international response to climate change falls in the cold winter. However, China is actively fulfilling its commitment to coping with climate change. Chinese forestry industry's response to climate change has always been at the forefront of the world. In the future, the forestry's response will be more diverse, including forestry carbon sinks, carbon neutral projects, and sustainable forest management projects. It is also promising to include carbon sink forest into national carbon market.
- **Lao Niu Foundation:** Efforts are concentrated on forest carbon sink. In the future, efforts may be invested into the exploration of "climate change adaptation" so as to reduce the loss and impact brought by climate change to life, property and health and build a climate adaptative society.

**Environment Governance Field:** Still in exploration. It needs coordination with the country's environmental governance system and enhanced public participation.

- **Harmony Community Foundation:** Environment governance in the past ten years resulted badly, since environmental organizations' selection of western framework did not suit China's governance system. As social organizations, they did not function to link the public and environmental issues or policies. They are also weak in mobilization and organization since they only have a few public-participated cases.
- **Alibaba Foundation:** After several years of rapid development, the number of nature education institutions has exploded. However, they started late, varied in development and lacked industry consensus, discipline and regulation. The industry needs to integrate its internal forces and concentrate on solving common problems in the field.

#### 4.3.2 Suggestions to Recipients and Judgments on Funding Trends

Currently, environmental protection organizations are still in their initial stage. The grant makers have made the following suggestions to recipients:

**General suggestions:** Understand the industry, improve professionalism, identify the organization, reach out to the public, and build “business communities” with grant makers.

- **Alibaba Foundation:** Recipients should improve their management and operation, efficiency and professionalism. They should use business-like methods to manage and assess projects.
- **SEE Foundation:** Environmental protection organizations should deeply investigate into their field and industry to find their core competitiveness. They should build a donator network and volunteer network and gradually accumulate their reputation.
- **China Environmental Protection Foundation:** Recipients should strengthen the normative and professional nature of the project, and have the enthusiasm, initiative and professionalism in implementing projects.
- **Harmony Community Foundation:** Social organizations should come down to earth and abandon their fantasies. They should study and understand the modern state governance system and reform plan in order to identify their roles and find their niches. They should facilitate the innovation of work methods and improvement of governance policies. They should encourage a wide range of public participation in promoting sustainable development.
- **Vanke Foundation:** Environmental protection organizations should continue to improve their management capacities. They can invite more grant makers to visit and participate in the projects for mutual understanding, mutual learning and trust. They should commit to establish a “business community” relationship.
- **Mangroves Conservation Foundation:** They should attach importance to building environmental protection public welfare brands, have various marketing channels and fund-raising channels so as to drive wide social participation.
- **Lao Niu Foundation:** Project design requires long-term thinking and planning. They should design unique “products” suitable to different changes. They should enhance their ability to communicate effectively so as to attract and integrate various social resources.

**Grant makers also make suggestions to specific field:**

- **Lao Niu Foundation:** Climate change is an international issue with increasing attention. It is hoped that the recipients could provide diversified solutions from multiple perspectives and implement these solutions efficiently.

- **Paradise International Foundation:** Public welfare reserves are not merely projects as they need comprehensive management. Quantitative results and outputs are key to determining whether funding is available.

**Funding Trends:** Field-dependant; grant portfolio; grant maker should be more professional and strengthen their communication and cooperation with foreign grant makers.

- **Alibaba Foundation:** As environmental protection funding resources are integrating, in the future, granting will be arranged at the top and be divided into different levels and segments so as to stimulate the enthusiasm and sense of urgency of NGOs. Meanwhile, NGOs could conduct more professional and concentrated environmental protection with the help of grant makers and leverage their professionalism and specialities.
- **Vanke Foundation:** The number of grant makers will not increase significantly. They should continuously increase their professionalism, perception and horizon. They should strengthen communication and cooperation with more professional foreign funding agencies.
- **Lao Niu Foundation:** In the future, granting will be more organized and professional; it will cross border and cooperate strategically.

#### 4.3.3 Expectations on Environmental Protection

**Development Trend of Environmental Protection:** Technological Innovation, Public Awareness, Differentiated Segments, Professional Brands, Cross-border Cooperation

- **Alibaba Foundation:** Science and technology innovation and raising public awareness will be the two main directions in non-profit environmental protection. Science and technology innovation will be mainly used to prevent pollution, promote green low-carbon products and behaviours, and promote eco-friendly products and technologies. Raising public awareness should focus on people's awareness of public welfare and environmental protection.
- **Vanke Foundation:** As environmental protection corresponds with the vision of "ecological civilization", this field will develop well in 3 to 5 years. However, policy-oriented or resource-oriented differentiation will persist. New types (e.g. combination with business model) of environmental organizations will mushroom, but they will be phased out quickly.

- **SEE Foundation:** A group of professional domestic NGOs and brand projects will emerge. They will be good at using Internet and interacting with the public, the donors and the government. These NGOs and their projects will deal with urban waste management, natural imaging, nature education, citizen science and public education.
- **Lao Niu Foundation:** Social organizations will be more systematic and have professional labour division. Environmental protection will surely become a global cause.
- **Mangroves Conservation Foundation:** Environmental education industry is booming. Education activities in campuses and parks resulted well. The industry network has gradually matured, which will further enhance the professionalism and policy influence of the industry.

### Work Plan of Grant Makers: Follow Strategic Plans and Advance

- **Alibaba Foundation:** In the next few years, we will continue to work on water environmental protection, environmental protection publicity, environmental system construction and nature education. We will support the non-profit environmental organizations. With the integration of public welfare resources and increased efficiency and professionalism, we can use technology to empower public welfare, raise people's awareness of public welfare and environmental protection. Thus, we can promote the development of ecological civilization and public welfare.
- **Beijing Qiaonyu Foundation:** We aim to focus on the construction and development of natural reserves in the next few years. We will fund a number of key partners and cooperate with them.
- **Mangroves Conservation Foundation:** Next year, the Foundation will still focus on coastal wetland conservation and nature education.
- **Lao Niu Foundation:** We will carry out our strategic plan.
- **Harmony Community Foundation:** We will mainly support new methods and technology of environmental governance. We encourage public participation in handling climate change and sustainable development. Next year, the Foundation will also focus on the above funding priorities under the two strategic issues of "Pearl River Basin Water Pollution Control" and "Pearl River Delta Community Response to Climate Change".
- **Paradise International Foundation:** Reserves for public welfare.

- **Vanke Foundation:** Next year, we will follow our strategic plan to fund projects about climate change, species protection and community waste management. The fund will remain at current levels or have small increases.
- **China Green Carbon Exchange Foundation:** In response to the national institutional reform, the Foundation will continue to focus on forestry's response to climate change. We will work with the key priorities planned by the National Forestry and Grassland Bureau, promote ecological protection and restoration, desertification control, wetland protection, national park construction, wildlife protection, etc.
- **China Environmental Protection Foundation:** In the future, we will mainly fund key national priorities and continue to play an active role in alleviating poverty while conserving ecology, environmental education, pollution control and environmental litigation.

#### 4.3.4 Methods, Cooperation Experiences and Trends

##### 1) Relationship between project grant and organization/ individual grant

**Most grant makers believe that projects and organizations/ individuals are inseparable.**

- **Harmony Community Foundation:** Grants to certain projects are performance-oriented. Support to institutions and individuals' development is dependent on the project. The three complement each other and their relationship is dynamic. Personal capability, strategic plan and pioneering spirit of the founders or leaders of an organization are key to its development and its projects' execution. To solve a problem needs time; that's where organizations can help. Harmony Community Foundation is concerned with how to encourage individuals become organized so as to keep the core business of the organization competitive.
- **Lao Niu Foundation:** We gradually improve the industry by promoting the effective interaction and coordinate development among project, organization and individuals through funding.

**Funding organizations can improve the industry more systematically.**

- **Vanke Foundation:** We tend to fund organizations because there are professional organizations in our concerned fields. They need us because they are growing and maturing. Moreover, as the Foundation emphasizes on the whole field, funding organizations can

improve the field more systematically.

- **SEE Foundation:** Effectiveness is important to get our grant to projects. By funding organizations, we can drive the industry.

## Humans and their commitments matter in funding.

- **Beijing Qiaonyu Foundation:** Our trust lies in the personal qualities of the leaders of the organization or the project and the result of the past projects. Leaders are important to have a stable project.
- **Paradise International Foundation:** We mainly fund public reserves, and it is necessary to see whether its core management personnel have long-term commitment to the management and operation of public welfare protection.

## 2) Grant Decisions

Decision-making is an important process for grant makers. The standard for each grant maker is related to their strategic goals and their judgment on the capabilities of the recipient. Solutions to environmental problems, innovation, reproducibility and their contribution to institutional optimization also matter in specific cases. Often, people involved in decision-making are staff and external experts.

| Grantmaker                 | Standard and Process                                                                                                                                                                                                                                                                                                                                                                                                                | Decision Makers and Decision-Making Methods                                                                                                                                                            |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SEE Foundation             | Standards and processes are dependent on the projects. Birds Protector focuses on partners' abilities to patrol and protect the wetland. Green Partners focuses on their potential of growth. Green Home focuses on their entrepreneurship.                                                                                                                                                                                         | Board of Directors, Project Review Board, SEE Donor Representative, Secretary General, Secretariat Staff, external experts, etc.                                                                       |
| Alibaba Foundation         | Strictly follow the rules of the Foundation and the rules approved by the Board of Directors. First, abide by the Foundation's purpose and the law. Then evaluate the recipients' quality, team, organization development, and whether the project meets the overall objectives of the funding sector, whether it solves real social problems, whether it is innovative, reproducible, and whether it can help optimize the system. | It may involve directors, experts, volunteers, etc. based on the scale, impact and strategic position of the project. Review teams will make comprehensive decisions to maximize the use of resources. |
| Beijing Qiaonyu Foundation |                                                                                                                                                                                                                                                                                                                                                                                                                                     | Head of cooperation department, president and major donors make decisions.                                                                                                                             |

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mangroves Conservation Foundation</b>         | Guided by the Foundation's general funding strategy, focus on coastal wetland conservation and education, focuses on whether the project is scientific and sustainable. Manage by issuing a recruitment proposal, holding a review meeting, or entrusting a third party. Implementation reports and results are required to be provided periodically during the project implementation phase.                                                                                                                                                                                                                                      | Board of Directors, Project Committee, representative donors, external experts, etc.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Lao Niu Foundation</b>                        | Conduct the pre-assessment of new projects each year. Project leaders and legal consultants jointly review the project according to the pre-assessment results. The review will be approved by the Secretary General and be determined by the Board of Directors.                                                                                                                                                                                                                                                                                                                                                                  | Project leaders, legal consultants, Secretary General and Board of Directors will jointly make the decision.                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Harmony Community Foundation</b>              | The funded project must meet the requirement of field and location ("Pearl River Basin Water Pollution Control" and "Pearl River Delta Community Response to Climate Change"). It must correspond with the general support strategy and direction.                                                                                                                                                                                                                                                                                                                                                                                 | Strategic committee (Environmental scientists, entrepreneurs, leaders of the Foundation and other professional environmental organizations.) review the projects. They have two meetings each year and a working panel, which is responsible for field visits, preliminary evaluations, project recommendations, etc. The panel is responsible for fund disbursement, project management and monitoring and evaluation during the project implementation phase. It is also responsible for the approval of small projects. |
| <b>Vanke Foundation</b>                          | We look at the existing professional capabilities of the funded organizations and their potential contribution to the field. After field visit to the past projects and understanding the professionalism and institutional potential in the selected topics, invite the organization to submit a written application, and judge its feasibility and whether it matches with the purpose of the fund. If it meets the requirement, the organization needs to provide more detailed project application materials according to the template, including detailed project background, planning, budget, and organization information. | The project officer is involved in the whole process of decision-making, and the Secretary-General and the Deputy Secretary-General will participate in the final two parts.                                                                                                                                                                                                                                                                                                                                               |
| <b>China Green Carbon Foundation</b>             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The Foundation, donors and third parties make decisions based on the project.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>China Environmental Protection Foundation</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Experts review.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### 3) Support Other than Funds

In addition to providing financial support, CEGA's environmental grant makers generally provide recipients with growth-related capacity building, communication networks and shared resources:

- **Capacity building:** SEE Foundation provides tutor counselling and training both online and offline; Alibaba Foundation invites partners to participate in internal management training and shares business management experiences. Lao Niu Foundation provides expert technical team, standardized project management tools and training opportunities;
- **Communication network:** SEE Foundation has a partner community. Vanke Foundation builds a professional communication network. The organization also actively cooperates with international alliance organizations in the field to promote the funding case to an international platform, so as to enhance the influence of funded organizations and foundations.
- **Shared resources:** SEE Foundation shares its members. Paradise International Foundation shares its board of directors. Beijing Qiaonyu Foundation mentioned sharing government relations.

In addition, Harmony Community Foundation provides different support according to the project and the stage of development of the recipients. If the recipient has a mature project and strong organizational capability, Harmony Community Foundation will provide it with external resources and development opportunities. If the project is innovative but the recipient lacks organizational capability, the Foundation will help to advocate the project, build capacity and help their exchanges in the industry; it may actively design and implement the project and foster the growth of the partner.

### 4) Monitoring and evaluation of the grant

In addition to complete project implementation and financial reports, as well as phone calls, emails, meetings, and field visits, Alibaba Foundation and Lao Niu Foundation will use the third party to assess the project and its organization. SEE Foundation will use the third party to assess its brand projects (including a number of funded projects) thoroughly. Harmony Community Foundation will attend or participate in the important meetings and events of the partner institutions and their summary meeting before the completion of the project. Vanke Foundation believes that the monitoring needs to be done by both parties. It

requires the recipients to report their problems and needs at any time, observe the organization both in a micro perspective and a macro perspective so as to perceive the project's function in the whole field.

## 5) Good Practices and Deficiencies in Social Mobilization

At present, most non-profit environmental organizations have not enough awareness and capacity to mobilize social resources. Environmental problems cannot be solved solely by environmental organizations. It is necessary to build a platform for multi-participation and social mobilization, including corporates, the public and the media. CEGA members have recommended some good practices of their own or other organizations. Alipay's Ant Forest, Tencent Foundation's 99 Public Welfare Day and Alibaba Foundation's Green Network are often mentioned by many organizations. There are also some other good practices:

### **SEE Foundation: Entrepreneurs' Participation. They mobilize by:**

- Donation: in many forms like membership fee, auctions and 99 Public Welfare Day
- Experience and Study: Business owners participate in various environmental activities and meetings to learn relevant knowledge.
- Green Home Evaluation: Business owners look for talents in environmental entrepreneurship.
- Tutors of Green Partners: Business owners are tutors of Green Partners and they share their strategy and management experiences with leaders of environmental organizations which are still developing.
- Join Green Supply Chain: Business owners join the green supply chain to monitor their suppliers.
- China Coastal Wetland Protection Network: In June 2015, with the support of Lao Niu Foundation, the Wetland Protection Management Center of the National Forestry and Grassland Bureau and Paulson Institute Foundation jointly established the "China Coastal Wetland Protection Network" to build an exchange platform for coastal provinces to conduct coordinated activities.
- Coastal Network is the third wetland protection network after the Yangtze River and the Yellow River Basin wetland protection network. Its members include 11 wetland manage-

ment authorities and organizations of coastal provinces and municipalities from Liaoning Province to Hainan Province.

- The Mangrove Conservation Foundation initiated a wetland education center in the China Coastal Wetland Protection Network. Through training, tutoring, experimental pilot and visiting domestic and foreign good wetland education center, it aims to improve wetland education and professionalism in China's coastal wetland reserves and wetland parks, so as to invoke public support and participation for effective protection of coastal wetland.

As for insufficient social mobilization, CEGA members ascribe it to the inadequate publicity. Many professional environmental organizations have generated meaningful content, but inadequate publicity resulted in limited public attention. The knowledge stayed in its own circle, without reaching out to the public, corporations and governments, thus posing difficulty to sufficient social mobilization. We fail to publicize adequately sometimes because we fail to find a communication method that suits the public's life philosophy. For example, we fail to understand the relationship between species diversity protection and public life. On other occasions, we may fail to guide social influence or change recipients' mindset.

# 5

## Environmental Protection Non-profit Organizations in Chi- na: Annual Development, Working Methods and Relevant Cases

### 5.1 Ecological Protection – Species Protection (Special Subject: Convention on Biological Diversity, Convention on International Trade in Endangered Species of Wild Fauna and Flora)

#### 5.1.1 Overview

Biodiversity is necessary for human survival. As China reinforces species protection since the beginning of the 21st century, some achievements have been made: we have achieved significant results in wild life saving and breeding. The quantity of a large number of rare and endangered wild animals and plants such as giant panda, Siberian tiger, Asian elephant, crested ibis and Chinese alligator has shown a good momentum of steady rising instead of decreasing. Their habitats are constantly improving. However, the excessive population growth, urban scale expansion, over-exploitation of biological species resources, invasion of alien species, ecological damage and other factors have caused serious loss of species resources in China, threatening the survival of species and the sustainable use of species resources. The threats to species protection in our country are still very serious. The Outline of the 13th Five-Year Plan for National Ecological Planning states that the overall trend of ecological deterioration in China has not been fundamentally reversed, and the conflict between ecological protection and development activities is still outstanding, and the ecological security situation is still grim. At present, the challenges facing species conservation work in China are:

1. *Changes in living environment and loss of habitat: Deforestation, land reclamation and other factors have caused wildlife habitat loss and affected their population. For example, the 2017 National Biodiversity Observations Report shows that butterfly diversity in nearly one-third of the observational plots is threatened by tourism development.*
2. *Excessive exploitation of species resources and serious illegal trade of wild animals and plants for edible or medicine purposes. For example, turning lake into farmlands and overfishing affect the sustainable development of marine biological resources. Online illegal trade of wild animals and plants is rising rapidly. Smuggling and illegal carrying of ivory and other wildlife products into China cannot be stopped even if there were various injunctions.*
3. *Inadequate understanding of current threats to biological resources: The background investiga-*

*tion is not thorough enough. The existing national and regional flora records are mainly based on the specimens collected before the 1970s, which fail to truly reflect the current situation of wild plants distribution in the past 20 years, especially the growth and decline of economic plants in recent years and the actual situation faced by endangered plants.*

4. *Policies and the legal system are imperfect with weak law enforcement: China formulated a series of policies and regulations on biological diversity protection and reserve construction, but these policies cannot be fully implemented due to insufficient funding, weak supervision mechanism and unclear authority of functional departments.*

### **5.1.2 Government Policy and Practice Development**

The government plays a major role in environmental protection. One way is to pass policies and regulations on species protection, and another way is to set up management mechanisms, such as natural reserves and national parks, so as to manage and guide species protection in general. The institutional reform of the State Council in 2018 eased the overlapping of responsibilities between different departments. The newly established National Forestry and Grassland Bureau is responsible for conservation, management and development of forest, grassland, wetland, desert and wildlife resources as well as management of national parks and other natural reserves.

In terms of legislation, the inter-departmental mechanism aiming to combat illegal wildlife trade will be officially launched in April 2017. It will accelerate the adjustment of the “National Key Protection Wildlife List”, draw up the “Combating Illegal Trade of Wildlife Action Plan” and regulate overhunting of wild animals. It will regulate smuggling and illegal selling of wildlife products such as ivory. Non-standard wildlife breeding and exhibitions will also be corrected. In October 2018, the General Office of the State Council issued the “Opinions on Strengthening the Protection of Aquatic Organisms in the Yangtze River” to rescue rare and endangered aquatic creatures represented by the Chinese sturgeon, the Yangtze sturgeon and the Yangtze finless porpoise so as to conserve biological diversity in the Yangtze River.

In 2018, the Ministry of Ecology and Environment, the National Forestry Bureau, the State Oceanic Administration and other departments jointly conducted an inspection action on natural reserves called “Green Shield 2018”. On the basis of the previous year, this action inspected 469 national natural reserves and 847 provincial reserves to find environmental problems. It stopped and punished illegal activities that damage the ecological environment of natural reserves.

The construction of national parks is gradually advancing. In September 2017, the General Office of the

Central Committee of the Communist Party of China and the General Office of the State Council issued the “Overall Plan for Establishing a National Park System”, which means our national park system has entered a substantive stage. In January 2018, the National Development and Reform Commission promulgated the “Sanjiangyuan National Park Overall Plan”. In October 2018, the Qilian Mountain National Park Administration and the Giant Panda National Park Administration were established. So far, China has established 5 national park administration agencies, including the Sanjiangyuan National Park Administration, the North-east Tiger & Leopard National Park Administration, and the Shennongjia National Park Administration.

In addition, the government has carried out various forms of monitoring and research work, and has published the “China Biodiversity Red List - Higher Plant Volume” assessment report, the “China Biodiversity Red List - Vertebrate Volume” assessment report and other related research. Catalogues of species such as “Red Paper of Endangered Animals in China” are also published. Other departments also work on scientific research and monitoring of species resources in their own field and set up monitoring networks. In 2017, the Nanjing Institute of Environmental Sciences of the Ministry of Ecology and Environment released the 2017 National Biodiversity Observations, which entail 13 technological guidelines for biodiversity observation and the China Biodiversity Observation Network (China BON) which has global influence. This establishment of this Network marks the emergence of China’s biodiversity technology.

### 5.1.3 Environmental Organizations’ Role in Species Protection

Environmental organizations continue to explore the public education, scientific monitoring and community livelihood. They play an important role in policy advocacy and public participation and complement governments’ work.

1. **Direct protection:** *Private environmentalists carry out basic work such as combating poaching, removing bird nets and daily patrols based on local conditions. For example, the Panther Wildlife Conservation Station has been carrying out wildlife patrol work around Beijing since its founding. Volunteers of Birds Fly have been working on tearing down bird nets and fighting poaching.*
2. **Monitoring and Scientific Research:** *Civil organizations often collaborate with professional scientific teams, research institutes or colleges to monitor and study species of a certain region. For example, the Green River cooperated with Chinese Academy of Sciences’ Northwest Institute of Ecological and Environmental Resources. They set up infrared cameras to conduct a 10-year follow up investigation of snow leopards to know about their population in the source area of the Yangtze River. In recent years, the public has become an important force in environmental*

protection. Environmental organizations promote “public science” to involve nature lovers in research and monitoring. For example, the Shanshui Nature Conservation Center launched its Nature Observation app and official website in 2016. Experts will review the species information uploaded by the public so as to encourage public data gathering. Moreover, volunteering is an opportunity for the public to participate in species monitoring.

3. **Public Education:** Civil organizations work on two parts of public education: community education and other publicity. For example, Niaoshouchongmu Organization organized ecology tours to help parents and children understand the current status of species.
4. **Community Protection:** Many civil organizations use the community as an entry point and leverage its strength when conserving species. However, residents’ awareness and capabilities are dependent on their economic level. Therefore, most of the efforts involve community livelihood. For example, the Wild Xinjiang not only did publicity of snow leopards’ conservation, but also coordinate with local governments to set up a compensation fund to ease the tension between human and animals. The Guangxi Biodiversity Research and Conservation Association helped the reserve community of white-headed langurs in Qunan to set up a nature education camp where summer camps and winter camps could be hosted as a source of livelihood.
5. **Policy Advocacy:** When it found that government behaviours might threaten the survival of species, civil organizations will adopt a multi-party cooperation approach, based on relevant research, to lobby the government and advocate certain policies, so as to protect species from threats. For example, the “Report on the Plants and Vegetation in the Yanzhanggua” and the “Report on the Mammal Species Diversity in the Yanzhanggua Canyon” compiled by Green River made the Qinghai Provincial Government clearly stated that it would not approve the construction of the Yanzhanggua Hydropower Station.

#### 5.1.4 Representative Cases and Results of Environmental Organizations

##### Shanshui Nature Conservation Center: Snow Leopard Protection Network

The organization is founded in 2007 in Sanjiangyuan and Southwest mountain region (Qinghai, Yunnan, Sichuan, Gansu, Shaanxi) which boast rich biodiversity. There work

is divided into three parts: community practice, scientific research, and value delivery. First, protection is adjusted to the community-based innovation practice in order to be absorbed into local cultural value and economic life. Meanwhile, the center conducts long-term protection-oriented scientific research and ecological monitoring to assess the value of and threats to the eco-system and its service. Shanshui hopes to become a bridge linking nature and urban citizens, allowing the public to recognize the ecological mechanism and jointly support local communities to become powerful nature guardians.

### **Snow Leopard Protection Network**

*In 2015, the Snow Leopard Protection Network was jointly launched by Peking University and Shanshui Nature Conservation Center at the first Yushu Snow Leopard Forum, and was co-sponsored by numerous snow leopard protection agencies. Through online and offline training, forums and small grants, the Network becomes a platform for communication and protection of Chinese snow leopard research and protection. In 2016, members of the Network released the Snow Leopard Survey Technical Manual. In 2018, in response to the call of the International Snow Leopard Protection Shenzhen Consensus, members of the Network released the China Snow Leopard Investigation and Protection Report 2018 (Draft for Comment). This is the first collection of multiple institutional results and opinions, trying to use standard and quantifiable method to integrate all parties' information and make a comprehensive review of the status quo of the investigation and protection of the China Snow Leopard.*

### **Guangxi Biodiversity Research and Conservation Association:**

#### **Protecting Eco-System in Southwest Guangxi**

Guangxi Biodiversity Research and Conservation Association (BRC) hopes to enhance protection ability of local people and public participation, so as to protect the karst eco-system in Southwest Guangxi and coastal eco-system in Beibu Gulf.

### Protecting Eco-System in Southwest Guangxi

*The project aims to protect Guangxi's karst forest ecosystem represented by endangered endemic primates and plants which has important value globally. As this region is both an area inhabited by ethnic minorities and a collective forestry in the South, many endangered species and their habits are located outside of existing natural reserves, causing conflict between conservation and community development. BRC uses market means to benefit communities from conservation and improve their autonomy and sustainable development capabilities, so as to promote species protection. In Qunan White-headed Langur reserve community, BRC guided community residents to carry out joint patrols, scientific monitoring and other works. A nature education base is set up to host nature education activities such as summer camps and winter camps to benefit community from conservation. In terms of policy, the BRC promotes provincial and national legal recognition of reserve community. In December 2017, BRC released the "Community-based Guangxi Natural Protection Community Construction Guide (First Edition)" and provided guidance to other conservation communities.*

#### 5.1.5 Trends and Challenges

Biodiversity protection gradually receives attention. The reform of national ecological system and the establishment of national park system provided great opportunities for environmental organizations to participate in the formulation of laws and undertake government service. Meanwhile, environmental organizations should cooperate with other social entities in areas such as conducting scientific monitoring, building communication network and carrying out advocacy activities.

Citizens and communities play an important role in species protection. Environmental organizations should recognize their strength and provide them with opportunities to participate in species protection, such as public advocacy, volunteer training and public science. They should let the public to supervise the government and enterprises to safeguard protection work. Environmental organizations could leverage the strength of communities in places where government resources cannot be used. They could explore a balance between community development and species protection and support environmental efforts of communities. They can carry out projects such as wildlife patrols and sustainable livelihood.

### 5.1.6 Special Subject: Convention on Biological Diversity

Convention on Biological Diversity (CBD) is an international convention to conserve biological resources on Earth. It is adopted at the seventh meeting of the Intergovernmental Negotiating Committee initiated by the United Nations Environment Programme in Nairobi on 22 May 1992<sup>1</sup> and entered into force on 29 December 1993. There are currently 196 Parties<sup>2</sup>. The highest decision-making body of the Convention is the Conference of the Parties (COP).

The convention has three main objectives: the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of benefits arising from genetic resources<sup>3</sup>. Currently, the Cartagena Protocol on Biosafety and the Nagoya Protocol on Access to Genetic Resources and Benefit-sharing have been formed under the Convention.

The Convention also adopted a series of normative documents such as work plans, norms, guidelines and initiatives. One of them is the Strategic Plan for Biodiversity 2011-2020 (including the “Aichi Biodiversity Targets”) adopted by the 10th Conference of the Parties, which is a blueprint for global biodiversity. The Aichi Targets propose five strategic objectives, namely:

- *Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society*
- *Reduce the direct pressures on biodiversity and promote sustainable use*
- *Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity*
- *Enhance the benefits to all from biodiversity and ecosystem services*
- *Enhance implementation through participatory planning, knowledge management and capacity building*

Based on the fourth edition of the Global Biodiversity Outlook report (interim assessment of progress made in the implementation of the Biodiversity Self-Strategy Plan 2011-2020), although encouraging measures have been taken around the world to address biodiversity loss, these measures will not be sufficient to achieve the “Aichi Biodiversity Target” as scheduled if the trend continues<sup>4</sup>.

China signed the Convention on June 11, 1992 and was one of the first countries to join the Convention

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1. Data Source: <https://www.cbd.int/history/>

2. Data Source: <https://baike.baidu.com/item/生物多样性公约/1529928?fr=aladdin>

3. United Nations. Convention on Biological Diversity [J]. World Environment, 1992(4):6-11.

4. Convention on Biological Diversity. Global Biodiversity Outlook 4[R].2014

on Biological Diversity. China has actively implemented the Convention on Biological Diversity and its protocols, and has made many positive developments in biodiversity conservation. It has issued a series of biodiversity conservation plans and formulated the Biodiversity Conservation Strategy and Action Plan (2010- 2030), the United Nations Decade of Biodiversity China Action Plan and other documents. China has strengthened the protection system, promoted the sustainable use of biological resources, vigorously carried out habitat protection and restoration, and promoted public participation<sup>1</sup>. In 2015, land reserves of all types have covered 18 % of China's land area, which means China has met the goal of 17% by 2020 set by the Convention ahead of schedule.

To date, the Convention has convened 13 conferences of the parties. COP13 proposed the Cancun Declaration to promote biodiversity mainstreaming, including a short-term action plan for the restoration of ecosystems. COP14 will be held in Sharm el-Sheikh, Egypt, in November 2018; the 15th Conference of the Parties (COP15) will be held in China in 2020, at which time the Strategic Objectives of the 2050 Vision for Biodiversity and 2021–2030 Strategic Plan for Biodiversity will be reviewed.

### 5.1.7 Special Subject: Convention on International Trade in Endangered Species of Wild Fauna and Flora

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), also known as Washington Convention, was signed in Washington, the capital of the United States on June 21, 1973 and entered into force on July 1, 1975.

The Washington Convention (CITES) aims to regulate the international trade of wild species through species grading and licensing, thereby achieving sustainability in the wild species market<sup>2</sup>. There are currently 183 parties to the Washington Convention. China joined the Convention on December 25, 1980 and was legally bound on April 8, 1981<sup>3</sup>.

The international trade species regulated by the Convention are categorized into three appendices. The species in Appendix I are animals and plants that would be extinct if they were further traded in international trade, and their international transactions are clearly prohibited. The species in Appendix II, though not in danger of extinction, are regulated in terms of international trade. If international trade threatens the pop-

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1. Ministry of Environmental Protection of the People's Republic of China. *The Fifth National Report on China's Implementation of the Convention on Biological Diversity* [M]. China Environment Press, 2014.

2. Data Source: <https://baike.baidu.com/item/华盛顿公约/909827?fr=aladdin>

3. Data Source: <http://www.trafficchina.org/node/4>

ulation of these species, they will be upgraded into Appendix I. The global trade of species in Appendix III is regulated regionally by countries based on their own needs<sup>1</sup>. The total number of species in all appendices has reached about 35,600, of which about 5,600 are animals, about 30,000 are plants, and more than 2,000 species in China are listed in the appendix.

The highest decision-making body of the Convention is the Conference of the Parties (COP), which is held every two to three years. Parties of the Convention vote to decide the Appendices. For example, at the 17th Conference of the Parties in South Africa in September 2016, all eight species of pangolins were added to CITES Appendix I, which means they are completely banned from international trade. The decision came into effect officially on 2 January 2017<sup>2</sup>, marking one of the milestones in the protection of this species.

Since the Convention itself has no law enforcement capacity, all the provisions of the Convention need to be adjusted into domestic laws of each contracting party. According to the COP17, only 30% of the contracting parties submitted information on seized wild animals. According to the CITES trade database, in 2010-2014, CITES law enforcement agencies seized more than 64,000 live wild animals. It is estimated that the global annual illicit trade volume of endangered wildlife is as high as \$8 billion to \$10 billion.

After China's accession to the Convention, the Chinese Academy of Sciences established the Scientific Committee on Endangered Species in 1982 as the scientific institution for compliance. The National Forestry Bureau set up the Endangered Species Import and Export Administration Office as the regulatory body for compliance. On September 1, 2016, China promulgated the Regulations on the Administration of Import and Export of Endangered Species of the People's Republic of China to comply with the Convention<sup>3</sup>.

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1. Data Source: <https://baike.baidu.com/item/华盛顿公约/909827?fr=aladdin>

2. Data Source: [http://news.ifeng.com/a/20170215/50694098\\_0.shtml](http://news.ifeng.com/a/20170215/50694098_0.shtml)

3. Data Source: <http://www.cites.org/cn/page/aboutus.html>

## 5.2 Ecological Protection – Forest, Grassland and Wetland Protection (Special Subject: Ramsar Convention on Wetlands)

### 5.2.1 Overview

#### I. Forest Resources

Forest resources, including forests, trees, woodlands, and wild animals, plants and microorganisms that survive on forests, trees and woodlands, play an irreplaceable role in storm prevention, sand fixation and soil improvement. They also maintain the balance of the Earth's surface ecosystem. The protection and sustainable use of forest resources has become the consensus of all countries. The United Nations Forest Strategic Plan (2017-2030), adopted in 2017, provides a global framework for the sustainable management of forests. China has also gradually established a forestry legal system based on the "Forest Law" and other supplementary laws and regulations, and this system has been continuously improved.

Over the years, China's forest resources have been greatly improved by vigorous afforestation and the protection and management of forest resources. China's forest coverage rate has increased from 8.6% around 1949 to a current 21.66%, with a forest area of 208 million hectares and a man-made forest area of 69.33 million hectares, ranking first in the world. However, we need to see that the problems of insufficient total quantity, low quality, uneven distribution, and weak function have not been fundamentally resolved. The overall forest resources are still difficult to meet the needs of maintaining national ecological security.

#### II. Grassland Resources

Grassland is the second largest ecosystem after forests. It is responsible for storm prevention, sand fixation, water conservation and biodiversity conservation. Grassland is the largest terrestrial ecosystem in China, covering 2/5 of the country's land. The grassland ecological environment is related to China's ecological security.

For a long time, due to factors such as overgrazing, over-exploitation, and climate warming, about 90% of China's natural grasslands have been degraded to varying degrees, with moderate and severe degradation reaching 30%. Two million hectares of available natural grasslands are degraded annually. The area of desertification is increasing.

In recent years, the state has made some achievements in grassland protection. Under the policy of returning farmland to grassland, Ningxia in 2013 took the lead in banning grazing in the whole area. Up to now, degraded grassland has decreased by 6.4 million mu, and the desertification area has decreased by 2.1 million mu. According to the data released by the National Forestry and Grassland Bureau, the total national

output of fresh grass in natural grasslands has exceeded 1 billion tons for 7 consecutive years, achieving a steady increase. In 2017, the comprehensive vegetation coverage of grassland reached 55.3%, an increase of 4.3 percentage points over 2011. However, the partial improvement and overall deterioration trend is still not reversed, and the conflict between the grassland and pastoral areas is still prominent.

### III. Wetland Resources

Wetland, also known as “the kidney of the Earth”, refers to the area where the surface is too wet or water can’t drain and grows wetland plants. Wetlands can reduce flood and provide drinking water. However, due to over-exploitation of resources, urban expansion and other reasons, wetland is disappearing at a rapid speed. According to the monitoring results of the National Forestry and Grassland Bureau and Chinese Academy of Sciences, in the past half century, China has lost 53% of temperate coastal wetland, 73% of mangroves and 80% of coral reefs. Wetland protection cannot be delayed.

Since the 18th National Congress, the state intensified its protection of wetland. In 2015, the “Overall Plan for the Reform of Ecological Civilization System” issued by the central government proposed the establishment of a wetland protection system. In 2016, the General Office of the State Council promulgated the “Wetland Protection and Restoration Plan”, which highlighted the principle of prioritizing ecology and protection. It sets up a wetland protection management system which requires general coordination and departmental responsibilities. Wetland protection target accountability system is stipulated; wetland monitoring evaluation system and wetland protection restoration mechanism are improved, marking the wetland protection in China has been transformed from “rescue protection” to “comprehensive protection”. Wetland is included in the new national standard of the Classification of Land Use for the first time. In Gansu and Ningxia, the wetland property claim confirmation pilot was smoothly promoted, and important wetlands were clearly included in the ecological protection red line.

#### 5.2.2 Government Policies and Practice Development

In the protection of forests, grasslands and wetlands, the government assumes a leading role. After the institutional reform of the State Council in 2018, the National Forestry and Grassland Bureau takes major works, including those of former National Forestry Bureau, the responsibility of supervising and managing grassland of the Ministry of Agriculture, management responsibility of the Ministry of Land and Resources, the Ministry of Housing and Urban-Rural Development, and the Ministry of Water Resources. Now, the new bureau is responsible for supervising and managing forests, grasslands and wetlands. It is also required to carry out dynamic monitoring and evaluation of forests, grasslands, wetlands, deserts and terrestrial

wildlife resources. It sets up special departments such as Forest Resources Management Department, Grassland Management Department, Wetland Management Department, and 15 Forest Resource Supervision Offices across regions.

### **Policies and practice development in 2017 and 2018:**

- *Coastal Wetland Protection: In January 2017, the State Oceanic Administration issued the “Regulations on the Protection and Utilization of Coastlines”, which is China’s first specific regulation on coastlines. This regulation fills up the vacancy in China’s coastline management and provides sound basis for lawful management of the sea and marine ecology, coastal wetland protection and reasonable natural coastline pattern construction. In 2018, the State Council issued the “Notice on Strengthening the Coastal Wetland Protection and Strictly Controlling the Sea Reclamation” which states strict control on newly-added sea reclamation and its total amount. The annual target of sea reclamation is cancelled and no new sea reclamation projects could be approved except for major national strategic projects. In 2018, the Regulations on the Implementation of the Forest Law of the People’s Republic of China was revised again.*
- *National Parks: In October 2018, the Qilian Mountain National Park Administration and the Giant Panda National Park Administration were established. So far, China has established 5 national park administration agencies, including the Sanjiangyuan National Park Administration, the Northeast Tiger & Leopard National Park Administration, and the Shennongjia National Park Administration. The Qilian Mountain National Park will adopt the strictest protection system for overall protection and systematic restoration of glaciers, wetlands, forests and grasslands. It will also set up an integrated network monitoring air, land and sky. Through strengthened monitoring and supervision of natural resources and ecology, Qilian Mountain’s eco-safety will be effectively protected.*
- *Key Ecological Function Areas: In 2007, the Environmental Protection Agency issued the Outline of Key National Protected Ecological Function Areas. The central government has set up a transfer payment for key ecological function areas, and continuously increases its amount. The amount has increased from 24.9 billion yuan in 2010 to 62.7 billion yuan in 2017, and will reach 72.1 billion yuan in 2018, an increase of 15% over the previous year.*

### **5.2.3 The Role of Environmental Organizations**

In the protection of forests, grasslands and wetlands, environmental organizations are mainly involved in afforestation, vegetation restoration, community alternative livelihoods, and nature education. They are a

complementary force in environment protection.

1. *Afforestation and vegetation restoration.* SEE Foundation is the most influential organization in afforestation and vegetation restoration. Through ten years' development, it has explored a desertification prevention system based on vegetation restoration and underground water protection in oases. In restoring ecology, Shenzhen Spring Environmental Protection Volunteer Association has worked with communities, schools, enterprises and other forces to restore more than 3,000 square metres of wetland in Baishawan District. They also train volunteers to carry out patrols and guided nature tours. More than 4,500 people participated each year.
2. *Exploring community's alternative livelihood and sustainable development models of agriculture and animal husbandry.* The protection of forests, grasslands and wetlands still faces conflicts between ecological protection and economic development. Environmental organizations that carry out these tasks often link protection work with community livelihoods, and develop new energy alternatives, ecological agriculture, and sustainable animal husbandry, so that villagers can benefit from environmental protection efforts to stimulate their continued participation. For example, the Yunnan Green Environment Development Foundation launched a low-carbon demonstration project for communities around the protected area, supporting poor villages around the protected area to carry out under-forest economic planting, community management capacity training, professional cooperatives, and energy substitution (solar energy, firewood-efficient oven, etc.). The Yishan Yishui in Gansu launched the "Green Cow Bank" project in the poor villages in Kongtong District, Pingliang City where the Hui people lived, and discovered the "Disaster Risk Management – Ecological Recovery – Livelihood Improvement Coupling Model", which benefited 100,000 poor people and restored more than 100,000 mu of pastures.
3. *Science education and advocacy work.* The role of environmental protection organizations in environmental education is mainly achieved through lectures, study tours and guided tours. Along with the increase of public protection awareness, environmental organizations will also promote public participation through volunteer activities such as patrolling and tree planting. The Squirrel School collaborates with the East Harbour National Nature Reserve to conduct ecology tours, ecology lectures and nature notes activities. Children are led to the reserve to learn about the mangroves and wetland protection. The China Mangrove Conservation Alliance regularly recruits volunteers to carry out ecological restoration work.
4. *Communication and Cooperation Platform.* More and more environmental organizations recognize the importance of multi-party cooperation and exchange, so they build a platform for

exchanges and cooperation through seminars and exchanges. The Global Environment Institute (GEI) establishes the “China-Africa Forest Management Learning Platform” and studies the timber trade, customs policies and investment agreements between China and Cameroon, Uganda and Mozambique. GEI promotes information exchange and cooperation on sustainable forestry trade and forest governance issues between China and four African countries. They also encourage exchanges between Chinese and African journalists to promote more understanding of relevant issues in China and Africa.

5. *Government Procurement of Service.* Due to the government’s attention on ecology protection and growing ability of environmental organizations, environmental organizations have the opportunity to cooperate with the government. A necessary part of work of environmental organizations is to undertake the government’s procurement of service. The Mangrove Conservation Foundation in Shenzhen and the Futian District Government of Shenzhen established a strategic cooperation for the comprehensive management of the mangrove ecological park. The Futian Government entrusted the comprehensive management, ecological conservation and scientific education to the Foundation. The park is thus the first ecological park built by the government but managed by the environmental organization. Under the entrustment of the Forestry Department of Yunnan Province, the Yunnan Green Environment Development Foundation has developed a forest management carbon sink project for the young and middle-aged forests of 45,024 mu of state-owned forest land, which meets the requirements of China’s resource emission reduction trading market. It improves the forest quality and increases carbon sinks through forest management, forest growth-promoting, stand structure improvement.

## 5.2.4 Trends and Challenges

### I. Forest Resources

- *Global forest governance has become a common aspiration for forestry development in various countries as it can promote global forest protection and sustainable management, and let forestry play an important role in global sustainable development. Sustainable forest management has received more attention in recent years. It is a new business measure to sustainably obtain products and service that humans need from forests. One of the indicators of sustainable forest management is ecological resilience, which refers to the ability of a forest, a population of a plant or animal to survive and develop in adversity. Some international organizations realize sustain-*

able use of forests through improving their ecological resilience.

- Moreover, crops like soy, cocoa and coffee will cause the loss of tropical forests. These crops account for more than 70% of the trees chopped down in developing countries, most of which is illegal. Combating illegal forest trade is also worthy of attention.

## II. Grassland Resources

- Protecting grasslands on one hand, requires reducing overgrazing, vegetation degradation and pollution brought by development. On the other hand, animal husbandry needs transformation and upgrading. Traditional grassland culture could also be used to achieve sustainable use of grassland resources. Relevant parties could explore further.

## III. Wetland Resources

- Wetland restoration is key to wetland protection. In 2018, at the “Wetland Restoration and Global Ecological Security” forum, Li Chunliang, the director of the National Forestry and Grassland Bureau pointed out that protection and restoration of wetland will be prioritized in ecological civilization construction in the next step, and high-quality wetland eco-system will become an important symbol of Beautiful China Initiative. By 2020, they will strive to achieve a wetland area of no less than 800 million mu and a wetland protection rate of 50%. By 2035, the quality of wetland eco-system will be significantly improved.
- Wetland related laws and regulations will be further improved and environmental organizations could participate in the formulation of these laws and regulations.

### 5.2.5 Special Subject: Ramsar Convention

The Convention on Wetlands of Importance Especially as Waterfowl Habitat, also known as the Ramsar Convention, is named after the city of Ramsar in Iran, where the Convention was signed in February 1971 at the International Conference on Wetland and Waterfowl Protection and came into effect in December 1975. The contracting parties meet every three years to review reports and budgets on wetland protection.

According to the Convention, 64% of the wetlands on the earth disappeared after 1900, with a higher proportion in Asia, and inland wetlands disappeared faster than coastal wetlands. This is related to land use. The development of agriculture and animal husbandry, the diversion of water by reservoirs, dams and canals, the infrastructure construction of river banks and coastal areas, the pollution of air and water, and eutrophication have brought about the disappearance of wetlands.

The Convention advocates wetland protection and “wide use”, which means using the wetland sustainably without harming the wetland eco-system. Its main content includes: the contracting party is obliged to include their domestic important wetlands into the Ramsar wetland list and protect these wetlands; the contracting party should protect and manage registered wetlands according to their domestic laws and report changes in ecological characteristics to the Secretariat in time.

By January 2014, there are 168 contracting parties and 2,333 listed wetlands, covering almost 250 million hectares of land. China joined the Convention in 1992; since then, China has designated 57 important wetlands, covering 6.95 million hectares of land. UK has 170 listed wetlands, which is the most and Mexico has 142 listed wetlands. Countries with protected wetlands covering more than 10 million hectares include Bolivia, Canada, Chad, Congo, and Russia. In 2018, at the 13th Conference of the Parties, Changde, Changshu, Dongying, Harbin, Haikou and Yinchuan were selected as the first 18 wetland cities in the world.

### 5.3 Pollution Control – Solid Waste Pollution Control (Special Subject: Reduce Plastic)

#### 5.3.1 Overview

Solid waste management refers to the use of environmental management theories and methods to encourage waste recycling and control waste pollution through legal, economic, technical, educational and administrative means to promote sustainable economic and environmental development.

The types of solid waste can be roughly classified into three categories: industrial solid waste, domestic waste and hazardous waste. Domestic waste is divided into urban domestic garbage and rural domestic garbage; industrial solid waste refers to solid waste generated in industrial life, such as construction waste and industrial residue; hazardous waste refers to some corrosive or toxic waste which can be harmful to the environment and people. Medical waste, chemicals and unsuccessful laboratory products are common hazardous waste.

Common treatments for solid waste are sanitary landfill, incineration and composting. Sanitary landfill is most widely used, accounting for 60.32%; incineration is mainly used in coastal areas, accounting for 37.5%; composting is very effective but its use is limited to a few regions, accounting for 2.18% of the total volume.

As the harmless treatment technology of urban household waste matures, the collection, transportation, treatment and disposal of urban domestic waste have shown the following trends: classified collection, classified transportation, classified treatment and disposal. These measures will facilitate the realization of harmlessness, marketization of operations, diversification of investment, standardization of management, reduce the amount and turn waste into resources and gradually realize whole-process management.

#### 5.3.2 Government Policies and Practice Development

We have had two consecutive reports on waste issues, so this report will focus on development in 2017 and 2018.

- **Industrial Solid Waste:** Since 2013 when China has strengthened the pollution control, the amount of industrial solid waste decreased. In 2016, the amount is 3.09 billion tons, decreased by 5.53% from the previous year. Under the influence of the promulgation and implementation of policies such as “Made in China 2025”, “Green Industrial Development Plan (2016-2020)”, “Green Manufacture Implementation Guide (2016-2020)” and the “Large Industrial Solid Waste Comprehensive Utilization Plan”, the amount of industrial solid waste generated

in China dropped further to 2.941 billion tons in 2017<sup>1</sup>. According to the “National Large and Medium-sized City Solid Waste Pollution Prevention and Control Annual Report” issued by the Ministry of Environmental Protection in November 2017, in 2016, the amount of solid waste generated in 214 large and medium-sized cities was 1.48 billion tons, accounting for 50% of the total amount in the nation. Utilized industrial solid waste accounts for 48% of the total amount of the utilized waste, while 21.2% is processed and 30.7% is stored. Comprehensive utilization is still the main way to treat general industrial solid waste.

- **Domestic Waste:** After the introduction of the Plan on Urban Domestic Waste in 2016-17, by the end of September 2017, more than half of the 46 major waste sorting cities in the country have formulated local implementation rules in accordance with the Plan. Some cities have begun to improve their system of garbage disposal, collection, transportation and treatment. In February 2018, the Ministry of Education and the Ministry of Environmental Protection and other departments issued the “Notice on Promoting the Classification Management of Domestic Waste in Schools”, requiring local education departments and schools to comprehensively carry out the waste sorting education and regulate household waste disposal. By the end of 2020, each school must reach 100% penetration of household waste sorting knowledge.
- **Hazardous Waste:** On May 10, 2018, the Ministry of Ecology and Environment issued the “Notice on Curbing the Illegal Transfer and Dumping of Solid Wastes and Strengthening the Whole-Process Supervision of Hazardous Wastes” to effectively prevent and control the environmental risks of solid wastes. It aims to know the generation, storage, transfer, utilization and disposal of solid wastes, especially hazardous wastes and illegal dumping of solid waste caused by waste sorting. The Ministry of Ecology and Environment will supervise local implementations regularly and investigate into problems according to the central environmental accountability mechanisms.
- **Imported Waste and Effects:** In April 2017, the General Office of the State Council issued the “Implementation Plan for the Prohibition of Waste Importing and the Reform of Solid Waste Import Management System”, which will gradually stop the import of solid waste that can be replaced by domestic resources by the end of 2019, so as to improve the recycling rate of domestic solid waste. On December 15, 2017, the Ministry of Environmental Protection revised and issued the Environmental Protection Regulations on Restricted Imports of Solid Waste Used as Raw Materials. Relevant laws and regulations have had a ripple effect on global waste disposal.

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1. “2018-2023 China Solid Waste Treatment Industry Market Outlook and Investment Strategic Planning Analysis Report” issued by Qianzhan Industry Research Institute

Many Southeast Asian countries (such as Vietnam and Thailand) have issued or are considering to issue similar regulations. The Basel Convention (the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal) may include waste plastics into the domain of the Convention. As waste plastics are mainly imported by Basel contracting parties now, this action may bring deep influence on waste plastic trade.

- **Waste Incineration Plant:** The Ministry of Ecology and Environment issued the “Environmental Access Conditions for Domestic Waste Incineration Power Plant Construction (Trial)” (hereinafter referred as “Conditions”) on March 5, 2018. The Conditions further standardize the environmental management of these projects and guide the healthy development of this industry. It is required to formulate complete and detailed environmental information disclosure and public participation plans with clear methods and time. Corporate environmental information must be disclosed by setting electronic display screens near the factory or on the websites. Communication platform and mechanisms must be set up to communicate with surrounding public regularly.

### 5.3.3 Corporations in Solid Waste Control

#### PPP Model

- Article 2 of the “Notice on Deepening the Cooperation between Government and Social Capital in the Field of Public Service” issued on October 11, 2016 proposes to further increase the application of the PPP model. PPP model is widely used in waste disposal and sewage treatment and its operation is relatively mature. After the introduction of the new asset management regulations in 2018, deleveraging to resolve debt risks became a top priority, and the government began to adjust PPP projects. However, there are still many PPP projects for solid waste projects, such as the country’s first bulky garbage PPP project - Fuzhou Bulky Garbage (Garden) Disposal Plant which has successfully called for bids. The successful bidder is the group led by Fujian Dongfei Environmental Group Co., Ltd. (Meicheng Environment). They have obtained a 30-year franchise and their processing scale will reach 100t/d of bulky garbage and 60t/d of garden waste.

#### Reduction of Waste

- At the 51st International Consumer Electronics Show, Dell announced two recycling programs that will create the first commercial-scale global marine plastics supply chain, promising to use 16,000 tons of marine plastics in 2018 and 10 times of that amount in 2025. It will extract gold from discarded electronic boards and reuse these materials in recycling economy.

- In February 2018, LEGO announced that it will introduce a series of plant-based building blocks to reduce plastic pollution. Currently, LEGO Headquarters has invested DKK 1 billion (approximately US\$ 165 million) in the Sustainable Materials Centre to research and test sustainable materials to replace current product materials. And LEGO plans to use sustainable materials in a wider range of core products and packaging by 2030.

### **Resources Recycling**

- Little Yellow Dog is an environmental protection company established in September 2017. Its main business is the intelligent public welfare waste sorting and recycling. It creates a new "Internet of Things + Intelligent Recycling" model which sorts out and recycles household waste in the front-end with cash return, and transports collectively these wastes in the middle-end and dispose of them in the end. It integrates the public, waste recyclers, renewable resources industry and garbage disposal institutions and builds a comprehensive waste recycle chain, so as to reduce incineration and solve the "last mile" problem of waste recycle.

#### **5.3.4 The Role of Environmental Organizations**

According to the previews environmental non-profit organizations work report, based on the classification of He Yi Green Foundation and China Zero-Waste Alliance, environmental organizations have three types of roles in managing solid waste: reducing the amount of waste in communities, supervising incineration plants, landfills and kitchen waste disposal plants and advocating policies.

In 2018, all kinds of organizations orderly conducted their work. In April, Shanghai Rendu Ocean NPO Development Center, the only domestic NPO that focuses on marine garbage, collaborated with the Ford Motor Environmental Protection Award Organizing Committee to release the "2017 Beach Garbage Brand Monitoring Report", hoping to make upstream manufacturers pay attention to the production and recycling of plastic waste so as to reduce marine garbage. In October, the Beijing Grassland Alliance Environmental Protection Promotion Center and the Ganjia Ecological Environmental Protection Association jointly hosted the Prairie Garbage Brand Monitoring and Reducing Forum with similar ideas. They also got the waste detection technology shared by Rendu. Both activities reflect the new production-to-consumption whole-process model, which is advocated by environmental organizations.

#### **5.3.5 Trends and Challenges**

Sealing landfills is the key direction during the 13th Five-Year Plan period. Simple landfills are being sealed,

and the key work is sealing restoration, secondary pollution control and comprehensive management of existing waste. In the future, the government will strengthen its monitoring on sanitary landfill leachate, landfill gas emissions and leakage. The government will also strengthen the management and maintenance of the landfill monitoring wells to promote efficient operation of the facilities. Public supervision is necessary to control pollution.

Rural waste disposal is also worthy of attention. Since 2016, the government's investment in treating rural waste has exceeded that of treating urban waste. In February 2017, the State Council issued the "Guiding Opinions on Innovating Rural Infrastructure Investment and Financing System and Mechanism" (hereinafter referred to as "Opinions") to accelerate the pace of rural infrastructure construction, and the rural garbage disposal market will gradually open to social capital. Environmental organizations can participate in infrastructure construction and public education on environmental impact, waste sorting and waste reduction.

### 5.3.6 Special Subject: Reduce Plastics

In 2018, plastics once again became the focus of attention. On April 22nd, the theme of World Earth Day was "End Plastic Pollution". On June 5th, the theme of World Environment Day was "Beat Plastic Pollution". The UN General Assembly also held a special meeting to discuss the reduction of plastic waste. As plastics pose a major threat to the soil, rivers, oceans, creatures and sustainable development of humans, plastic reduction has become a consensus.

According to "Beat Plastic Pollution", currently plastics are mainly used for packaging (39.9%). 22.4% of them are consumer goods, household goods, furniture, sporting goods, health products and safety protection products. Plastics are also used for construction and engineering (19.7%), automobiles (8.9%), electronics (5.8%) and agriculture (3.3%). Every year, the consumption of plastic bags in the world is 500 billion. 50% of the plastics we use are disposable. Plastics account for 10% of the total waste. Up to 13 million tons of garbage per year flow into the ocean. According to a study published in a science journal<sup>1</sup>, about 15%-40% of undertreated plastics enter the sea through rivers and the like, and the countries that contribute the most to marine plastic pollution are in East Asia and South Asia.

#### Microplastics

There are two main forms of plastic waste, large plastic waste and small plastic particles. The latter refers to plastic particles with a diameter of less than 5 mm. Large plastic waste is visible and it could

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1. "2018-2023 China Solid Waste Treatment Industry Market Outlook and Investment Strategic Planning Analysis Report" issued by Qianzhan Industry Research Institute

damage wildlife and bring economic losses to tourist areas and fisheries. Small plastic particles (microplastics) are further divided into 2 categories, one is primary microplastics which are small plastic particles such as those found in daily chemical products. The other one is secondary microplastics, which are created from the degradation of larger plastic products once they enter the environment through natural weathering processes like lighting, physical, chemical and biological degradation. At present, the typical micro-plastics include plastic dust worn by tires, micro-fibers scattered in the washing process of synthetic clothing, tennis wear, laundry and dishwashing beads, cigarette butts, decorative glittering sequins, wet tissues, tea bags, and takeaway drinks cups, etc. They are scattered to every corner of the world. From the near-shore estuary to the ocean, from the equatorial sea to the north and south poles, from the surface of the ocean to the super abyss of the ocean, they are found by humans.

In June 2014, the United Nations Environment Program issued a report stating that the annual economic losses caused by plastic waste to marine ecosystems amounted to \$13 billion, and the world's oceans were increasingly threatened by "microplastics". According to the report, although most of the economic costs of using plastics come from the damage caused by greenhouse gases emitted from plastic products, the damage caused by plastic products directly dumped into marine ecosystems is "undervalued". Microplastics have similar particle sizes to planktons which are at the lower end of the food chain; therefore, microplastics are easily ingested by them, and may be transmitted to higher levels along the food chain, posing a significant risk to ecosystems and human health.

Although there are no specific cases that clearly indicate the impact and risks of micro-plastics on human health, the UNEP report released in 2016 pointed out that the current research on the toxicity and impact of micro-plastics is still insufficient, but people should pay attention to the surface of micro-plastics which can absorb many bacteria and fungi, which means they can enter the human body as a carrier of pathogens, affecting people's health. As the general treatment method cannot completely remove microplastics, the most effective way is to reduce the plastic production from the source.

Current researches on microplastics pollution mainly focus on marine environment, and freshwater data is relatively scarce. Wang Wenfeng, a doctor of pollution ecology at the Wuhan Botanical Garden of the Chinese Academy of Sciences and his lab members are constantly improving foreign sampling techniques and making innovations so as to conduct research in fresh water environment. The direction of microplastics research has been gradually moved from the ocean to the land and the atmosphere.

There are two problems in China's plastic management and plastic policy. First, the responsibility is overlapped and unclear and the investment is insufficient. Plastic and micro-plastic management involves many departments in areas like environment protection, ocean, agriculture, housing and construction. Moreover, there is no national policy or mechanism that can make these departments work together to solve this problem. On the other hand, experts claim the related monitoring and research are not sufficient to form an effective response strategy. Current monitoring work cannot meet the requirements of management and respond to solve international problems.

### **Ban on Plastic Bags**

It has been more than 15 years since Bangladesh first implemented this policy in 2002. For the past two years, plastic problem became a hot issue and this ban has been referred to many times. In 2017, Kenya passed the world's toughest ban on plastic bags, which can put people who produce, sell or use plastics in prison up to 4 years with a fine of up to 38,000 dollars. In 2018, the European Parliament passed a wide-ranging proposal to ban the use of disposable plastic products with a landslide victory in Strasbourg, France. According to the proposal, by 2021 the EU will ban the use of disposable plastic products that have alternatives. For example, plastic straws, disposable earplugs, plates, etc.; 90% of plastic bottles will be recycled by 2025. It also requires to change the packaging of products such as wet tissues and balloons, and indicate their environmental impact and how to properly dispose of garbage, etc.

China's large-scale "restriction of plastics" began in 2007 with the implementation of the Notice of the General Office of the State Council on Restricting the Production and Sale of Plastic Shopping Bags (referred to as the "Order"). In the past 10 years, the order has played a certain role, but as the industries such as express delivery and food delivery have become more popular, the effect of the order has gradually weakened.

On May 31, 2018, the Zero-Waste Alliance issued the "Report on the Decade's Implementation of Plastic Restriction Order". The report showed that generally, the order was not well implemented in malls and shops. 78% of the plastics are sub-standard, and many of them are sold by the producers. Only large supermarkets and national chain convenience stores could strictly charge the plastic bags. Restaurants and take-out platforms barely use standard plastic bags.

Reduction of plastics still requires efforts from multiple parties.

In July 2018, the "Law on the Prevention and Control of Environmental Pollution by Solid Wastes of the People's Republic of China (Revised Draft) (Draft for Comment)" sought public opinions, which means there could be laws guiding the control of wasted plastics.

## 5.4 Climate Change Response – Clean Energy, Low-Carbon Economy, Carbon Trading (Special Subject: UN Framework Convention on Climate Change)

### 5.4.1 Overview

Climate change refers to a dramatic change in the average state of the climate or a climate change that lasts for a long time. The factors that cause climate change may come from natural fluctuations in internal processes or external forcing (solar radiation changes, volcanic eruptions, etc.), or may be due to persistent man-made changes in atmospheric composition and land use (greenhouse gases and sulfide aerosol emissions, changes in land use, etc.). According to the latest IPCC's fifth assessment report, human activities are a major factor in climate change in recent years.

Climate change will lead to rising sea levels, increased storm surges, reduced river runoff, reduced crop yields, natural ecological degradation, and increased extreme weather events. According to the 2018 China Blue Book on Climate Change published by the China Meteorological Administration, global warming is still continuing, and China is a sensitive area for global climate change. From 1951 to 2017, the average annual surface temperature in China increased by 0.24 °C every 10 years, higher than the global average.

China's energy structure is coal-based and its consumption pattern needs to be transformed into a low-carbon one. Its macro management ability is not enough and its technology handling climate change is backward. These are challenges faced by China in response to climate change.

### 5.4.2 Government Policies and Practice Development

The National 13th Five-Year Plan has emphasized the goal of green low-carbon development. By 2020, the carbon intensity will drop by 18% compared with 2015, and the energy consumption per unit of GDP will be reduced by 15%. Non-fossil energy should account for 15% of primary energy consumption. The forest coverage rate should reach 23.04%, while the forest stock volume should reach 11.5 billion cubic meters. The main resource output rate should be increased by 15%, the total discharge of major pollutants should be greatly reduced, and the overall quality of the ecological environment should be improved.

In order to achieve the low carbon development goals in the 13th Five-Year Plan, in 2016, the State Council issued the "13th Five-Year Plan for Controlling Greenhouse Gas Emissions", clearly requiring all provinces (autonomous regions and municipalities) to include significant reduction of carbon dioxide emission intensity into regional economic and social development plans, annual plans and government work reports, and

formulate specific work plans. As of June 2017, 18 provinces (autonomous regions and municipalities) have issued provincial-level “13th Five-Year Plan” for controlling greenhouse gas emissions.

During 2016-2017, various departments of the country have prepared relevant plans for addressing climate change in various fields. For example, the Ministry of Industry and Information Technology issued the “Industrial Green Development Plan (2016-2020)”, the National Development and Reform Commission and the Energy Administration issued “Energy Production and Consumption Revolution Strategy (2016-2030)”, the “Energy Development 13th Five-Year Plan”, the National Development and Reform Commission issued the “13th Five-Year Plan for Renewable Energy Development”, and the National Energy Administration issued the “Energy Technology Innovation 13th Five-Year Plan”, the Ministry of Housing and Urban-Rural Development issued the “13th Five-Year Plan for Energy-Efficient and Green Building Development”, the Ministry of Science and Technology, the Ministry of Environmental Protection and the China Meteorological Administration jointly issued the “13th Five-Year Plan for Science and Technology Innovation in the Field of Climate Change”. The State Forestry Administration issued the “13th Five-Year Plan for Forestry Development”, the People’s Bank of China, the China Banking Regulatory Commission, the China Securities Regulatory Commission, the China Insurance Regulatory Commission, and the National Standards Commission jointly issued the “Financial Industry Standardization System Construction and Development Plan (2016-2020)” and other documents.

In addition, the state is also improving relevant laws and regulations. In 2016, the State listed the “Climate Change Law” and the “Regulations on Carbon Emissions Trade” as “research projects” and “preparatory projects”.

- *Climate Change Law: At present, China has “Interim Measures for the Management of Carbon Emissions Trading” and “Notice on Organizing the Reporting of Greenhouse Gas Emissions of Key Enterprises (Institutions)”, and other departmental regulations or normative documents that directly regulate greenhouse gas emissions. However, as they ranked lower in the legal hierarchy, they are restricted in terms of design and effectiveness. Therefore, China needs to enact the top-level Climate Change Law, which can encourage control on greenhouse gas emissions and punish excessive emissions. This law will promote the establishment of a national carbon emission trading market, and ultimately ensure the realization of the proposed carbon emission intensity control targets and peak targets. The final goal is to build a legal system against climate change where the Climate Change Law serves as the guideline, regulations of the State Council and its departments serve as the main body and other normative documents and local documents serve as support.*

- *Regulations on Carbon Emissions Trade: Since 2011, the National Development and Reform Commission has carried out pilot projects for carbon emissions trading in seven provinces and municipalities. By the end of 2017, seven pilot carbon markets have included more than 20 industries and nearly 3,000 key emission units, with an accumulated trading emission quota of about 200 million tonnes of carbon dioxide equivalent, and the cumulative turnover is about 4.7 billion yuan. Beijing, Shanghai, Tianjin, Chongqing, Guangdong, Shenzhen and Hubei provinces are the pilots of carbon emissions trading. Besides, other regions that participate in carbon emissions trading in Sichuan and Fujian have issued local regulations or normative documents on carbon emissions trading.*

Regional pilots lay the foundation for national carbon trading. In 2017, the National Development and Reform Commission issued the “National Carbon Emissions Trading Market Construction Plan (Power Generation Industry)”, and the national carbon emission trading system was officially launched. By the end of 2017, the national carbon market has included about 1,700 enterprises in the power generation industry with a total emission of more than 3 billion tons of carbon dioxide. According to this Plan, the regions that have carried out regional carbon trading pilot projects since 2011 will gradually integrate eligible key emission units into the national carbon market for unified management. By 2019, national carbon trading will eventually enter trial operation. The Regulations on Carbon Emissions Trade will include targets of carbon emissions trade into its statutes, and regulate many aspects of carbon emissions trade, such as licencing, distribution, trade, management, obligations and rights of transaction parties and their legal liabilities.

### 5.4.3 Enterprises in Solid Waste Control

Businesses are important implementers of climate change strategies. In 2017, the first Report on the Independent Contribution of Chinese Enterprises to Climate Change pointed out seven ways for companies to participate in coping with climate change:

- *Build a comprehensive energy consumption management system. AB InBev and China Food Fermentation Industry Research Institute jointly developed a “carbon footprint” management system to comprehensively track carbon emission processes and effectively reduce greenhouse gas emissions.*
- *Promote renewable resources and reduce carbon footprint: For example, Apple actively develops clean energy and builds photovoltaic power generation facilities around the world. In 2016, two 20 MW photovoltaic power generation projects invested by Apple in Hongyuan County and*

Ruoergai County of Aba Prefecture, Sichuan Province have been successfully connected to the grid.

- *Improve production methods and processes to reduce negative impacts on the environment: For example, Nippon has established an organizational structure for green production, integrated air compressor equipment in the plant, reduced air compressor dead time to effectively save electricity.*
- *Establish a circular economy and improve the efficiency of resource utilization: For example, Intel (China) Co., Ltd. invests about 30 million US dollars each year to in resource efficiency enhancing and alternative energy projects, and strive to reduce greenhouse gas emissions during production and operations.*
- *Value chain cooperation to reduce the impact of products: For example, Klein works closely with suppliers to evaluate raw materials to ensure the sustainability of raw materials. At the same time, it joins the “Together for Sustainability” (TFS) initiative to assess and improve ecological and sustainable procurement practices.*
- *Support local actions to address climate change: such as the “Novartis Southwest Sichuan Forestry Carbon Sink, Community and Biodiversity Project” to promote carbon uptake and enhance biodiversity and other environmental benefits through the development and demonstration of afforestation and reforestation carbon sink projects. These projects will promote the development of rural communities and enhance the ability of surrounding nature reserves to adapt to climate change.*

### **Currently, enterprises that respond to climate change face the following problems and challenges:**

There is a big gap in the performance of independent contributions among enterprises, and central enterprises play an absolute leading role. The management and practice of building materials industry, power industry and aviation industry are leading.

- **Management:** *The support and participation of senior management needs to be improved. Specific mechanisms and fund management is not sufficient compared to top-level design. Professional environmental team needs to be built.*
- **Technology:** *Enterprises use technologies mainly to reduce energy consumption in production and operation. However, they should focus more on direct carbon reduction.*
- **External Behaviours:** *Most of the external behaviours are adding carbon sink, not the construc-*

tion of green low-carbon supply chain.

- **Adaptation to Climate Change:** Focus more on climate change mitigation than adaptation to climate change. Adaptation level is generally low and the understanding of it is not deep. Focus on water resources and biodiversity protection, not response to extreme climate events.
- **Disclosure:** Enterprises actively carry out non-profit environmental activities and have enhanced communication with stakeholders. However, disclosure is not enough, not systematic and transparent in quantitative indicators. Publicity method of climate change response needs to be innovated.

#### 5.4.4 The Role of Environmental Organizations

Ten years ago in 2007, 8 NGOs including Friends of Nature, Oxfam, Greenpeace, ActionAid, Global Village, World Wildlife Fund, Green Earth Volunteer and Institute of Public and Environmental Affairs have launched the project called “Chinese Civil Society’s Response to Climate Change: Consensus and Strategy”, which marks the beginning of domestic NGO’s responding to climate change.

**Ten years later, environmental non-profit organizations still play an active role in combating climate change:**

- Directly implement actions to mitigate climate change or improve community capacity to adapt to climate change.
- Mitigate climate change by increasing carbon sinks, or promoting natural traditional agricultural transformation, water resources management, grassland management, coastal wetland restoration, or improving local capacity to adapt to climate change. For example, in recent years, Beijing Shanshui Nature Conservation Center has carried out community resource management, grassland management and other community-based nature conservation projects in Sanjiangyuan, China, and carried out forest restoration work in Dali, Yunnan.
- Supervise and encourage enterprises to conduct research and application of energy saving and emission reduction technologies, and promote enterprises to fulfil their social responsibilities.
- Through promoting the disclosure of pollution source, public welfare litigation, online reporting, research report compiling and green supply chain, promote enterprises to solve industrial pollution problems by transforming and upgrading production equipment. See 5.3.
- Carry out energy conservation and emission reduction publicity projects to foster awareness of

*climate change.*

- *Through green transportation, publication of scientific reading materials, household publicity of energy conservation and other projects that are close to people's life, carry out activities in schools and communities to guide the public to lead a low-carbon and eco-friendly lifestyle. For example, Shanghai Oasis Ecological Protection Center's project "Food Bank" gives out food to poor families, especially families with children for free, so as to reduce the waste of nearly 100 tons of food.*
- *Participate in climate legislation and provide reasonable advice through seminars and expert salons.*
- *By introducing and promoting advanced foreign technology and participating in policy discussions, organizations can influence policy making, help the government to achieve its goals and bring fresh ideas to the government. For example, the Global Environment Institute (GEI) works with Sino-US low carbon policy research institutes to develop a "low-carbon policy analysis toolkit", helping Chinese local governments to formulate relevant low-carbon development policies. By 2017, more than 1000 government officials and 300 experts from 15 provinces and municipalities have received training of the toolkit.*
- *Train professional talents for climate change.*

Train talents for climate change through capacity building, who will build infrastructure in the industry. For example, the Green DreamWorks Project of the China Youth Climate Action Network (CYCAN) provides capacity building, green internship, employment counselling, environmental talents sharing and exchange platform for Chinese college students at home and abroad. The project also cooperates with Alxa Ren Millet, Green Supply Chain, Global Buildings Performance Network and Carbon Trust and deliver talents in climate change industry.

- *Strengthen international exchanges and cooperation, express the position and voice of civil society, and promote people-to-people diplomacy on climate change.*

Participate in international climate conferences as observers, issue documents and meet with negotiators to influence the negotiation process. For example, the All-China Environment Federation is an observer organization of the United Nations Framework Convention on Climate Change. It has participated in the United Nations Climate Change Conference many times to understand the climate change negotiations and participate in the "China Corner" Side Event.

#### 5.4.5 Representative Cases of Environmental Organizations and Effects

##### Global Environmental Institute

*Established in 2004, the Institute explores solutions to Chinese and global environmental issues combining global perspective and local realities, and provides forward-looking policy advices to governments through field practice and conclusions. Its projects cover energy and climate change, ecological protection and community development, foreign investment trade and environment. Since its founding, GEI has carried out projects in more than 20 domestic provinces, municipalities and autonomous regions and regions in South Asia, Southeast Asia and Africa. As one of the earliest “going out” Chinese NGOs, GEI has promoted policy development and international cooperation including China-US and South-South climate cooperation, low-carbon economic transformation, ecosystem protection and community participation, overseas responsible investment and trade, etc.*

*Website: <http://www.geichina.org/>*

##### Renewable Energy Planning Tool Pilot

*In 2017, Global Environmental Institute (GEI), the US Center for Climate Strategies (CCS) and the Guangzhou Institute of Energy Research (GIEC) of the Chinese Academy of Sciences jointly developed a “Renewable Energy Implementation (REI)” toolkit based on low-carbon planning toolkit.*

*The team used Guangzhou Huangpu Economic Development Zone as a demonstration site to analyse and evaluate the potential of solar energy and biomass power generation in terms of renewable energy utilization, and to study how to help reduce carbon emissions in economic development zones. Through the use of REI tools, GEI, CCS and*

GEIC completed a pilot analysis project on a 320 MW solar PV industrial roof, which includes about 130 individual projects, with an average of 2.5 MW per project. They analysed the feasibility of realizing the renewable energy development goal of Huangpu Economic Zone under the baseline scenario, and the analysis result and policy recommendations were acknowledged by the Guangzhou Development and Reform Commission.

In 2018, GEI promoted the tool in Guangdong Province and other provinces and cities to further study the implementation of various renewable energy technologies (such as biomass and wind energy), as well as the business investment model of approved projects.

### China Youth Climate Action Network

*China Youth Climate Action Network (CYCAN) is founded in August 2007. It is the first NPO focusing on promoting the youth's response against climate change in China. CYCAN mainly promotes young people's understanding and participation in combating climate change through climate advocacy, local action, industry exploration and international exchange, providing a platform for ambitious young people to lead the green reform. More than 500 Chinese universities have joined in the actions initiated by CYCAN, which cover more than hundreds of thousands of young people.*

*Website: <http://www.cycan.org/>*

### **Youth Intervention on Climate Adaptation**

*This project focuses on young people's participation and practice in coping with climate and provides a platform for young people to practice and build their awareness of climate issues and abilities to research and intervene. The project includes training young people to carry out pre-field study, climate research in Midwest, field trips, design thinking workshops, report writing and program design so as to train young people to conduct field studies and face the real impact of climate change directly.*

### **Innovation Center for Energy and Transportation (iCET)**

*The Innovation Center for Energy and Transportation (iCET) is a leading think tank in low-carbon economy and climate change, registered in California and Beijing. Its core mission is to provide decision makers at all levels with creative solutions that are needed to mitigate energy and climate crisis and create green energy eco-system.*

*Website: <http://www.icet.org.cn/index.asp>*

### **Release of the “New Energy Vehicle Market Opening Index Report”**

*In 2018, iCET officially released the New Energy Vehicle Market Opening Index Report and analysed new energy vehicle markets in various Chinese cities. The index takes the new energy passenger car as the research object, and represent its brand diversity and market coverage in various cities to directly reflect differences among regions in terms of promotion policies, implementation of policies, industry and markets, so as to analyse the problems and their root causes in local environmental protection.*

### **Yunnan Green Environment Development Foundation**

*Founded in January 2008, the Foundation carries out over 40 projects and activities including protection of rare and endangered species of an extremely small population, community patrol, forest carbon sink development, biogas emission reduction, tree planting activities to eliminate carbon footprint, support for drought resistance in Yunnan and rural alternative energy (biogas, fire-wood-efficient ovens, solar energy, etc.) development.*

*Website: <http://www.ygfyn.cn>*

### **Tengchong Forest Carbon Sink Demonstration Project**

*The forest carbon sink project of the Foundation has been piloted since 2003 and has successfully carried out 4 forestry projects in Tengchong County, Fengqing County and Zhenkang County of Lincang City, Jianshui County of Honghe Prefecture, and Hutiaoxia County of Shangri-La City. The project develops 8,4276.5 mu of land, which is expected to reduce 990,000 tons of CO<sub>2</sub> emissions; and it has trained a group of professional technical experts for 40 counties in 16 cities in Yunnan.*

*In recent years, due to the year-on-year reduction of forest land available in the province, the forestry carbon sink business of the Foundation has gradually evolved from afforestation projects to forest management projects. In 2016, the Foundation launched the “Tengchong Forest Management Carbon Sink Demonstration Project in Yunnan Province” by participating in the government’s purchase of social service bidding. This is the first forest management carbon sink project in Yunnan Province, which will develop 45,625 mu of young forests into carbon sinks that meet the requirements of the China’s voluntary emission reduction trading market. These man-made young forests are distributed in five state-owned forest farms in Tengchong city. The project lasts for*

*20 years and will produce a reduction of 81,900 tons of CO2 equivalent, with an average annual average of 4099 tons of CO2 equivalent.*

#### **5.4.6 Trends and Challenges**

Since 2005, China's environmental protection organizations have been actively participating in the international climate change negotiations but their influence is limited compared with international environmental organizations.

Environmental organizations have great space for development in the field of climate change. First of all, the position and effects of NGOs in international climate systems have been widely recognized by other parties. In the case of international climate negotiations, NGOs are allowed to participate in most formal and informal negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) as observers, and can influence negotiations through the issuance of documents during the session and face-to-face communication with negotiators. Second, the government also recognizes the positive role of NGOs in the field of climate change and believes that their practice is a useful complement to government action. This is reflected in the statement from the former Director of the Climate Change Division of the National Development and Reform Commission in 2013 when he mentioned that it is necessary to expand NGO's participation in China's response to climate change.

Judging from international experience, the influence of NGOs on decision-making comes from their professionalism. Climate change issues are political and involve many stakeholders both domestically and internationally. A large part of NGOs in this field are research NGOs, while traditional advocacy NGOs tend to strengthen their ties with professional experts. One of the compulsory courses for Chinese NGOs is to improve their scientific knowledge and professionalism of combating climate change and improve their participation ability.

#### **5.4.7 Special Subject: United Nations Framework Convention on Climate Change (UNFCCC)**

The United Nations Framework Convention on Climate Change (UNFCCC) is a convention reached by the United Nations Intergovernmental Negotiating Committee on climate change on May 22, 1992 and came into force in 1994. It is the first international convention in the world to comprehensively control green-

house gas emissions such as carbon dioxide and to cope with the adverse effects of global warming on economy and human society. The Convention has been in development for more than 30 years and is roughly divided into the following stages:

### 1) 1990-1994: Adopted and Became Effective

In 1988, the Intergovernmental Panel on Climate Change released the first assessment report on climate change. In 1990, the UN General Assembly decided to establish an intergovernmental negotiating body to draft the convention. In 1992, the UN General Assembly adopted the Convention and it entered into force on March 21, 1994.

The Convention consists of a preamble and 26 Articles and is legally binding. The ultimate goal is to maintain atmospheric greenhouse gas concentrations at a stable level at which human activities will not bring dangerous disturbances to the climate system.

The Convention is by far the most fundamental international legal document on climate change. It is one of the most universal multilateral conventions in the world. It is called the “Climate Constitution” and provides the basic framework and legal basis for the international community to cooperate in tackling climate change. The Convention establishes five basic principles for international climate negotiations:

- *The principle of “common and differentiated” requires developed countries to take the lead in taking measures, and developing countries are only obligated to provide a list of countries that provide greenhouse gas sources and greenhouse gas sinks.*
- *Consider the specific needs and circumstances of developing countries.*
- *Each Contracting Party shall take necessary measures to predict, prevent and reduce the factors that cause climate change.*
- *Respect the right to sustainable development of each Party.*
- *Strengthen international cooperation and measures to address climate change cannot become barriers to international trade.*

Since the Convention does not impose specific obligations on individual Parties and does not provide for an implementation mechanism, mandatory emission limits may be set in subsequent subordinate protocols.

After the National People’s Congress ratified the United Nations Framework Convention on Climate Change in November 1992, China joined the Convention as the 37th contracting party.

## 2) 1995-2005: Kyoto Protocol Effective Stage

The first Conference of the Parties was held in Berlin, Germany in 1995 and decided to initiate a process to strengthen the commitments of countries stated in the Annex I. At the end of 1997, at the 3rd Conference of the Parties in Kyoto, Japan, the Kyoto Protocol was finally concluded and entered into force on February 16, 2005. China signed the Protocol on May 29, 1998 and approved it on August 30, 2002. The Protocol became effective for China on February 16, 2005.

The main contents of the Kyoto Protocol include:

- *Set up a legally binding quantitative emission reduction indicator for the first time. Set the collective target of developed countries, which is to make the annual average emissions during the first commitment period of 2008-2012 decrease by 5.2% of the 1990 level, while each country also determined their respective reduction targets.*
- *Three flexible mechanisms have been identified, and they are emissions trading, joint implementation and clean development mechanisms.*
- *Contain elements of a legally binding international agreement, including objectives and time-lines, flexible mechanisms, institutional settings, verification rules, conditions of entry into force, and compliance mechanisms.*

But this Protocol did not result well. Due to United States' refusal to approve this Protocol, many disputes arose in formulating detailed technical requirements and the problem of developing countries' commitments, climate change process has entered a period of low-tide, and people began to be more realistic.

## 3) 2007-2010: Bali Roadmap Process Stage

Main contents: 1) Dual-track arrangement for developed countries to slow down commitments and for developing countries to slow down actions; 2) Define five components of solutions to climate change: shared vision, mitigation, adaptation, funding and technology.

Subsequent progress at this stage did not go well. However, the specific design of the agreement gradually began to evolve from a top-down approach to a bottom-up approach. Although there were major differences between the parties in the negotiation of the shared vision, they ultimately formed a clear global goal, namely a relatively flexible and comprehensive 2°C temperature control target.

The biggest achievement at this stage is that the United States has re-emerged in a positive stance to re-

spond to the mainstream process of climate change and the invoked enthusiasm of developing countries to take substantive actions. The international community has reached an unprecedented height in understanding the importance of climate change issues.

#### 4) 2011-2015: Durban Platform Process Stage

It focuses on how to strengthen international cooperation to address climate change beyond 2020. Developed countries have clearly expressed their intention to rewrite the Convention. At this stage, the concept of Intended Nationally Determined Contributions (INDC) was proposed, requiring all parties to carry out domestic preparations as soon as possible and determine their respective commitment targets under the new agreement. However, the scope of the INDC and the pre-examination review did not achieve substantive results.

#### 5) 2016 – now: Paris Agreement Stage

In 2015, the COP21 released the Paris Agreement with the aim of keeping the global average temperature rise at a level significantly below 2 °C and trying to keep the global temperature rise below 1.5 °C (pre-industrial level). It aims to enhance the ability to adapt to the negative effects of climate change without compromising food production, promote climate resilience and low-emission greenhouse gas emissions, and adapt capital flows to the development of low greenhouse gas emissions and climate resilience. The actors of the Convention include both the national governments of Parties, United Nations agencies, intergovernmental organizations, the business community and the media, as well as the civil society.

The Paris Agreement is considered to be the global climate change governance system with the “nationally determined contribution” as the main body after 2020. It is the first time the international community has reached a consensus to address climate change. The main contents include:

- *Adopt an INDC mechanism to achieve full participation which let each country decide their commitments according to their economic and political conditions. Developing countries also made their reduction commitments. 188 contracting parties have submitted their INDC, which is about 100% of the global emission.*
- *Adopt an update mechanism which centres on global inventory and update every 5 years. Previous global climate governance system lacked this mechanism and had to initiate new negotiations to update commitments. According to the Paris Agreement, global long-term reduction*

*targets will be reviewed every 5 years since 2018, which would facilitate the coordination and synchronization of national policies.*

- *Initiate a “bottom-up” action mode that allows countries to voluntarily make emission reduction commitments based on their respective economic and political conditions, which is different from the “top-down” approach of the previous global climate governance system, bringing acceptability and operability. However, countries worry about the free-rider problem under this new mode and will not commit too much, causing insufficient global commitments.*

China signed the Paris Agreement on April 22, 2016 and was approved by the Standing Committee of the National People’s Congress to become the 23rd Contracting Party.

## 5.5 Environment Governance – Environmental Legislation, Supply Chain and Green Consumption

### 5.5.1 Overview

In 1995, the Global Governance Council defined “governance” as the sum of many ways in which public or private institutions and individuals manage common affairs. It is a continuous process of integrating diversified interests and mitigating conflicts, including formal mechanisms and rules as well as informal mechanisms. The International Union for Conservation of Nature (IUCN) defines environment governance as multi-sectoral (national, market, civil society, etc.) and multi-level (local, national, global, etc.) interactions that formulate and implement environmental policies in response to environmental needs. The goal is to achieve environmental sustainability.

China has included environmental protection as one of its basic national policies as early as 1983 and formulated basic policies and management mechanisms. However, from macro policy formulation to micro environment monitoring, governments nearly took all roles in environmental protection through direct administrative means. Thirty years have passed, and the severe environmental situation demands the environmental governance mechanism to be transformed.

### 5.5.2 Government Policies and Practice Development

It is inevitable that the government plays a leading role in the environmental governance system as environmental problems, products and services have strong externality and are public good. They cannot be solved solely by the market or enterprises.

In China, the third plenary session of the 18th CPC central committee proposed the general goal of reform and aimed to promote the modernization of the national governance system and governance capacity. Environmental governance became an important part of the national governance system. In the report of the 18th National Congress of CPC, the central government has upgraded the “ecological civilization construction” to the strategic height of the “five-pronged overall plan”, and called for speeding up the institutionalization of ecological civilization and environmental protection. With the changes in the environmental protection system and the social governance system, the traditional environmental supervision model is changing, from government-led environmental supervision to social mobilization and public participation.

After 2013, China has successively issued a series of related systems and policies, which provide a good policy environment for the public to participate in environmental protection. The newly revised “Environmental

Protection Law” sets a special chapter of “Information Disclosure and Public Participation”, which clearly stipulates that citizens, legal persons and other organizations, including environmental protection organizations, have the right to obtain environmental information, participate in and supervise environmental protection according to law, and give eligible environmental protection organizations the right to conduct environmental public interest litigation. The “Air Pollution Prevention Action Plan”, “Water Pollution Prevention Action Plan” and “Soil Pollution Prevention Action Plan” issued by the State Council have also emphasized on “information disclosure”, “public participation” and “social supervision” to encourage public participation. The “Guiding Opinions on Promoting Public Participation in Environmental Protection” and the “Measures for Public Participation in Environmental Protection” issued by the Ministry of Environmental Protection and the “Guiding Opinions on Strengthening the Guidance and Management of Environmental Organizations” issued by the Ministry of Environmental Protection and the Ministry of Civil Affairs further defined the principles, content and channels of public participation in environmental protection.

In 2017, the environmental governance system was formally proposed in the report of the 19th National Congress of CPC. The system is led by governments, based on enterprises and jointly participated by social organizations and the public. In the framework of building a socialist country ruled by law, the establishment of an environmental governance system with Chinese characteristics has become an important task in promoting the modernization of state governance in the field of ecological civilization.

**The government’s leading role in the environmental governance system includes the following aspects:**

- *Build an effective environmental governance system in the government, clarify and divide the responsibilities and powers between different departments and different levels.*
- *In March 2018, the National People’s Congress passed the institutional reform plan of the State Council. The departments related to environmental protection have been adjusted and new departments have been established, such as the Ministry of Ecology and Environment and the Ministry of Natural Resources, creating better conditions for the government to participate in environmental governance. This reform mainly solves the problem of over-lapping powers and responsibilities regarding environmental protection.*
- *Emphasize on mechanisms and gradually improve environmental development plan and environmental policies, so that environmental protection can abide by the laws.*
- *In 2018, a number of environmental policies and regulations were implemented, including the*

Environmental Protection Tax Law, the Water Pollution Prevention and Control Law, the Ecological Environment Damage Compensation System Reform Program, and the Nuclear Safety Law of the People's Republic of China. Meanwhile, the State will promote the formulation and amendment of the Soil Pollution Prevention and Control Law, the Solid Waste Pollution Prevention and Control Law, the Resource Tax Law and Discharge Permit Management Regulations, so as to gradually improve the environmental protection legal system.

- Empower different participating entities including enterprises, social organizations and the public.
- In 2015, the Government Work Report proposed to actively promote the PPP mode to achieve rational allocation of resources through effective market competition, so as to realize higher efficiency and quality of public goods supply. For example, the government is exploring and promoting a third-party environmental pollution control mechanism, which requires polluters to pay pollution charges or fees according to contracts and entrust environmental service companies to conduct pollution control. The attempt also includes the promotion of carbon emission permit, pollution emission permit and water right trade. Governments incorporate public opinions and interests into institutionalized channels through round-table consultations and public interest litigation.
- Strengthen administrative accountability and implement environmental governance target accountability and assessment mechanism, highlighting the guiding function of environmental assessment to government actions.
- One of the important means of strengthening administrative accountability adopted by the government in recent years is central environmental inspection. In 2015, the central environmental inspection team was formally established. By the end of 2017, they have conducted 4 rounds of inspections, covering 31 provinces (autonomous regions and municipalities). The first round of inspection directly facilitated the solving of over 80,000 environmental problems, held 2,266 people accountable, and promoted many provinces (autonomous regions and municipalities) to issue or revise more than 240 environmental protection policies and regulations.
- In 2018, the central environmental inspection team carried out the “Look Back Inspection” which targets at key areas of pollution control and entails mobile and specific inspections and comprehensive provincial environmental inspection. The team also carried out 6 special actions: intensified inspection of air pollution control in key areas and fields, combating import waste

*processing and utilization industries, solid waste distribution centers and environmental violations related to hazardous wastes, special actions against waste incineration power generation industry, urban black and odor water treatment, protection of the environment of centralized drinking water sources and the “Green Shield” inspection of national nature reserves. According to the results of the first round of “Look Back Inspection”, 37,640 ecological and environmental problems in 10 provinces and regions were solved, among which 543 were filed and investigated. The total fine was 71.05 million yuan. 610 people received administrative and criminal detentions, 3,695 people were interviewed and 6,219 were held accountable. The second round of “Look Back Inspection” will be conducted in the second half of 2018 and the second round of central environmental inspection will be launched in 2019.*

### **5.5.3 Corporations in Environment Governance**

Corporations mainly participate in environment governance by abiding by various environmental regulations and take environmental responsibilities in each part of business operation, management, production and consumption. They can phase out old production technology, promote the recycling of materials and energy and reduce energy consumption and pollution, so as to achieve a result beneficial to corporations, environment and society. Corporations participate in environmental governance mainly through the following aspects:

- *Improve the environmental management system: Establish a comprehensive environmental management system within the company and have a special responsible department to incorporate environmental responsibility into the entire business operation process.*
- *Build green factories and implement a green production process: Design for the environment in terms of site selection, design, construction and product production so as to build a green factory where each part's environmental impact could be minimized, including energy use, water resources use and waste management.*
- *Develop green products and guide green consumption. Provide consumers with more products that meet global sustainable standards in terms of product design, raw materials and packaging.*
- *Build a green supply chain. Corporations should work with supply chain partners such as procurement, logistics and sales partners to lower the negative impact to the environment brought by the corporations.*

- *Create a green culture: Help employees better understand sustainable issues through encouraging green office and participating in environmental activities.*
- *Support community's environmental actions.*

#### 5.5.4 The Role of Environmental Organizations

The “Guiding Opinions on Strengthening the Guidance and Management of Environmental Organizations” issued by the Ministry of Environmental Protection and the Ministry of Civil Affairs in 2007 pointed out that, environmental social organizations composed mainly by environmental social groups, environmental foundations and environmental social service institutions are an important force in pursuing ecological civilization and green development. It also mentioned to establish and improve a nation-wide management system which allows orderly participation of environmental organizations in environmental issues by 2020. In recent years, environmental organizations in China mainly participate in environment governance in the following ways:

- ***Participating in government's decision-making***

*The methods mainly include attending environmental decision-making symposiums, demonstration meetings, hearings, etc. held by the government, or making comments and suggestions to the government draft laws and regulations. For example, since 2014, Friends of Nature has participated in the formulation and revision of nearly 50 environmental policies, including the Environmental Protection Law, the Air Pollution Prevention and Control Law, and the Judicial Interpretation of Environmental Public Interest Litigation. In 2017, the Ministry of Environmental Protection (now the “Ministry of Ecology and Environment”) entrusted Friends of Nature to participate in the legislative research and legislative proposals of China’s first Soil Pollution Prevention and Control Law, and to conduct special policy research on the revision of the Water Pollution Prevention and Control Law.*

In addition, the Alibaba Foundation’s Environmental Code Research Project sponsors the China Law Society’s Environmental Resources Law Research Institute to organize a three-year special study between 2018 and 2020 to provide broad theoretical and intellectual support for decision-making. It also promotes the inclusion of the Environmental Code as soon as possible into future legislative plans or annual legislative plans.

- ***Urging governments and enterprises to fulfil environmental responsibilities***

*Environmental organizations can be objective and supervise whether the environmental protec-*

tion department and relevant administrative leaders are functioning in environmental protection, whether there are illegal actions or not, and whether enterprises exceed the emission standard or illegally pollute the environment. They can solve environmental problems through reporting, applying for information disclosure, media exposure or resorting administrative forces. For example, since 2013, the Institute of Public and Environmental Affairs, Friends of Nature, SEE Foundation and other environmental organizations jointly built an online information disclosure system for real-time monitoring of pollution emissions from key national polluters. One year later, China has made it possible that all major monitored enterprises publish their real-time pollution emissions on-line, enabling the public to supervise the enterprises through public information.

In addition, environmental non-profit organizations are also exploring ways to cooperate with governments and enterprises. For example, in the management of rivers and lakes, the party and government leaders became “river chiefs”, and the public and environmental organizations could become “civil river chiefs” and have regular exchanges with the official river chiefs. In addition, environmental organizations can share thoughts on certain environmental problems with governments, enterprises and local residents through the round-table dialogue mechanism, and jointly explore solutions. Up to now, more than 30 cities in over 10 provinces in China have experimented with the round-table dialogue mechanism and this mechanism has been widely used to solve environmental problems in communities. Some environmental non-profit organizations cooperate with enterprises or industry organizations to explore mechanisms for co-governance, such as the green supply chain initiative in real-estate industry proposed by the SEE Foundation, the China Urban Real-estate Alliance, the China Real Estate Chamber of Commerce and some real estate developers, and the Green Credit proposed by Fujian Green Home and the Industrial Bank.

- **Environmental public interest litigation**

Environmental public interest litigation is one of the effective ways for China’s environmental non-profit organizations to participate in environmental governance. After the implementation of the new “Environmental Protection Law”, the number of social organizations in China that meet the qualifications for environmental public interest litigation increased to about 300. Civil environmental organizations can provide legal aid to victims of pollution, or legally represent the public in the name of the organization, thereby achieving the goal of protecting the public environment rights.

- **Providing environmental public service**

China’s environmental organizations are becoming more and more professional and their concerns

are more concrete and long-term. For example, the Institute of Public and Environmental Affairs that developed the “China Water Pollution Map” and the “China Air Pollution Map” has long been concerned about China’s water pollution and air pollution. The China Foundation for Desertification Control is committed to the governance and restoration of desertification land in China. Increasing professionalism gradually enables environmental organizations to undertake the responsibility of the government and become one of the main bodies for providing public service for the government.

- **Spread the concept of environmental protection and enhance public awareness of environmental protection**

Solving environmental problems needs public participation in particular. Environmental organizations need to widely disseminate environmental knowledge, raise public awareness of the environment, and promote public participation. Since 2017, SEE Foundation has launched the nationwide Green Partners Carnival on biodiversity, showing the beauty of biodiversity to the general public through photography, and invited environmental non-profit organizations to share their protection stories in order to bring nature closer to the public.

#### 5.5.5 Representative Cases of Environmental Organizations and Effects

##### **Shenzhen Spring Environmental Protection Volunteer Association**

Founded in August 2013, the Association aims to “Improve the Environment through Joint Actions”. They work with volunteers to protect water environment in the watershed and advocate eco-friendly lifestyle to the public, so as to build an ecological community together.

Website: <http://www.szhb.org>

##### **Civil River Chiefs in Shenzhen**

According to the “Opinions on the Full Implementation of the River Chief

System” issued by the General Office of the CPC Central Committee and the General Office of the State Council in December 2016, in order to better support and cooperate with the implementation of the “River Chief System” and explore a road for public participation in environmental protection, in March 2017, Shenzhen Spring Environmental Protection Volunteer Association and Shenzhen Evening News jointly recruited “Shenzhen Civil River Chief” from the whole society. As a bridge between the citizens and the official river chief, “Shenzhen civil river chief” timely feedbacks the river environmental issues and public opinions to the “official river chief” to coordinate the positive interaction between the public and the government.

By 2018, the Association has trained 53 civil river chiefs who guard Shenzhen’s 9 major river basis, 6 first-class drinking water sources and 57 major rivers. They have interviewed with more than 1000 people and reported 201 river pollution problems and helped to solve 39 of them. They compiled the 2017 Annual Work Report of Shenzhen Civil River Chiefs. They have cooperated with many enterprises and communities to carry out 12 public advocacy activities; they have worked with the people’s congress representatives, CPPCC members, news media, scientific research institutions, enterprises and other sectors to participate in the river governance in Shenzhen. They have participated in more than 18 government communication meetings and formed an increasingly close collaboration mechanism with relevant government departments.

#### **Society of Entrepreneurs & Ecology Foundation (SEE Foundation)**

In 2008, SEE Foundation (Society of Entrepreneurs & Ecology Foundation) was founded to fund and support Chinese environmental NGOs and build a social protection platform joined by entrepreneurs, environmental organizations and the public to jointly promote ecological protection and sustainable development. It focuses on desertification prevention and control, green supply chain and pollution control, ecological protection and nature education. So far,

*the SEE Foundation has established 20 local project centers with over 900 entrepreneur members, and has directly or indirectly supported 450 Chinese environmental NGOs and individuals.*

*Website: <http://www.see.org.cn/Foundation>*

### **“Green Supply Chain” Project**

*The project invites national environmental non-profit organizations and environmental experts to develop green standards, review the environmental performance of suppliers, publish a list of suppliers with good environmental performance, promote green procurement, and promote suppliers to improve their environmental behaviours. Domestic NGOs will monitor and review the green upgrading of the supply chain, so as to realize pollution and carbon reduction on the whole supply chain.*

*The first green supply chain initiative is the “Green Supply Chain Initiative in Real-estate Industry” proposed by the SEE Foundation, the China Urban Real-estate Alliance, the China Real Estate Chamber of Commerce, Vanke and Landsea. Enterprises realize green procurement by selecting building materials. Independent third-party agencies, testing and certification institutions and industry associations set up green procurement standards and list qualified suppliers onto the recommended procurement list, which is the “White List”. Currently, they have formulated green procurement standards for 5 kinds of materials and 8 kinds of products. 577 suppliers are listed on the White List, which is subject to public supervision and updated in real time.*

*In 2018, the SEE Foundation, the China Stone Material Association and the China Urban Real-estate Alliance jointly launched the “Green Supply Chain and Green Finance Development Forum for Stone Industry”. The forum aims to promote the green transformation and upgrading of upstream and downstream suppliers of the real-estate industry through the influence of real estate developers. Thus, they can jointly reduce environmental pollution and protect the clear water and blue sky.*

### Shanghai Qingyue Environmental Protection Information Technology Service Center

*Established in January 2015, the Center calls for environmental information disclosure and open environmental data. It aims to use information technology to promote environmental protection, enable the public to have the right to know about and the right to supervise environmental quality and help relevant government departments to provide better public services.*

*Website: <http://www.epmap.org/>*

### Research on the Information Disclosure of Enterprise Environmental Credit Evaluation by Provincial Environmental Protection Bu- reaus and Reform Efforts

*In 2015, the Ministry of Environmental Protection and the National Development and Reform Commission jointly issued the “Guiding Opinions on Strengthening the Construction of Enterprise Environmental Credit System”, referring to the establishment of an enterprise environmental credit system by 2020. Shanghai Qingyue decided to supervise the implementation of this document.*

*During 2017-2018, Qingyue communicated with the taxation department, the State-owned Assets Supervision and Administration Commission, the financial department, the National Development and Reform Commission and the banking supervision department through reporting and suggestions. It hopes to carry out the verification and joint punishment of the enterprise environmental credit, and roll out the enterprise IPO/refinancing environmental examination report. The report attempts to closely link environmental information with credit systems and financing. It has achieved the following results. 1. It has submitted suggestion letters*

to 32 provincial level environmental protection agencies, and examined the results of the 2017 environmental credit evaluation of the five provinces that responded: Zhejiang, Anhui, Hunan, Sichuan and Fujian. It released 205 enterprises that had exceeded the environmental standard together with 11 national environmental organizations and successfully made dozens of enterprises punished, rectified or make explanations. 2. It conducted environmental protection credit correction inspections in 5 provinces, supervised the state tax, local tax, finance, state-owned assets and other departments to jointly punish enterprises with bad environmental credit, recovering more than 37 million yuan. 3. It cooperated with 5 environmental organizations to supervise the IPO and refinancing of listed companies and has issued 10 IPO examination reports and 4 refinancing examination reports. They reported to the CSRC about illegal information disclosure in IPO and refinancing, causing the Industrial and Commercial Bank of China Shandong Branch to reduce loans to enterprises with bad environmental credit.

### 5.5.6 Trends and Challenges

Environmental NGOs play an increasingly important role in environmental governance and present the following trends:

- First, the degree of specialization continues to increase. Environmental protection organizations are not limited to publicity and education, but are constantly exploring a variety of work methods including environmental information disclosure, corporate environmental credit evaluation, environmental public interest litigation, and environmental round-table dialogue. Some organizations not only discover problems, but also cooperate with professional third-party organizations to jointly provide solutions and reform plans, so as to actively promote the timely resolution of environmental problems.
- Second, organizations increase their cooperation and coordination. For example, over 10 environmental organizations including the SEE Foundation and the Institute of Public and Envi-

ronmental Affairs jointly established the Black Odorous River Governance Civil Observation Network to promote the treatment of urban black and odorous waters. There are also communication platforms, such as the Sustainable Development Annual Meeting of Environmental Protection organizations of China, People and Grassland Network and NGO Development Exchange Network, etc. These organizations focus on common environmental goals, quickly mobilize to jointly solve environmental problems.

- Third, there is more and more cooperation with the government. The objectives of environmental organizations and the government in terms of sustainable development and ecological environment protection are basically the same. In recent years, the government has also paid great attention to cooperation with environmental organizations. For example, local government environmental protection departments have procured environmental governance service from environmental organizations according to the governance plan.
- Fourth, the ability of organizations to mobilize social participation has increased. The rise and popularity of social networking platforms (such as Weibo, WeChat, QQ, forums, etc.) have provided convenient conditions for environmental organizations to organize public participation in environmental protection. Environmental NGOs use new media tools to publish relevant information, advocate and organize related activities. Such a novel, unique and targeted measure could enhance the effect of public participation.

Environmental organizations generally develop very well, but there are also many problems. Many environmental organizations do not understand national policies thoroughly. Some of them are not defined clearly, not professional and incompetent in solving problems. Some of them lack effective mechanisms and methods to participate in environmental protection, cannot effectively communicate with the government and other participants. These problems hamper their participation in environmental governance. There is still a long way to go before environmental NGOs can make a bigger impact on environmental governance.

## 5.6 Special Subject: Ecology Conservation and Poverty Alleviation

### 5.6.1 Overview

According to the Outline of the National Ecologically Vulnerable Area Protection Plan issued by the Ministry of Environmental Protection in September 2008, more than 80% of the country's major poor counties and 95% of the absolute poor are distributed in ecologically fragile areas. These two types of regions are highly overlapped, therefore, poverty alleviation through ecological development means to integrate the concepts of sustainable land management, climate change adaptation and environmentally friendly development into poverty alleviation and development, and coordinate economic and social development and ecology conservation in poverty-stricken areas.

China's recognition, policies and practise of poverty alleviation through ecological development have experienced three phases. The first is the vicious cycle of ecological destruction and poverty. The second stage separates ecological development from poverty alleviation. The third stage is to combine the two. Before the 1980s, China implemented a "grain-based" agricultural development policy for a relatively long period of time, causing widespread deforestation and land reclamation, bringing the vicious cycle of land reclamation and poverty. After 1986, the Chinese governments has carried out large-scale poverty alleviation and development, and has also carried out ecological construction activities such as controlling soil erosion in some areas. But for a long period of time, ecological construction and poverty alleviation are separated from each other. Since 1999, especially since the large-scale implementation of the project of returning farmland to forests and grasslands, the Chinese government has begun to consciously combine ecological construction protection with poverty alleviation and development, realize the coordinated promotion of ecology and poverty alleviation, strengthen ecological construction in poverty-stricken areas, and promote sustainable development in poverty-stricken areas.

In November 2016, the Party Central Committee and the State Council put forward China's "13th Five-Year Plan for Poverty Alleviation", demanding adherence to green, coordinated and sustainable development, and firmly establishing the concept of "Clear Water and Green Mountain are Valuable like Gold and Silver". The plan prioritized ecological protection in poverty-stricken areas, explored effective ways to realize poverty alleviation through ecological development. The plan advocated the coordination between poverty alleviation development and resources and environment, and the mutual promotion between poverty alleviation and sustainable development, benefiting poor people from ecological protection.

In March 2018, in order to implement the spirit of the "CPC Central Committee and the State Council's De-

cision on Winning the Fight Against Poverty” and the “13th Five-Year Plan for Poverty Alleviation” and give full play to the role of ecological protection in targeted poverty alleviation, the National Development and Reform Commission, the State Forestry Administration, the Ministry of Finance, the Ministry of Water Resources, the Ministry of Agriculture, and the State Council Poverty Alleviation Office jointly formulated the “Poverty Alleviation Work Program.” The “Program” defines the specific work, responsible people and timeline in detail, which is an important guide to promote poverty alleviation through ecological development.

### 5.6.2 Development and Challenges of Ecology Conservation and Poverty Alleviation

Judging from the government practice, China explores and forms the following major ecological poverty alleviation models:

#### 1) Develop eco-friendly industries

*Since China launched large-scale planned poverty alleviation in 1986, the development of eco-friendly industries that rely on local resources has always been an important way to alleviate poverty and increase income. All localities have explored and developed industries and products that are suitable for local ecological environment and have high economic returns, including forestry fruit cultivation, special breeding, ecotourism, etc. These industries have become an important source of income for poor farmers to become rich.*

#### 2) Ecological Restoration

*Poverty-stricken areas in China are mostly ecologically fragile areas with serious soil erosion or ecologically functional areas that are strictly prohibited from development. Since the end of the 1990s, the Chinese government has implemented many important ecological projects, including shelterbelt systems like those in the North, the protection of natural forest resources, the conversion of farmland to forests and grasslands, the treatment of Beijing-Tianjin wind and sand sources, the treatment of rocky desertification in karst areas, the protection of Sanjiangyuan in Qinghai, and the conservation of water and soil. These projects can control soil erosion, curb the trend of soil desertification and degradation in poverty-stricken areas, and alleviate land desertification and rocky desertification. In the process of ecological restoration and construction, poverty-stricken areas in various places have explored and summarized poverty alleviation methods that coordinate ecology improvement and poverty alleviation, including: building basic farmlands in ecological governance; mobilizing poor people to participate in ecological protection construction projects; develop encl-*

sure, facility agriculture and ecological forestry with economic benefits according to local conditions and responding to national key ecological projects construction.

### 3) Ecological protection

Farmers in nature reserves are forced to abandon many normal production and income-generating activities in order to protect the ecological government. This has become the main cause of poverty for many farmers in the protected areas. Through ecological compensation and provision of public welfare posts, the losses suffered by farmers in the protected areas will be compensated to a certain extent by an increase in income. Kong Lingying and other researchers have found out that the implementation of ecological compensation projects can significantly increase the income or employment opportunities of poor herdsman, improve the development environment of poverty-stricken areas, and promote the development of alternative industries and new industries in poverty-stricken areas.

### 4) Ecological migration

Ecological migration is a special form of ecological poverty alleviation because the fragile ecology of the poverty-stricken areas could not afford too much population and the cost of construction and restoration is too high. Since 2001, the National Development and Reform Commission has arranged special funds to organize and carry out nationwide poverty alleviation and relocation projects based on ecological immigration.

Although nationwide eco-migration has achieved considerable ecological and economic benefits in some areas, how to achieve a balance between economic and social development and ecological environmental protection in poor areas remains an important issue.

Governments are not only playing a leading role in China's poverty alleviation; they also encourage social organizations to participate in targeted poverty alleviation and serve as channels. Environmental organizations have the following advantages in participating poverty alleviation through ecological development: they could leverage their environmental protection and empowering experiences, build the capacity of the targets to develop individually through training. They can focus on certain points of a project, which are targeted and more suitable to implement. They are flexible in using technologies like Internet + to encourage public participation. With the advance of both theories and practice, environmental organizations are winning the attention of the society in participating in poverty alleviation through ecological development.

### 5.6.3 Representative Cases of Environmental Organizations and Effects

#### **Multi-party participation in the development of Guanba Village, Pingwu County, Mianyang, Sichuan**

*Guanba village is located in a region with high protection value. As villagers need to assume protection responsibilities, they cannot develop the resources simply and quickly; thus, their livelihood has long been limited. In 2009, the NPO Shanshui Nature Conservation Center recognized the ecological protection value of Guanba. It supported the villagers to carry out patrols and promote the change of environmental awareness of villagers. Since 2011, there has been an ecological development campaign in Guanba Village “from inside out”. Under the guidance of environmental organizations, villagers start to breed bees, an eco-friendly species, instead of cattle and sheep which are “environment-consumption species”. Villagers who used to dig herbs started to plant herbs and walnuts. Since then, beekeeping has become one of the ecological industries in Guanba Village, and more and more returning youths have also participated in the patrol team to support the ecological industry in their hometown.*

*After the industry has achieved some scale, the limited marketing channels have become a major challenge. In December 2017, Alibaba announced that poverty alleviation would become Ali’s strategic business. Since Guanba Village has a good ecological protection and ecological industry planning basis, as well as the endogenous strength of returning youth and the professional support from external environmental organizations, in 2018, the Pingwu County Government of Mianyang, Sichuan signed a contract with Alibaba and Guanba Village has thus become an experiment field of Alibaba. Alibaba’s Ant Forest is upgraded from an environmental governance platform involving only individuals to an ecological poverty alleviation platform where netizens could claim an area of economic forests and directly purchase cash crops “protected by themselves”.*

*In addition, Ant Forest and Taobao suppliers will also provide market opportunities for eco-friendly products produced in the nature reserves and economic forests, so as to help poor farmers to increase their income.*

### **China Green Foundation “Happy Home – West Greening Action” Poverty Alleviation and Ecology Conservation Project**

*The “Happy Home – West Greening Action” ecological poverty alleviation project was initiated by the China Green Foundation in 2007, combining ecological construction and rural industry development. It is jointly carried out by NPOs, the government, poor families and agriculture and forestry companies. The Foundation adopts this new model of poverty alleviation through ecology development in the western poor areas. They encourage poor families, especially rural women to plant ecological economic forests and earn income so as to increase household income. In this way, local ecology will also be improved and household sustainable development will be achieved. In recent years, the project has fully utilized the advantages of the Internet to mobilize social participation to donate 10 yuan for a tree and guide the public to participate in the online tree planting public welfare activities. Over the past ten years, more than 35 million people have donated more than 55 million yuan, more than 15 million ecological economic trees have been planted, more than 110,000 mu of barren hills and wasteland have been planted, and 15,000 households in poverty-stricken areas have been benefited.*

### **China Environmental Protection Foundation “Chando Himalaya Public Welfare Special Fund**

*In the past few decades, due to the combined effects of global climate change and overgrazing, the ecological environment of the Himalayas has faced problems of soil erosion and vegetation desertification. The melting of glaciers has degraded the grassland ecology and threatened the survival of various plants and animals. In September 2016, Chando and the China Environmental Protection Foundation jointly established the “Chando Himalaya Public Welfare Special Fund”. In May 2017, 660,000 square meters of green wheat grass was planted on the shore of Duoqing Lake in Yadong County, Shigatse, Tibet. In 2018, in cooperation with the Tibet Agriculture and Animal Husbandry College, the gentian grass plantation activity was carried out in Lulang Town, Nyingchi City, Tibet, and the gentian grass ecological cultivation demonstration project was carried out. They used the native gentian grass to cultivate wild gentian grass. With the technical guidance of the experts from the Tibetan Agriculture and Animal Husbandry College in Zhaxigang Village, the precise poverty alleviation model of “Enterprise CSR + Public Welfare Fund + Demonstration Base + Tibetan Farmers” will be realized.*

# 6

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