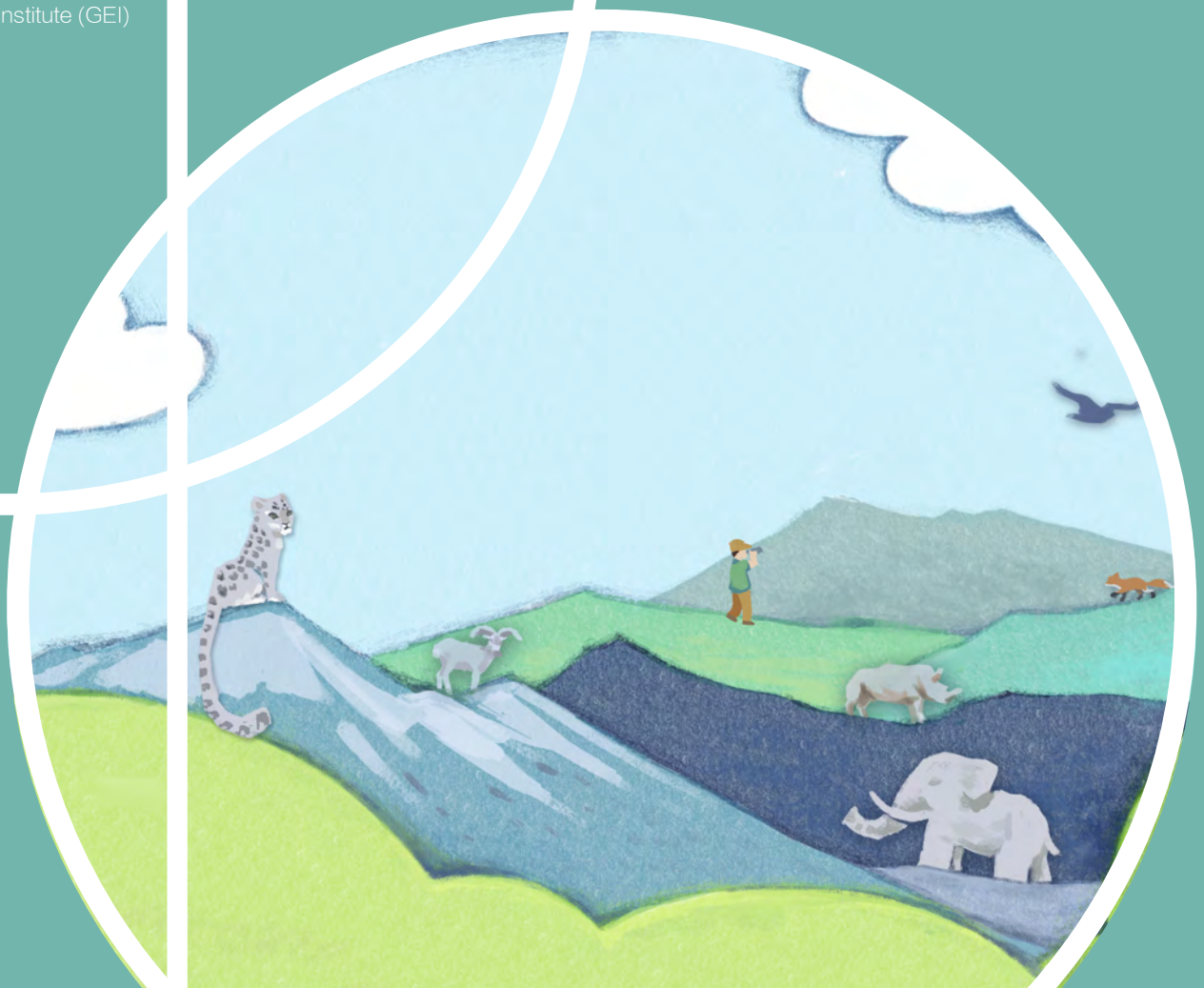
100+ Biodiversity Positive Practices and Actions Around the World

Selected Highlights

Authorities for guidance
CBD Secretariat
Office of the Executive Committee for the Preparation of COP15

Co-hosts
China Environmental Protection Foundation (CEPF)
Paradise International Foundation

Co-organizers
Shan Shui Conservation Center (SSCC)
Global Environmental Institute (GEI)



About the Call for "100+ Biodiversity Positive Practices and Actions Around the World"

The fifteenth meeting of the Conference of the Parties (COP15) to the Convention on Biological Diversity (CBD) will take place in Kunming in October 2021. In order to showcase noteworthy biodiversity-related actions, practices and models and to demonstrate the strong commitment of non-governmental actors worldwide to protect, conserve and sustainably use biodiversity, and under the guidance of the CBD Secretariat and the Office of the Executive Committee for the Preparation of COP15, China Environmental Protection Foundation and the Paradise International Foundation Foundation co-hosted the call for "100+ Biodiversity Positive Practices and Actions Around the World".

A total of 258 practices from 196 organizations around 26 countries of 7 continents were received. After the preliminary review, pre-review and final review of the collected practices, a total of 108 were selected as "Noteworthy Practices", of which 19 of them were selected as "Outstanding Practices". This case collection presents some of the cases.

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Global Environmental Institute (GEI)

Supporter

Yangtze River Fisheries Administration, Ministry of Agriculture and Rural Affairs of China

IUCN

China Environment News

Chinese Academy of Forestry

National Resource Centre for Chinese Medica, China Academy of Chinese Medical Sciences

Conservation International (CI)

Client Earth

The Global Environment Facility's (GEF) Small Grants Programme (SGP) implemented by UNDP (UNDP GEF SGP)

Weibo

Contents

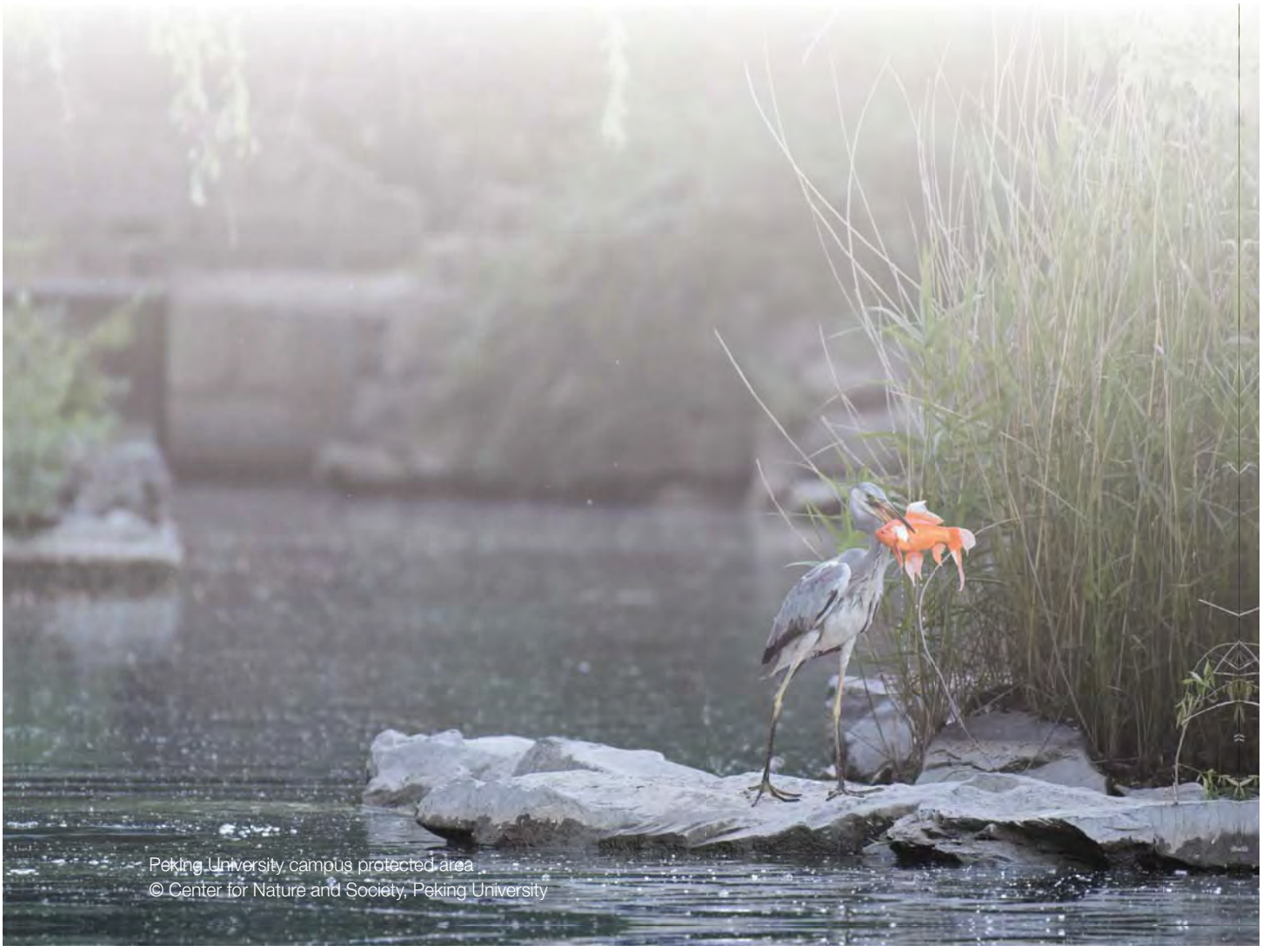
Contents

100+ 生物多样性保护全球案例

100 Biodiversity Positive Practices and Actions Around the World

01

In-situ Conservation



Peking University campus protected area
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Conservation effects of the restoration and development of Amur tiger population

Wildlife Conservation Society (America), Beijing Office

Approaches: *In-situ* conservation

Targets: Mammals

CASE INTRODUCTION

The Amur tiger is the flagship species of forest ecosystem restoration in northeast China and one of the most endangered big cats in the world. It is a first-class protected animal in China and was once widely distributed in the north of China. From the end of the 19th century to the middle of the 20th century, the distribution range and population of Amur tigers are gradually decreased, gradually decreased, and the distribution area kept shrinking to the east and north areas, and became increasingly fragmented. Two large-scale surveys of the Amur tiger population in 1998 and 1999 showed that there were 7-9 amur tigers in Changbai Mountain, Jilin Province.

Today, poaching, lack of prey, human-tiger conflict and habitat fragmentation are still the main threats to the recovery of the Amur tiger. In order to promote the restoration of the Amur tiger population in China, WCS has been engaged in the protection, research and education of the Amur tiger for a long time since 1998. In 2001, WCS cooperated with the local protection department to promote the establishment of Hunchun Siberian Tiger Nature Reserve. On the one hand, opportunistic monitoring and systematic infrared camera monitoring were carried out to understand the population structure and quantity

changes of the Siberian tiger. On the other hand, WCS cooperated with local conservation departments, to carry out patrol and nesting clearance, and took the lead in introducing foreign advanced SMART patrol management system to fundamentally eliminate the threat factors of tigers in the habitat, including the direct threat of hunting sets to the Amur tigers and the indirect threat of prey shortage caused by poaching. Since 2008, as the upgrade of SMART system to new versions, WCS has been providing technical training and application guidance to users, and strengthening anti-poaching law enforcement and wildlife resource monitoring. In addition, in order to alleviate the human-tiger conflict, WCS organized two training courses on human-tiger conflict in 2017 and 2020 respectively to train conflict emergency response teams, and at the same time, carried out publicity and education on human-tiger conflict in the community to strengthen villagers' awareness of wildlife protection and self-protection. Also, WCS actively promote the community to participate in the activities of protection. In May 2021, WCS promoted the establishment of the first community co-management patrol team in Northeast Tiger and Leopard National Park. "community co-management" is the new train of anti-poaching work, through which the local relevant government department can establish a wildlife conservation patrol system jointly with the local residents to enhance community awareness and the ability to participate in conservation.

At present, with the continuous improvement of habitat quality, the recovery of prey population, and the effective control and prevention of human-tiger conflict, the population of Amur tigers is increasing. Since 2013, WCS has detected 45 Amur tigers in Hunchun Nature Reserve, including six tiger families, with the largest one containing four cubs. Amur tigers no longer roam at the China-Russia border, but have made their home in China.

Walk with the Tigers and Leopards

China Green Foundation

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Sustainable use

Targets: Forest | Mammals | Genetic diversity

CASE INTRODUCTION

As the Siberian tiger and the Amur leopard are listed as endangered (EN) and critically endangered (CR) species in the IUCN Red List respectively, they are rare and endangered animals in our country with global significance. At the top of the food chain, they are flagship species for biodiversity conservation and a sign of the health of temperate forest ecosystems. During the construction of the national park pilot regions, the breeding population of tigers and leopards were continuously recorded, including more than 12 newly born Siberian tiger cubs and more than 11 Siberian leopard cubs. The stock volume of forest in the pilot area increased from 212 million cubic meters to 223 million cubic meters. The total area of ecological restoration is nearly 43,000 hectares and the area of the grain plot that is returned to forestryis 2,130 hectares. Besides, roe deer and goral, which hadn’t been seen for many years, also reappeared. The number of the three major preys of Siberian tigers and leopards, wild boar, sika deer and roe deer, has more than doubled. The Siberian Tiger and Leopard National Park (Northeast China Tiger and Leopard National Park) has played an important role in the protection of the siberian tiger and leopard habitat and ecological restoration.

Zhen'anling Villagein Chunhua Town, Hunchun City, is located in the hinterland of the Northeast Tiger and Leopard National Park. So to speak, it is the"heart of tigers and leopards". With the advancement of the project of the Siberian tiger and leopard national park, the tiger and leopard families began to settle in the forest around Zhen'anling Village. The villagers of Zhen’anling became very

close to them. Hence, their awareness of protection and attitude towards tigers and leopards will have an important impact on the survival of the leopards and tigers. What's more, the rapid growth of wild animals has also brought unprecedented changes to the daily life and production of the Zhenanling villagers. Herbivores such as sika deer and wild boars in the forests around the village enter the farmland around the forests more and more frequently to feed on crops, causing no harvest and great losses to villagers. At the same time, the villagers' traditional ways of production, such asgazing, planting and picking in the forest, have been banned. In this way, many villagers' income has been severely affected, which caused villagers' incomprehension and even resistance to the protection of tigers and leopards. On one hand, the area where rare wild animals frequently appear in China, brings challenges to the villagers, however, on the other hand, it also brings unprecedented opportunities to the development of their ways of production. How to turn regional ecological advantages into practical ecological industry? villagers urgently need the answer and support.

In 2018, the China Green Foundation launched the "Walk with Tigers and Leopards" project and a villager ecological patrol team in Zhen'anling Village is built to protect the safety of local tiger and leopard populations, assist in tiger and leopard scientific research, and publicize scientific knowledge. Also, they work on ecological fields, compensation for villagers' losses caused by ecological factors and conflict between humans and animals. And they aim to enrich the food chain,support community development and establish camps for eco-tourism and nature education. Through the coordinated development of the three sections, an eco-friendly rural community will be built, and a happy land where man and nature coexist harmoniously.

Coexistence with large wildcat the tigers in Nepal

Zoological Society of London

Approaches: *In-situ* conservation | Public participation | Sustainable use | Traditional Knowledge

Targets: Forest | Grassland | Freshwater & Wetland | Farmland | Flora | Mammals

CASE INTRODUCTION

Tigers (Panthera tigris) are the most threatened wild cat species. Ensuring their persistence is dependent on long-term conservation measures committed by tiger range-state governments and conservation organizations. Initiatives such as the Global Tiger Recovery Program represent the highest level of commitment to secure and recover tiger populations across their range. As per the commitment made by Nepal to increase its wild tiger population to 250 adults by 2022 from a baseline of 121, Nepal has implemented critical conservation measures. This has resulted in increased tiger population to an estimated 198 tigers in 2013. However, this progress has contributed to increase in human tiger conflict (HTC) to some extent. This could compromise the coexistence policy central to tiger conservation in Nepal.

Globally, nearly 4,000 tigers occupy a mere 6% of their historical range, yet 70% of the global population is concentrated within ~40 "source sites". Protection and effective management at these sites constitute the cornerstone of global tiger conservation strategies. Since tigers naturally occur at low densities within small, protected habitats and rely on conservation measures to secure and recover them, site-specific evaluations of current and potential tiger populations, assessment of threats, and development of strategies to mitigate them must guide conservation investment and action.

Terai Arc Landscape in Nepal, spanning 24,710 km2, comprises several Global Priority tiger conservation landscapes. Encompassing the highly productive alluvial grasslands and subtropical broadleaf forests in the Chure hills and outer Himalaya, these forests historically supported contiguous tiger populations. Expanding human populations have now restricted tigers to primarily five protected areas in three forest complexes. These three complexes are (Chitwan-Parsa, Banke-Bardia and Kailali-Kanchanpur) are globally recognized source sites that the Nepal Government aims to conserve and manage as a meta-population. The recent survey suggests that all these three complexes registered population increases, and studies project that they can support still more tigers, with potential to initiate and sustain tiger recovery across the landscape, provided specific conservation actions including engaging communities for conservation through sustainable livelihood activities and mitigating HTCs are carried out.

Hence, ZSL has initiated working in these important tiger conservation landscapes for tiger conservation through habitat management interventions to retain the increasing tiger within the protected areas and corridor forest and increasing community participation by providing them alternative to reduce the dependency of forest resources for livelihoods and HTC mitigation measures including technological uses. Furthermore, regular monitoring of the tiger to understand its status, ecology and movement is significant for the tiger

conservation that have been supported through the project.

ZSL, through its project and partnership with protected areas supported community members from the to initiate various alternative livelihood schemes including improved livestock farming, fisheries, piggeries, improved vegetable farming, etc. The project has provided as a start-up fund (e.g., altogether, NPR 8.85 million from IUCN/KfW funded project for three years) managed as community cooperative under the buffer zone committees including homestay to build community lodges. Likewise, trainings were provided to community members from buffer zones for homestay operation, hygiene and sanitation, cooking, hospitality, and accounting and responsible green tourism. The project supported a total of local community members to work as nature guides through intensive basic and advanced nature guide trainings.

ZSL collaborated with local communities, park officials and experts to identify the appropriate mitigation measures caused by the tiger and its prey. Following the suggestions, the project started a campaign to strengthen education and ware local communities on HTC and tiger conservation through community workshops, mass programmes, distribution, and dissemination of awareness materials (radio jingle, hoarding boards, laminated boards). The identified HTC vulnerable households were supported to construct improved predator proof corrals. Likewise, the project supported to install mesh wire fencing to prevent the prey base entering inside the villages. These fencings were installed in highly HTC impacted communities to fence the villages, protecting cropland and community settlements from crop raiding wild herbivores. The project ensured the input from local communities for these interventions by only providing the materials for corrals and fencing. The project supported to enhance the capacity of DNPWC in safe tiger immobilisation and translocation.

The project also supported the use of GSM-enabled cameras for the regular monitoring of tiger especially in the conflict hotspot location of PA. These cameras were equipped with IR flash, triggering mechanism which triggers anything passes by, and GSM Sim card that could send the alert images via email. The early warning system has been effective using GSM surveillance cameras to avoid the human tiger encounter. In addition, the information received from the cameras are useful to monitor the status of the tiger in regular basis. These cameras can be deployed in height of the tree so that the damages could be avoided caused by both natural and anthropogenic causes.

The project supported annual tiger and prey base monitoring across PA in Nepal in accordance with the National Tiger and Prey Base Monitoring Protocol. The project has also supported to formulate the protocol to standardise the survey. The first survey in 2016/17 covered 2580 sq. km of tiger habitat across all four sites while the second survey in 2017/18 covered 6572 sq.km including potential habitats outside the NPs. These surveys clearly indicated that the tiger numbers in Nepal have increased by 19% from the 198 (2013) to 235 (2018). The in-country capacity on tiger and prey base monitoring has been also improved through the project support to enabled DNPWC staffs, NTNC and local resource persons to conduct tiger and prey base survey and training for new staff who will join the survey in future. ZSL has supported to explore the tiger habitat beyond the PA in the eastern TAL where the camera trap has recorded 4 individual tigers.

ZSL together with DNPWC and other conservation partners anticipated the impact of climate change on tiger conservation and hence the project has supported for the enhancing capacity of the corridor community that connects the current and future tige habitat and provide a climate refugia for this iconic species. It includes preparing them for the tiger conservation through awareness raising, HTC mitigation and sustainable livelihoods to reduce the dependency of local communities on forest resources.

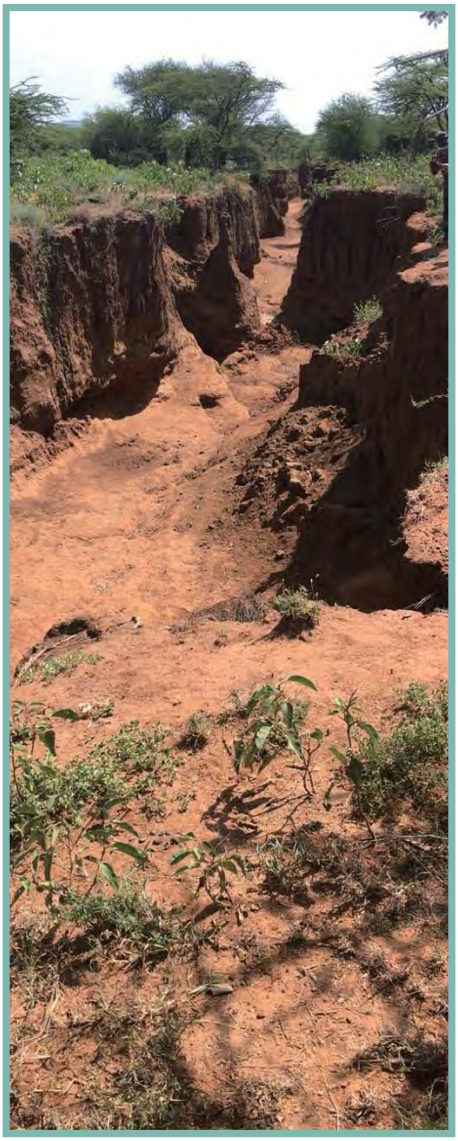
Save the Elephants

Save the Elephants

Approaches: *In-situ* conservation | publicity and advocacy | financial support mechanisms | Technological innovation | Traditional knowledge

Targets: Grassland | Arid and semi-arid land

CASE INTRODUCTION



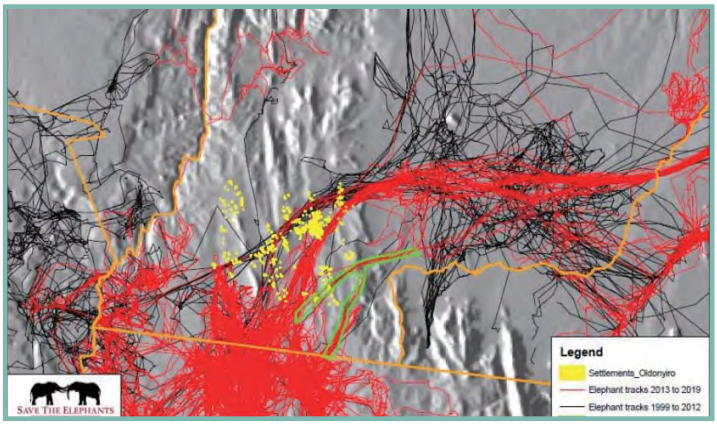
All over Africa and other parts of the world, wildlife species are facing threats to their natural habitats due to human population growth and infrastructural developments, as well as the effects of environmental degradation. This is placing increasing pressure on both people and wildlife as they share space and available resources. Oldonyiro is a prime example in Northern Kenya.

Oldonyiro ward is a semi-arid landscape, situated in Isiolo County of Eastern Province and covers an area of approximately 625km2. The town of Oldonyiro is centred on longitude 36 59' E and latitude 0 37' N surrounded by scenic hills and escarpments to the north and east respectively. The ward borders Samburu County to the east and north and Laikipia County to the west and south. The resident communities are mainly the Samburu and a small population of the Turkana tribe. Both are primarily nomadic pastoralists who keep livestock as their primary source of livelihood and have maintained their traditions and culture. The town is expanding at a high rate, and this poses a series of problems for the coexistence of people and elephants.

More than twenty years of collar tracking data and movement analyses conducted by Save the Elephants (STE) have revealed that Oldonyiro constitutes one of the key wildlife corridors in Northern Kenya, connecting the large mammal populations in the semi-arid Samburu ecosystem with the Laikipia highlands to the South. However, the corridor is becoming increasingly blocked by rising human population pressures and an increase in the size and number of deep erosion gullies.

The future of the Oldonyiro corridor represents

a significant conservation challenge. Elephants are still managing to use the open routes, by moving at night and at high speed to safe areas beyond human habitations. STE is therefore putting in place innovative conservation measures for human-wildlife coexistence and sustainable development as top priorities along the Oldonyiro corridor, in order to enable local communities to continue to live peacefully with elephants. Specifically, we are encouraging proper management of the spread of human settlements to avoid further encroachments into the corridor. This will be achieved through improved spatial planning of the existing and upcoming infrastructure. Informatics-based approaches are shown to offer value to conservation practices in this light, for example through data visualization to local communities in Oldonyiro, some groups have already moved away from some parts of the corridor.



Measures should also be undertaken to combat soil erosion, informed by the analysis of the environmental and conservation data. Pastoralism in this area is a key driver of soil erosion and large numbers of livestock over the years make it hard for the land to recover after rains as the vegetation cover is minimal. Encouraging communities to use sustainable herd sizes to avoid overgrazing and degradation is a tool we are advocating to tackle this problem while exploring measures for land restoration.

A colorful life comes from the diversity of nature — Yunnan Tropical Rainforest Biodiversity and Landscape Restoration Project

One planet foundation, Shenzhen

Approaches: *In-situ* conservation | Public participation | Sustainable use

Targets: Forest | Flora | Mammals

CASE INTRODUCTION

In China, Xishuangbanna in Yunnan province is the most complete, typical and largest area of tropical rainforest ecosystem. The tropical rainforest Nature Reserve of Xishuangbanna is a national ecological demonstration area, a national scenic spot and a member of the United Nations Biodiversity Protection Circle, with 1/6 of the plant species and 1/4 of the animal species in China, and a forest coverage rate of 80.8%. It is one of the areas with the most abundant biological species in China. Its rich natural resources and complete ecosystem play an important role in biodiversity conservation and ecological balance in the lower Mekong Region, and it is also a "paradise" for wild Asian elephants.

But local rubber and banana plantations are threatening the rainforest's biodiversity. The history of rubber in Yunnan can be traced back to the 1950s. Although it has brought economic benefits, rubber forests are basically pure forests of a single tree species. Unscientific planting methods can lead to environmental problems such as soil erosion,

chemical abuse, and habitat fragmentation of wildlife. In recent years, as the price of rubber has fallen, bananas have become the new favorite to increase the local economy. People have begun to cut down some low-yielding rubber forests and plant bananas instead. The intensive banana cultivation also threatens soil and biodiversity. As the footprint of human activities expands, "human-elephant conflict" becomes more frequent. Asian elephants forage crops in surrounding communities and damage production and living facilities.

Since the middle of 2016, a Shenzhen One Planet Foundation (OPF) has been working with THE World Wide Fund for Nature (WWF) in Xishuangbanna and Pu 'er regions of Yunnan Province. In response to a range of issues arising from the degradation of the local forest ecosystem, support has been given to projects including planting precious native tree species, exploring environmentally friendly rubber gardens, developing community alternative economies, restoring wild Asian elephant ecological corridors, enhancing the biodiversity of the region, and developing community economies.

Protection of the Asian Elephants

Kunming Zhongyuan Environmental Protection Science and Technology Consulting Center

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Financial support mechanisms | Technological innovation | Sustainable use

Targets: Forest | Mammals | Genetic diversity

CASE INTRODUCTION

Background:

The Asian Elephants were once found in the area of today's Yellow River Basin in northern China. Due to the successive large-scale agricultural reclamation and wars through dynasties, the quantity of the Asian Elephants decreased significantly. Till the second half of the 20th century, they could only be found in Yunnan. The tropical rain forests in Xishuangbanna were cut down and replaced by 464000 hectares of rubber forests. Besides, the agricultural cultivation areas for commercial use such as coffee and tea have also increased sharply. All these factors make it more and more difficult for Asian Elephants to obtain sufficient food from nature. The large number of crops planted around the villages are shared by both human beings and elephants, so the overlap of areas for activities of both human beings and elephants have also increased sharply, which makes the conflict between human beings and elephants become increasingly prominent.

Activity Mode:

1.Monitoring of ecology: Monitoring and Early Warning of Asian Elephants by Guanping Village Committee in Mengyangzi Nature Reserve

In 2018, the project applied for 2 early warning system patents, developed the image intelligent recognition module for Asian Elephants, the display of background data and the early warning platform for automatic dispatching. It has also installed 10 phenological cameras, 3 sets of rain gauges and 3 sets of thermo-hygrometers. In 2019, the project was promoted to villages, and the intelligent recognition module was continuously trained through the data obtained by infrared camera. At

present, 33 wireless backhaul infrared cameras have been installed around 5 groups from Guanping new village to the fifth brigade of the farm on national highway G213, in order to conduct real time monitoring of the 31 monitoring points for Asian Elephants' activities.

2.Optimization of ecological environment of habitats: optimization of food source for Asian Elephants in Mengyangzi Nature Reserve and Shangyongzi Nature Reserve

In 2018, alien species and weeds in Lengshan River of Shangyongzi Nature Reserve and Lotus Pool of Mengyangzi Nature Reserve were cleared out. And the Asian Elephants' favorite plants were planted. Finally, the optimization of food source for Asian Elephants within 1500 mu (1mu=0.067 hectares) was completed.

3.Optimization of ecological environment of habitats, monitoring of ecosystem, compensation for farmland, environmental protection publicity and education: Noah's Ark guarding of the Asian Elephant-Menghai Project, construction of habitat for Asian Elephants, alleviation of conflict between human beings and elephants

1.The project has completed the construction of 5 artificial nitrate ponds, tending thinning of 3157 mu (1mu=0.067 hectares) of forests, prescribed burning of 1000 mu (1mu=0.067 hectares) of forests, planting of 1300 mu (1mu=0.067 hectares) of Asian Elephants' favorite plants and compensation for 399.8 mu (1mu=0.067 hectares) of cultivated lands. In total, it has optimized 5856.8 mu of food source for Asian Elephants.

2.The project has installed 24 infrared cameras, and have obtained 19410 photos within the monitored area, of which, 551 can show the activities of Asian Elephants in the habitats optimized by the project, and 494 can show the activities of Asian Elephants near the artificial nitrate pond built in the project.

3.The project has installed 200 "Asian Elephant Warning Billboards" and has distributed 25000 "Asian Elephant Warning Poster Foldout". The science-popularization picture book of See the Asian Elephant designed and developed by the project has been printed by 30000 copies, and were distributed to schools in villages and towns related with elephants.

The role of non-governmental organizations in cross-border protection: A practice of ecological demonstration village at poverty-stricken ethnic minority villages in the cross-border Asian elephants protection area of Laos

Yunnan Green Environment Development Foundation (YGF)

Approaches: *In-situ* conservation

Targets: Forest | Mammals

CASE INTRODUCTION

Asian elephants (Elephas maximus), the first-level key protected wild animal in China, has been listed as an endangered species by International Union for Conservation of Nature -IUCN, and been listed in Appendix I by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (hereinafter referred to as CITES). Once widely distributed across the country, wild Asian elephants in China are now only seen in southern Yunnan Province. There are five herds of cross-border Asian elephants living along the border between Mengla County, Xishuangbanna Dai Autonomous Prefecture, Yunnan Province and the three provinces of Namtha, Phongsaly and Oudomxay in Laos.

With a superb natural environment where complete and concentrated habitats suitable for elephants are reserved, this area has become an important zone for Asian elephants to live. They wander the borders of the two countries that are relatively remote and underdeveloped areas where frequent illegal activities such as deforestation and poaching

take place due to weak management from the governments.

This area is also where local ethnic minorities live, who still keep the habits of surviving on mountains and hunting for a living, with means of production and lives largely dependent on natural resources. In recent years, as the population continues to grow, land development and overuse has turned a large number of virgin forests into farmland. Meanwhile, human activities such as burning forests and destroying mountains to plant rubber, tea and other economic crops have led to a sharp decrease in the virgin forests. As a consequence, Asian elephants are faced with a constantly deteriorating living environment and have to compete with humans for limited resources and living space.

In order to protect the Asian elephant population at Xishuangbanna-Laos border and to mobilize Lao's local communities to participate in the protection of Asian elephants and their habitats, in 2019, "Yunnan Green Environment Development Foundation (YGF)" and "Xishuangbanna National Nature Reserve Management and Protection Bureau", with the support of the Department of Commerce of Yunnan Province and in cooperation with the Department of Agriculture and Forestry of Phongsaly Province, Laos, carried out a community pilot project in Baka Laozhai, Bennu County on the Laos side of the "China-Laos cross-border biodiversity joint protection area". This project, combining the working method of "demonstration village" with the needs of local protection and community development, has been recognized and welcomed by the governments and villagers of both sides. The Department of Agriculture and Forestry of Phongsaly Province, Laos hopes to see such cooperation as a good pattern, and suggests that the Lao government open up non-governmental cooperation and exchanges on ecological protection in the border areas.

The project, based on the "China-Laos cross-border biodiversity joint protection" cooperation framework established by China and Laos, as well as the joint protection plan developed by the government of Xishuangbanna, has given full play to the advantages of non-governmental organizations in promoting exchanges and cooperation at the elementary level between the two countries. With the cooperation among YGF, the governments and the communities, various work has been organically integrated including the publicizing of and training on protection awareness, the building of community's capabilities in ecological protection, and the promotion of the sustainable development of the community.

Restore the wilderness and bring the leopard home

Chinese Felid Conservation Alliance （CFCA）

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy

Targets: Mammals

CASE INTRODUCTION

North China leopard is a unique subspecies of leopard in China, and its type specimens were collected from the mountainous area west of Beijing. As a large carnivore, the existence of leopard means the integrity of forest ecosystem. Historically, the North China leopard was widely distributed in North China, but due to habitat loss, illegal poaching and other factors, there are still a small number of isolated populations of the north China leopard in the Taihang Mountains, Ziwuling mountains and other mountains, and the leopard's original hometown, Beijing, has not been recorded for many years. In April 2017, CFCA launched the "Bring Leopard Home" project, which aims to protect and

restore the existing North China wilderness and allow the leopard to spread naturally along the Taihang and Yanshan Mountains and return to its hometown in Beijing.

Main activities:

Scientific assessment: assessment of effective protection must be based on science,

since 2013, the CFCA with Beijing normal university, Beijing university, tsinghua university and other colleges and universities in the monitoring and evaluation analysis that by infrared cameras monitoring, found heshun county is located in shanxi jinzhong city of north China leopard population stable, their fertility is strong, and can be used as the source population; Through habitat simulation analysis, several potential habitats of North China leopard, such as Tuoliang and Xiaowutai, were identified, which could be used as protection units and become the first echelon of population recovery of north China leopard. Through the wilderness current model, we found the fault zone formed by highways and settlements, and revealed that the diffusion channel would be one of the main problems to be solved. Two key anthropogenic disturbances, roads and grazing, are also being studied to assess their impact on the north China leopard and its habitat.

Community participation in on-ground protection: Based on the identified threats such as human-animal conflict and poaching, we continue to carry out on-ground protection in the areas where leopards are brought home, including community anti-poaching patrol, ecological compensation for leopards eating cattle, and damage prevention and control of wild boar, so as to gradually eliminate key threats to the North China leopard and its habitat.

Public participation in the publicity and education: the need from the public participation to protect. Since the project, the cat alliance has been through the media, and offline activities two parts to carry out science, advocacy of public participation in protection, and fruitful. In 2020 alone, the cat alliance WeChat public reading quantity to reach 1.67 million, weibo reading quantity reached 200 million, 26 offline activities and direct the audience too.

Government cooperation: In view of the identified threat factors, we established a communication and feedback mechanism with the relevant governments where the north China leopard core habitat is located. In 2019-2020, we successively submitted ecological impact assessment reports on the leopard population and its habitat for relevant projects.

Promotion of participation of communities in Yanchiwan area of Qilian Mountain National Park to protect the snow leopard

Luqiao Ecological Center, Haidian District, Beijing

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Technological innovation | Sustainable use

Targets: Mammals

CASE INTRODUCTION

Located in the southeast of Subei Mongol Autonomous County, Gansu Yanchiwan National Nature Reserve is an extremely large wildlife nature reserve, which focuses on the protection of rare wild animals in plateaus, such as the snow leopard, white-lipped deer, wild yak and Tibetan gazelle. It has an area of 1.36 million hectares. There are two villages in the nature reserve: Yanchiwan Village and Shibao Town Village. In addition, some areas of Yuerhong Village are also within the scope of the nature reserve. The total number of households in the community is 289, with permanent population of less than 1000. The main form of community economy in the nature reserve is animal husbandry, with planting as a supplement.

The loss of biodiversity not only has a negative effect on the ecology, but also changes the process of how the ecosystem serves human beings, and thus affect human life. On the other hand, the conflict between human and wild animals is the major determinant of loss of biodiversity, but it is also one of the consequences caused by loss of biodiversity. However,

so far, there are still few studies on how the conflict between human and wild animals is caused by the loss of biodiversity.

According to the national functional partitioning system, Gansu Yanchiwan National Nature Reserve has been identified as an ecological protection zone and a water source protection zone. And it has also been granted as the pilot area of Qilian Mountain National Park as a whole. The prohibition of large-scale construction activities has effectively protected wild animals with majority of snow leopards. However, snow leopards and other species in this area are still facing various threats, mainly including: (1) habitat fragmentation; (2) livestock grazing; (3) Climate change; (4) lack of community support for protection.

Through community-based snow leopard protection activities in Yanchi Bay area, such as strengthening the snow leopard patrol monitoring system, launching a pilot project for corral improvement technology, making plans for livestock insurance compensation and keeping ecosystem healthy (improving immunization for community dogs), as well as popularizing the concept of wildlife protection to local communities (carrying out popular science propaganda of protection of wildlife and ecology in local communities and schools), the snow leopard monitoring network system has been strengthened, the community-based strength to protect snow leopard has been enhanced, the conflict between human and animals has been alleviated, and the communities' capacity to protect snow leopard has also been improved. With the promotion of the project experience, the health and integrity of the snow leopard and its ecosystem have been guaranteed, which has also helped a lot to realize the sustainable development in local communities.

Everest Snow Leopard Conservation Program

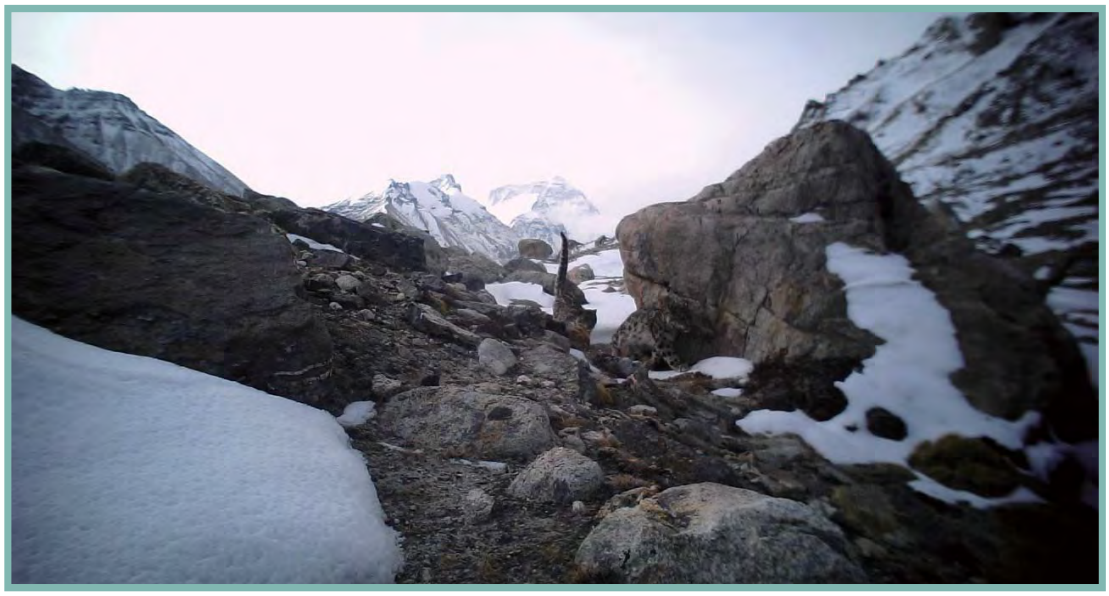
Vanke Foundation

Approaches: *In-situ* conservation | Financial support mechanisms

Targets: Forest | Grassland | Freshwater & wetland | Mountain | Flora | Mammals | Avifauna

CASE INTRODUCTION

Snow leopards, known as "the king of snowy mountains", live in snow-capped plateaus and ridges. According to a rough estimate by scientists, the total population of existing snow leopards globally is around 4000 to 7000, who are distributed in 12 countries, all located in Asia especially central Asian countries, among which 50% to 62% of the cat live in China. Due to various factors from climate change to illegal poaching and habitat degradation, snow leopards are faced with serious threats for survival calling for urgent protection. The Mount Everest area in Tibet is an important Chinese habitat for snow leopards, yet as a result of several factors, the protection of snow leopards in the Mount Everest area is very difficult.



In 2013, Vanke Foundation established a strategic partnership with Forestry and Grassland Administration of the Tibet Autonomous Region to jointly release the "Mount Everest Snow Leopard Conservation Program". And in May 2014, Vanke Foundation and Everest National Nature Reserve Administration jointly set up the "Everest Snow Leopard Conservation Center", funded by Vanke Foundation (2 million per year, total investment of 11 million by 2020), with the former in charge of recruiting personnel for the center and the latter determining the business direction and coordinating administrations at all levels for

the implementation of this program. The cooperation model of "Everest Snow Leopard Conservation Center" is an innovative move for species conservation promoted and explored by Vanke Foundation based on the features of the protection work in the Mount Everest area, aiming to identify an effective approach to performing species conservation that is combined with the direction and stable management of the government as well as the flexibility and extensive resources of social organizations.

Based on the concept of "Nature Protection System Engineering" (CbD), the center has built the "Conceptual Model of Snow Leopard Protection in the Mount Everest Reserve" and developed the "Everest Snow Leopard Protection Action Plan". From 2014 to 2017, focus was put on researches in Everest snow leopards and their habitats, with 523 infrared cameras deployed in the area of 1,936 square kilometers, so as to initially get to know the distribution and survival status of Everest snow leopards, which, to a certain extent, has filled a long-term gap in this field. During 2017-2020, besides continued snow leopard population research, investment has been increased in supporting the livelihoods of local communities, improving the capabilities of the protection team, and promoting knowledge dissemination to the public, etc. The center has not only funded over 10 specialized researches and training sessions directly benefiting 20 stations of 4 branches of the Mount Everest Reserve in terms of the improvement of protection management mechanism and the abilities of frontline protectors, but have also allocated small grants to support the infrastructure upgrading in the communities, survey the communities within the Mount Everest Reserve, assist local cooperatives to explore the livelihood transformation path and draft a number of application reports on comprehensive conservation management.

Being adjusted and optimized closely in line with the specific conditions of Mount Everest, the working mechanism of the Everest Snow Leopard Conservation Center has undergone a model transformation process from being "business-oriented" to "platform-oriented". By the end of 2020, after years of continuous efforts, the "Cooperation Network for Everest Snow Leopard Protection" has been initially established, and an expert panel centering 4 scientific research universities has been formed; Meanwhile, aided by the center, active exploration has been conducted on the innovation and optimization of mechanisms for conserving the Everest snow leopards and their habitats, in conjunction with partners in various fields from species research, community development to conservation management and natural image dissemination .

Yunlong Tianchi Multiple Benefit Forest Restoration Project

GAC Toyota Motor Co.

Approaches: *In-situ* conservation | Public participation | Sustainable use

Targets: Forest | Species diversity

CASE INTRODUCTION

Forest is one of the most important ecosystem types on earth, and their protection has become a topic of great concern to the government and the public. However, as China's forestry development method is relatively sloppy, there is a lack of scientific planning and management of forest vegetation restoration, especially a lack of effective monitoring of biodiversity. At the same time, people's demand for forest recreation is becoming more and more urgent, but ecological resources have not yet been effectively transformed into high-quality ecological products and public services. The participation of local communities and the public in forest conservation not only provides objective social capital and reduces the economic cost of conservation, but also can serve as a mechanism to monitor ecological

damage as well as the effectiveness of ecological conservation.

In March 2014, a fire broke out in the woodland of Gongguoqiao Township, Haicang Village, Yunlong County, Dali Prefecture, Yunnan Province, destroying about 4,200 Chinese hectare of vegetation. The restoration of vegetation in this burn site is crucial to

the habitat protection of Yunnan snub-nosed monkeys. At the same time, the natural and humanistic landscape of Yunlong Tianchi and the surrounding wetlands and Bai villages is very rich, with a variety of special agricultural products, which are highly valuable for the development and promotion of natural experiences and ecological products.

Therefore, GAC Toyota Motor Corporation ("GAC Toyota"), together with China Greening Foundation, Shan Shui Nature Conservation Center and Yunlong Tianchi National Nature Reserve Management Bureau, will integrate multiple resources to carry out the Yunlong Tianchi Multiple Benefit Forest Restoration Project from 2017 to 2021, which includes forest restoration, scientific research and monitoring, sustainable management with community participation, and public nature experience and education.

Through scientific and effective multi-benefit forest restoration and in Yunnan Yunlong Tianchi National Nature Reserve and its surrounding communities, the project will complete the revegetation of 1,000 Chinese hectare of fire-trapped land in Yunlong Tianchi, planting a total of 173,300 seedlings and carrying out nurturing and management to promote forest regeneration; establish a long-term scientific research monitoring system to assess the effectiveness of restoration; and through organizing nature observation festivals and scientific volunteer activities The project's values and concepts are widely disseminated; while enhancing the reserve's capacity for nature education work, it helps communities develop eco-products for nature experience reception and conservation give-back to increase community participation in nature conservation.

Management and Develop Community-based White-headed langur Protected Area in Guangxi Qunan to Promote Ecological Protection and Sustainable Development

Guangxi Biodiversity Research Center(BRC)

Approaches: *In-situ* conservation | Policy-making & implementation | Financial support mechanisms | Sustainable use | Traditional knowledge

Targets: Forest | Mammals | Germplasm resource conservation

CASE INTRODUCTION

Qunan is a Zhuang ethnic village in Fusui County, Chongzuo City, Guangxi with a history of nearly 300 years. It retains the traditional knowledge of the Zhuang ethnic groups and their knowledge-practice-belief complex. Fengshui forest is one of the typical examples. Its health and landscape are considered to be closely linked to the well-being of the village. It helps protecting water sources and preventing natural disasters such as landslides and rocks. It is a shelter for many plants and animals.

Qunan is located in the karst stone hilly area, located in the Indian-Burmese biodiversity hotspot area, and is an important habitat for a critically endangered species, the white-headed langur.

The habitat of the white-headed langur belongs to the community collective forest. In order to obtain full support from the villagers for ecological protection, in 2014, the QunanTun Committee, with the prior knowledge and consent of all the villagers, raised fund, established, and managed a community protected area. The form was approved by

the County Forestry Bureau. The whole village agrees to register in UNEP's WCMC protected area database, which is recognized by the broader society.

A Community Protected Area management team was established under the Tun Committee, which has a clear division of labor, and performs its own duties in finance, government relations, publicity and patrol, and promotes community participation in village regulations and protection plans through co-management meetings. Develop and establish an internal consultation mechanism. Unlike the protected area established by the government from top-down decisions, the management and decision-making of the Qunan community protected area does not rely on specialized staff, laws or management systems, but rely on common law and the joint supervision of villagers.

Benefiting from good ecological and cultural conditions, Qu Nan cooperated with nature education institutions to build a nature education base to host eco-tourism and educational activities from all over the country to promote green development. Villagers joined the camp design, thus internally developed community groups around nature education business activities, participated in or independently provided folk culture courses. An effective democratic discussion and decision-making mechanism is gradually established within and outside the community groups and between the committees.

After the establishment of the community reserve in Qunan, the number of white-headed langurs has continued to increase, the vegetation of the rock mountain has been continuously restored, poaching and mining, and habitat destruction have basically been eliminated. Through the development of nature education, the collective income of the village has increased, providing financial support for sustainable management, and forming a market-based sustainable financing mechanism.

Communities have been empowered to continuously improve their self-governance and management capabilities in practice, and explore a co-management system with "equal discussion and democratic consultation" as the core. The development of community groups has also improved the grassroots governance space. More importantly, in the process of protection and development, the villagers feel the diverse values of society, culture, economy, politics, etc., and thus stimulated the vitality of self-education, growth and development of the community, and generate recognition and love for their hometown and culture.

Mengxin Beaver Protection Series Public Welfare Project

Altay Region Nature Conservation Association

Approaches: *In-situ* conservation

Targets: Mammals

CASE INTRODUCTION

1.Case name: Mengxin beaver series protection work for national first-level protected animals

2.Case background: The Ulungu River Basin in the Altay Region, with Ulungu Lake as its tail, is a national first-level key protected wild animal. The Mengxin beaver, known as the "engineer of the animal kingdom," is the only habitat in my country. The shrub willow growing in the Ulungu River Basin is an essential factor for the survival of Mengxin beavers. It is not only their food, but also the "building materials" they use to build nests and build dams. In recent years, due to climate change and other reasons, shrub willows in the Ulungu River have been aging and their coverage has been greatly reduced. Food resources began to be insufficient, and environmental capacity became the main factor restricting the development of the Mengxin beaver population. At the same time, the local area has long been constrained by its remote location and the level of local economic development. The nature protection work has always suffered from a "talent shortage" that is difficult to recruit and retain people. There is a shortage of staff, professional wildlife veterinarians, and conservation personnel.

3.Solve the problem:

The organization initiated three public welfare projects for the protection of beavers: "Beaver Canteen" planted 420,000 bush willow saplings for beavers,

which greatly improved the food resources and environment of the beaver's habitat; "Beaver Guardians" mobilized Wu 190 herdsmen on the Lungu River became public service rangers, solving the problem of shortage of people in nature protection work; "Beaver's Ark" built the first professional medical rescue center for beavers in China, which greatly reduced the accidental death rate.

During the three years, the above-mentioned project has been linked with the participation of the local government, many domestic nature conservation foundations, and enterprises, and has won the support of more than one million netizens. It has successfully promoted the population of the national first-level protected animal Mengxin beaver from 500 to 598. The increase was about 20%, reaching the highest peak since the beaver observation data of my country's nature conservation work.

Establishment of a wildlife friendly railroad corridor for open plains ungulates in Mongolia

Wildlife Conservation Society

Approaches: *In-situ* conservation

Targets: Grassland | Mammals

CASE INTRODUCTION

The practice consists of retro-mitigation of existing safety corridor fencing along a railroad to allow highly mobile large and medium bodied ungulates (Asiatic wild ass, Mongolian gazelle, goitered gazelle) to move unimpeded across the Trans-Mongolian Railroad. This effort increases the permeability of the Gobi-Steppe Ecosystem, one of the largest grazing systems on the planet. Crossing locations are identified and segments of fence are either removed entirely so that Asiatic wild ass can walk across or reconfigured to allow gazelles to crawl underneath. The effort involves understanding the legal framework for safety considerations and obligations to protect ecosystems and species, outreach to pastoralists living in the vicinity of the railroad to increase their awareness and

understanding of their obligations to keep livestock off of the tracks, communicating with local and national government agencies to keep them abreast of project actions and successes, and engagement with railroad staff to help build ownership of the project and

increase their capacity to understand the importance of habitat connectivity and their obligations to operate safely while still adhering to environmental laws. Once the fence is physically removed or redesigned, monitoring involves the use of automatic cameras to confirm wildlife use, tracking livestock with GPS technology to identify risk hotspots, and preparing and disseminating outreach materials so the general public is aware of and supportive of the efforts.

Habitat permeability in the Gobi-Steppe Ecosystem is critical for the survival of highly mobile species that depend on access to forage resources across vast spaces that have unpredictable distribution from one season to the next. A single barrier, in this case the Trans-Mongolian corridor fence, can have profound impacts. Asiatic wild ass once ranged across the entire Gobi Steppe Ecosystem have disappeared from the eastern side of the fence and it is now the defining boundary of their range while each year thousands of Mongolian gazelle are entangled in the fence wires or struck by passing trains or turned away from their natural movement patterns. The creation of a wildlife friendly fence corridor for these species increases their ability to move across the ecosystem allowing for khulan to repopulation their former range and allows gazelles to resume their long-distance movements across their range. This increases the integrity of the landscape and improves these species' outlooks for survival which provided important ecosystem services for subsistence hunting and economic benefit from wildlife orientated tourism.

Protection of Skywalker hoolock gibbons and their habitats

Cloud Mountain Biodiversity Conservation and Research Center, Dali Bai Autonomous Prefecture

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Policy-making & implementation

Targets: Forest | Mammals

CASE INTRODUCTION

At present, only 4 species of gibbons totaling less than 1,500 are distributed in the wild of China, among which there are fewer than 150 Skywalker hoolock gibbons who were re-described and named in 2017 by Professor Fan Pengfei from Sun Yat-sen University, the founder of Cloud Mountain Conservation. As a newly-named and critically endangered species, all the conservation actions are reliant on the baseline surveys and studies concerning this animal. Half of the Skywalker hoolock gibbons in China are distributed in Yingjiang County in Dehong Prefecture, Yunnan Province, and most of them live outside the reserve. Habitat fragmentation caused by human activities and infrastructure construction has impaired the reproduction of populations, and as a result, some

populations are now distributed in collective forests or individual forests at lower altitudes. Such low-altitude habitats are of great significance to the protection of gibbons and the promotion of community engagement in ecological conservation from the perspective of maintaining the sustainability of ecosystem functions.

Our work in Yingjiang comprises of three parts: field survey and monitoring, promotion of community protection and sustainable development, and public scientific education for citizens. Since 2017, Cloud Mountain Conservation has been working with Tongbiguan Nature Reserve to conduct in-depth surveys and population monitoring of Skywalker

hoolock gibbons in Yingjiang County, including information collection from witnesses, monitoring of the snow leopard population, habitat quality investigation, and dung collection for genetic diversity research. Following years of continuous monitoring, we get to know the population and distribution of the gibbons, and have established a mechanism to exchange data with the local reserve, with population dynamics updated at any time, and as a result, we have developed contacts with local government departments and communities of different levels, and promoted public awareness of gibbons through science popularization.

In terms of communities, we have learned about the status-quo and the real needs of local communities through in-depth interviews, and by referring to the data that local ecological surveys collect, we have identified, together with locals, the threat factors for habitat restoration in the area, and developed conservation plans with community engagement accordingly. One of our breakthroughs is to share with villagers what we have learned from the PRA surveys carried out together with the community, so as to agree upon a plausible practice of gibbon protection that the community can understand.

Community attention has been drawn to the natural environment and gibbon protection through youth nature education programs that provided closed-loop education on awareness, concept and action. Following our discussions with the Yingjiang County Bureau of Education and local schools, we have launched a natural science course on gibbons based on the local natural environment, and so far have compiled a set of original textbooks (including teacher's books and student textbooks), with trial class planned at local schools in the second half of this year. For the children and young people in the village, we, having considered the community's traditional culture, organized activities for them to experience nature, aiming to foster their understanding of the hometown environment and recognition of the value in nature protection.

Naren Conservation Community

Wild China Film

Approaches: *In-situ* conservation | Public participation | Sustainable use | Traditional knowledge

Targets: Forest | Grassland | Farmland | Mountain | Dry and sub-humid land

CASE INTRODUCTION

Conservation Action

In December 1998, Naren village held a whole village congress, at the meeting to publicize the relevant laws of the state to protect the environment, requiring the villagers to understand the law, law-abiding, not indiscriminate deforestation, protect the environment, at the same time draft through the village rules and regulations, marking the formal establishment of all the villagers as the main body of the Naren conservation community. In the village rules and regulations, it deliberately set up the protection of ecological, forest resources protection provisions. The village held propaganda activities from time to time to improve the quality of villagers and sense of unity, and set up a reward and punishment and

supervision and reporting mechanism to implement the provisions.

In more than 20 years of conservation practice, villagers have returned farmland to forest, grazing land to grassland, carried out simple patrol activities, spontaneously stopped poaching, illegal logging and other illegal activities, and picked up garbage in the mountains and fields. Since 2019, under the guidance of external protection agencies, villagers have carried out infrared camera monitoring, and sorted out village stories and

protection history.

Conservation Mode

In fact, the protection community of Naren relies on the autonomy and spontaneous protection of the village, without relying on the protection funds of the government, and sometimes even stricter than laws and regulations. All things have spirit of villagers believe in Tibetan Buddhism, all living things equality, not to kill, karma and so on, also accept external scientific protection guide at the same time, from inside the village governance, science, philosophy, religion, and other laws and regulations approved protection level, and the protection consciousness into action, neck and multi-layer constraint mechanism. Villagers, whose duties and rights align, whose aspirations and actions align, are the best guardians of nature while recognizing themselves as the greatest beneficiaries of protection. On the premise of protecting nature, they can get the gift of nature; Learning from the outside world while maintaining the spirit of unity and mutual assistance, the village can be sustainable development, which is the "mountain to eat mountain" that Ren advocates. In the future, the village plans to develop environmentally friendly industries, such as mountain medicine cultivation and eco-tourism, in order to improve the living standards of villagers and attract young people to return to the village for employment and development opportunities that are compatible with the city.

All stakeholders participate and build a grand network for black-necked crane protection

Kunming Institute of Zoology, Chinese Academy of Science (KIZ)
Research Institute of Forest Ecological Environment and Protection (RIFEEP)
International Crane Foundation (ICF)

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Traditional knowledge | Policy-making & implementation | Technological innovation | Access and benefit-sharing

Targets: Freshwater creatures | Avifauna | Germplasm resource conservation

CASE INTRODUCTION

The black-necked crane (Grus nigricollis) is the only crane among the world's 15 species of cranes that lives on the plateau. It is distributed on the Qinghai-Tibet Plateau and surrounding areas, involving China, India, and Bhutan. It is the flagship species of the wetlands of the Qinghai-Tibet Plateau.

The black-necked crane is the latest crane species discovered and least studied due to factors such as remote distribution, traffic obstruction, and complex environment.

From 2004 to 2006, the Kunming Institute of Zoology, Chinese Academy of Sciences (KIZ), the National Ornithological Center under the jurisdiction of the Research Institute of Forest Ecological Environment and Protection (RIFEEP) and the International Crane Foundation (ICF) jointly carried out the first domestic black-necked crane satellite tracking study, revealed the important habitat and migration routes of black-necked cranes, and conducted research on its ecology and protection.

Years of practice has made Yang Xiaojun, Qian Faqi and Li Fengshan of the three institutes realized that effective protection of black-necked cranes requires the participation of relevant institutions and organizations and stakeholders in breeding grounds, migratory route stops, and wintering grounds.

The three institutes jointly initiated the

establishment of the "Black-necked Crane Protection Network" in 2011, established an annual meeting and core group communication and coordination mechanism, and jointly promoted the information communication and experience sharing between non-governmental organizations and volunteer groups, authorities, research institutions, and promote cooperation in scientific research, simultaneous investigation and coordination of joint protection actions.

Through the annual meeting, provide member units with required knowledge and skills training, guide protection and research work, and enhance network influence and cohesion.

Black-necked cranes live on plateaus throughout their lives. They are mainly distributed on the Qinghai-Tibet Plateau and its surrounding areas. The distribution area covers most of the western plateau of China. It overlaps with the wilderness and typical plateau ecosystem protection areas in China, and the ecological environment is extremely fragile.

The construction of the protection network has not only promoted the research and protection of black-necked cranes, making black-necked cranes the only crane in China whose population has increased significantly, but also promoted a significant increase in the area of protection of black-necked cranes and the improvement of protection effectiveness.

At present, there are 27 wetland protection areas with black-necked cranes as the main protection object, including 13 national and 14 provincial nature reserves, with a total area of more than 255,000 square kilometers. As the flagship species of the wetland ecosystem of the Qinghai-Tibet Plateau, the construction of the black-necked crane protected area system, as well as the protection and restoration of the habitat, also umbrellas a variety of species living in the wetland of the plateau, and improves the effectiveness of biodiversity conservation in the "Third Pole" region of the Qinghai-Tibet Plateau.

Exploration and practice of White Crane protection in Poyang Lake

International Crane Foundation
Jiangxi Poyang Lake National Nature Reserve

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Sustainable use

Targets: Freshwater & wetland | Avifauna

CASE INTRODUCTION

The Siberian crane is a critically endangered species on the International Union for Conservation of Nature (IUCN) Red List, under first-class state wild animal protection in China, with a global population of about 3,600-4,000. Currently, the central and western populations wintering in India and Iran are almost extinct, and only the eastern populations wintering in Poyang Lake remain.

The International Crane Foundation (ICF) is the only international non-governmental organization in the world that focuses on the protection of all 15 crane species and their habitats. In order to understand the survival status of the eastern Siberian crane population, ICF has cooperated with Chinese scientists since 1979. With the efforts of

scientists, more than 100 Siberian cranes were finally found in Poyang Lake in the winter of 1980, and that's when unremitting research and protection of this species began. On the advice of ICF and domestic experts, the Jiangxi Provincial Government established the Jiangxi Poyang Lake Migratory Bird Reserve in 1983 with the protection of Siberian cranes as the primary goal. The Reserve was upgraded to a national reserve in 1988, with its name changed to Jiangxi Poyang Lake National Nature Reserve (short as Poyang Lake Reserve)

in 1988.

In 1998, the Yangtze River flood had a serious impact on the Poyang Lake wetland ecosystem. Siberian cranes were facing severe problem of food shortage, and their living conditions were worrying. To learn the population quantity and distribution of Siberian cranes and other cranes to guide effective protection, with the support of the Forestry Department of Jiangxi Province, ICF and Poyang Lake Reserve jointly launched the Poyang Lake Crane and Wetland Ecological Monitoring Project in 1999 and has continued to this day. The accumulated monitoring data provided a decision-making basis for the protection of Poyang Lake wetland and waterbirds such as Siberian cranes. In order to improve the wintering habitat of Siberian cranes, in 2014, based on years of monitoring data, the two parties formulated and implemented a water resource management plan for the dish-shaped lake in the core area of the Reserve. At the same time, pilot waterfowl habitat management has also been carried out in other dish-shaped lakes in the Reserve.

The protection of cranes requires not only the policy support from the government, but also the understanding and support of the public, especially the local community. Therefore, since 2003, the two parties have carried out effective work in public and community environmental education, including the development of local teaching materials, and the design and production of a large number of publicity materials such as manuals, annual calendars, and wall calendars with cranes and wetlands as the theme. Carrying out public advocacy and community publicity regularly, launching "Environmental Education into the Classroom" activities in local schools, and etc., which significantly improves the awareness of local communities, especially young people, of the protection of cranes and their habitats, and cultivates the sentiment of knowing and loving my hometown.

Through nearly 30 years of strategic cooperation between the ICF and the Poyang Lake Reserve, by giving play to the advantages of NGOs and the Reserve, protection of Siberian cranes has gradually received the attention and support of more and more stakeholders. The population of Siberian cranes has grown from over 100 of them in the 1980s to 2,900-3,000 in the 1990s, and now it is stable at 3,600-4,000.

Lower Wuyuan River Bee-eater Reserve in Haikou

Haikou Duotan Wetland Research Institute

Approaches: *In-situ* conservation | Public participation | Financial support mechanisms | Sustainable use

Targets: Urban | Freshwater & wetland | Avifauna

CASE INTRODUCTION

The west coast of Haikou in Hainan has traditionally been a breeding ground for the blue-tailed bee-eaters (Merops philippinus) and blue-throated bee-eaters (Merops viridis). These two species belong to the bee-eater family Meropidae. They breed in southern China in summer and fly to Southeast Asia in winter, and are uncommon resident birds or summer migratory birds on Hainan Island. Both species have been upgraded to Grade II national wildlife protection according to the National Key Wildlife Protection List updated in 2021. Because of their outstanding appearance and interesting habits, the bee-eaters popular among birdwatchers and bird photographers, known as "the most beautiful small birds in China".

More than 20 bee-eaters were found nesting and breeding next to the Wuyuan River National Wetland Park in 2018, making it the closest known breeding site for bee-eaters to the city. In April of the following year, the Haikou Municipal Government established the Lower Wuyuan River Bee-Eater Reserve, covering an area of about 8.39 hectares. The Haikou Municipal Wetland Conservation Centre, the Haikou Xiuying District Wetland Conservation Centre, and Haikou Duotan Wetland Research Institute worked together to create a small-scale habitat for bee-eaters: building a sandy slope for nesting, clearing the

slope of weeds, planting nectar plants to attract the insects for the bee-eaters to eat, and digging a ditch to create an artificial wetland. Bird watching shelters have also been built to facilitate the observation of bee-eaters while reducing the impact of human activities on their breeding.

For three consecutive years since 2019, bee-eater habitat restoration and proactive bee-eater conservation efforts were undertaken. The habitat restoration had an immediate effect and soon attracted more bee-eaters to breed, with a maximum of 56, 58 and 72 bee-eaters recorded from 2019 to 2021 respectively. In May 2021, this area has become the most populous cluster breeding site for bee-eaters in Haikou.

The bee-eater reserve is the most popular nature education spot at the Wuyuanhe Wetland Education Centre in Haikou, having held more than 20 awareness-raising activities. The "Goodbye bee-eater" campaign in July 2020 and the "Hello bee-eater" campaign on International Biodiversity Day in May 2021 were attended by nearly 600 residents. Through activities such as visiting the bee-eater habitat and learning about their habits, we helped the public to understand the species and achieved a good social impact.

The bee-eaters have become one of the beautiful "ecological icons" of Haikou, attracting photographers from all over the country. 2019 saw the first bee-eater photography competition, with over 500 photographs collected. The second competition was held the following year and received a good response from the community.

From 26 in 2018 to 72 in 2021, the number of bee-eaters breeding in the lower Wuyuan River Bee-eater Reserve in Haikou has more than doubled through habitat protection and habitat restoration. The bee-eater conservation work in the lower Wuyuan River has been reported by provincial and municipal media, and has become a highlight of Haikou as an international wetland city.

Restoring peatlands: "Rewetting of heath and forest moors in Bergische Heideterrasse".

BUND Bundesverband (German Association)
Bund für Umwelt und Naturschutz Deutschland Landesverband
Nordrhein-Westfalen e.V. (BUND NRW e.V.)North Rhine-Westphalia

Approaches: *In-situ* conservation | Public participation | Sustainable Use

Targets: Foresta | Freshwater & wetland | Flora | Amphibians | Avifauna

CASE INTRODUCTION

The Bergische Heideterrasse is a landscape near the Rhine River in Germany. Originally it had many wet habitats, including peatland. In the past, these habitats were drained, mostly for forestry. Today, the area is densely populated and largely overbuilt with infrastructure such as cities and roads. Nevertheless, it offers a refuge for many species. We collected data on soils and plants and draining structures and searched for habitats that can be restored by rewetting. Our results show that many habitats are in urgent need of rewetting.

Rewetting will lead to the restoration of different types of habitats, which will have a very positive impact on biodiversity conservation. In addition, the rewetting of peatland soils is one of the most effective and cost-efficient climate change mitigation measures with a high reduction potential of CO2 equivalents. Therefore a following project is planned to realize habitat restoration with all its positive effects on climate and biodiversity.

The deconstruction of the drainage structures (rewetting) will be carried out by a BUND team together with local volunteers. So people will learn about local biodiversity and help to protect it.Environmental education: Due to their special biology as transitions between water and land habitats, peatlands with their special flora and fauna offer excellent opportunities for environmental education. The aspects of species protection and climate protection

are highly topical and meet with great interest, especially among young people.Recreational function: Since the Heideterrasse is located in a metropolitan area, near-natural habitats are of particular importance for the population here. Peatlands additionally offer their own aesthetic attractions.

A peatland restoration project of this scale has never been tried before in the Rhine-Ruhr conurbation.

The rewetting of peatlands shall be carried out by local people under guidance of BUND scientists. So local people can learn about their natural environment and develop appreciation to it. If once encourages and educated local people are the best defenders of habitats and their diversity.

The project has been funded by the Federal Agency for Nature Conservation with funds from the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Case of "stopping cultivation and recovering wetlands" in South Yellow Sea flat and the ecological restoration pilot of habitat for red-crown crane through winter

Academy of Environmental Planning & Design Co., Ltd., Nanjing University

Approaches: *In-situ* conservation

Targets: Ocean and coastal | Avifauna

CASE INTRODUCTION

South Yellow Sea wetland is the key habitat for five types of water birds including cranes, plovers, anseriformes, heron and gull along the "East Asia-Australian Flyway" for migratory birds. Besides, river mouth, flat, salt flat and pumping beach, reservoir and other ecological environments play a crucial role in wetland and migratory bird protection, also helping China honor the international convention on wetland build a favorable image worldwide. Since 2014, we have conducted a series of studies on the current situation of rare birds in national nature reserves in Yancheng in alliance with Friends of Green China Jiangsu. As a result, the habitats of waterbirds represented by red-crowned crane heavily decreased due to human factors such as climate change and invasion of Spartina

alterniflora into salt field reservoir in winter; meanwhile, the expansion of deep-water ponds has caused the drop of the carrying capacity of most wetland birds represented by red-crowned crane in the region.

In order to recover the habitat for water birds typified by red-crowned crane, we have discussed with Friends of Green China Jiangsu and the nature reserve for many times with plenty of demonstrations. Then we conducted projects of "stopping cultivation and recovering wetlands" and wetland habitat restoration and construction with multiple purposes based on the ecological needs of different kinds of birds.

Two ecological restoration areas of Guandong salt field are designed according to the ecological habits of wetland water birds represented by red-crown crane, with the total area of 3000 mu (a unit of area (=0.0667 hectares) and 342.2 mu respectively. Such two areas involve five functional areas as shoal, shallow water, deep water, ecological island and ecological isolation area. The restoration of the simulated original natural wetland ecosystem in the South Yellow Sea could be guaranteed by regular water retreat and moderate proliferation and release. Self-circulation of energy and material can be realized by way of regular water change (mainly by ebb and flow, with mechanical water change by pump if necessary) in the region without too much manual intervention. The shoal area is mainly used for red-crowned cranes and other wading birds; the depth of shallow water is 10-30 cm, mainly used for wading birds such as red-crown crane to feed; the depth of deep water is about 2 meters, which provides a breeding and safety area for fish proliferation and release, also ensuring a stable food source for waterbirds in the restoration area; earthwork of ecological island originates from soil balance after digging deep in deep water area. By growing pioneer plant suaze, the island can be an important breeding ground for gulls and terns; the ecological exclusion zone, situated at the boundary of the restoration area, consists of ditches and tall strips of reed bamboo, functioning as a protection against human interference.

In the winter of the year when the first ecological restoration area was completed in Guandong salt field, the monitoring staff of our academy observed a family of red-crown crane were stuck in the restoration area and got their food. Based on the results over the following three years, the high-quality habitat suitable for red-crown cranes has been recovered. Other water birds such as wading and swimming birds have been benefited: during the season of reproduction, the ecological island in restoration area has provided shelter for nearly 4,000 pairs of breeding terns and a few plovers. In migration season, the shallow water of the restoration area proves to be an important high water level habitat for curlew species; in winter, apart from red-crowned cranes, the restoration area also attracts oriental white storks and spoonbills, as well as a variety of wild goose ducks and curlew birds. In total, 2 types of 1st national protected birds, 8 types of 2nd national protected birds and 11 types of nearly endangered birds and the above level by International Union for Conservation of Nature (IUCN). At present, the restoration area has become a new bird hotspot in Yancheng Rare Bird Reserve.

Three years of multidisciplinary approach for conservation of coastal forest habitat and Komodo dragons on Flores

Komodo Survival Program

Approaches: *In-situ* conservation | Public participation

Targets: Forest | Ocean and coastal | Species diversity

CASE INTRODUCTION

The Komodo dragon (Varanus komodoensis) is the largest lizard endemic to Eastern Indonesia. Here, dragons exist in protected areas including Komodo National Park. However, nearly half of the remaining species distribution exists in in unprotected areas on neighbouring Flores. Whilst Komodo dragons and people have interacted for millennia their increasing recognition that ongoing habitat loss and associated conflict are threatening dragon populations in unprotected areas on Flores. Similarly, local communities also face livestock depredation and risk of being attacked.

Since its inception on 2007, Komodo Survival Program has been working with the Indonesian government to help conducted komodo dragon research and population monitoring program. Furthermore starting from 2016- we have conducted integrative programs that engaged the communities of Flores in conserving these amazing lizards and finding sustainable ways for the people to earn their livelihoods, we helped the communities understand the value of maintaining strong, diverse ecosystems to improve coexistence between humans and Komodo dragon.

The project consisted of Komodo population and distribution monitoring activity, capacity building for local authorities on monitoring skills, and human-Komodo conflict mitigation. For the conflict mitigation, the intervention strategy was done in different stages, we started with a non-formal meeting with key opinion leaders on alternative ranching method to minimize Komodo dragon attack in 2016, continued with implementation on mitigation strategy (better livestock ranching method, consistent awareness program, citizen science, capacity building, authority engagement, and focus group discussion in 2017, and closed with more discussions and workshop on livestock ranching and management method in 2018.

Our project progress and success were evaluated using various measurements to help us better quantify the core problem; 1) the current extent of the Komodo dragon distribution,2) social psychological scales to assess people perception on Komodo dragon and wildlife 3) conduct conflict occurrences survey to achive human wildlife conflict and to proposed mitigation strategy, 4) ethnography study to achive social and cultural background of local community around komodo distribution area, and 5) social mapping, including participative observatory in order to gain trust for supporting our conflict mitigation strategy. Besides comprehensive measurements, we also deployed numerous public engagement programs such as the mapping of potential ecotourism localities across

Komodo habitat in Pota-Riung area, soft and hard skill training for local community members from English Language course for guiding to wooden statue and handcrafts production, engaged with the largest indigenous local tribe called Baar Tribe, and establishment of local tourism board in the area to protect the cultural land.

Ecological value

1.Undertook extensive camera trapping survey to measure current distribution of Komodo dragons on the North coast and evaluated impacts of land-use change on distribution. Results and recommendations published in the scientific journal (Ariefiandy et al 2021)

2.Directly assessed the impact of recent major road developments on the mortality of Komodo dragons. Results and recommendations published in the scientific journal (Azmi et al. 2021)

Undertook predictive modelling exercise to understand the impacts of future climate change on Flores Komodo dragon populations. Results and recommendations published in the scientific journal (Jones et al. 2020)

Social impact and benefits

1. Improved children knowledge on Komodo conservation by our School Awareness Program. The program employed several approach including conventional presentation, documentary movie-watching, and storytelling using simple animation based on our storybooks. It was proven that our approach has increased the understanding of necessary actions for Komodo dragon by 36.5%. In 2018, the improvement was increased to 18.4%.

2. Improved public awareness, livestock management, and willingness to coexist with Komodo. We did community awareness program sessions, which were attended by religious leaders (mainly Moslem), village chiefs and community members. The program was opened by movie screenings; using documentary film that we created using aerial footage of habitat komodo dragon around their village, followed by a presentation on the ecology of Komodo dragon to give a general background knowledge on the ecology of Komodo dragon and biodiversity conservation. Apart this program, we also conducted training on livestock management. Total occurrences of livestock depredation decreased 81% in Pota and 85% in Riung between 2016-2017. Finally, there have been no report in recent realitatory killings of Komodo dragons following livestock attacks since the project was started on 2016.

3. Improved skills of local authorities and communities. We had three training sessions for rangers and local authorities in 2016, 2017, and 2018. We also had various trainings for local community members such as English, guide, and fam trip to increase their tourism management skills - providing an economic alternative beside livestock farming that hugely impacted by conflict with Komodo. This also impacted on the formal establishment of local tourism board, led by Baar Tribe, and agreement to protect the cultural land where deer was illegally had been hunted before and it substantially related to the Komodo population there.

Zhaotong publicity and education project on black-necked cranes and wetland ecological environment protection

Zhaotong Volunteers Association for Protecting Black-necked Cranesa

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Financial support mechanisms | Traditional knowledge

Targets: Freshwater & wetland

CASE INTRODUCTION

There are nineteen wintering habitats for black-necked cranes in the four counties (districts) of Zhaotong. Due to the harsh plateau climate and shortage of food, prominent contradictions are seen between people and cranes fighting for food and land. In the past 23 years since its founding, Zhaotong Volunteers Association for Protecting Black-necked Cranes has been continuously implementing the "publicity and education project on black-necked cranes and wetland ecological environment protection".

Publicize and advocate the importance of protecting the ecology of black-necked cranes and their habitats: 1) For villagers: popularized knowledge to local villagers via publicity panels about the protection of black-necked cranes and wetland ecosystems, and

distributed the publication Black-necked Crane edited and published by the association (148 issues so far) and wetland protection booklets. 2) For students: conducted lectures on the protection of black-necked cranes and wetland ecological environment, and collected relevant paintings and essays. 3) For the general public: created the association website (http://www.hjhbh.com) with website traffic reaching 2.48 million so far as well as the "Black-necked Crane" WeChat public account with 81 issues of 500 updates released in

total; organized volunteers to participate in the volunteering activities for protecting birds and cranes themed "Close to Nature and Caring for Nature", practising the concept and trend of environmental protection. 2. Improve the living conditions of villagers and cope with the human-crane conflicts for land: The association has raised 630,000 yuan within 16 years (32 semesters) to support 2,983 poor students, invested 1.06 million yuan to build bridges and teaching buildings for the villagers, and also organized free clinical treatments so that local villagers can enjoy the benefits of environmental protection and proactively protect black-necked cranes from the bottom of hearts. 3. Hire villagers to feed the black-necked cranes to address the problem of "people and cranes fighting for food". The association seeks support from international organizations such as International Fund for Animal Welfare, Global Greengrants Fund, World Wide Fund for Nature, etc. and employs local villagers as crane protectors who have fed the cranes up to now with more than 30,000 kilos of food. 4. Assist in scientific research and provide information for decision-making: assisted Datang wind farm, Zhongnan photovoltaic power plant and provincial scientific research institutions in monitoring black-necked cranes and drafting reports on environmental impact assessment; submitted CPPCC proposals and participated in local government decision-making and so on. Over the past 23 years since it was founded, the association has been promoting the protection of black-necked crane habitats, and thanks to the efforts, the black-necked crane population in Dashanbao, the largest crane habitat in Zhaotong, has seen an increase from only 350 in 1992 to 1,680 regular inhabitants as of January 2021. With remarkable achievements made in the protection of black-necked crane habitats, the association was awarded the gold medal in the first China Youth Volunteer Service Project Competition of the Central Committee of the Communist Youth League.

Over the last 23 years, the association has continued to take various measures, increasing the black-necked crane population in Dashanbao from 350 in 1992 to 1,680 in January 2021, which enables Dashanbao to become the place with the largest population and density of black-necked cranes overwintering in the eastern part of the world. Besides. the ecological environment and biodiversity of the black-necked crane habitat has been protected. Dashanbao accounts for 22.35% of marsh wetlands in Yunnan Province, whose peat swamp is an important carbon storage reservoir. In Dashanbao, there are 134 species of birds including 14 national key protected species, 223 species of insects including 1 new subspecies and 10 new record species in China, as well as 72 families pf plants falling into 197 genera and 358 species. As the swamp wetlands inhabited by black-necked cranes can effectively conserve water and block sediments, the restoration of wetlands ecosystem in Dashanbao is of great significance to the water and soil conservation in the lower reaches of the Jinsha River.

Protection of Saunders' gull and its breeding grounds

Saunders' Gull Conservation Society of Panjin City

Approaches: Sustainable use

Targets: Ocean and coastal | Freshwater & wetland | Species diversity | *Ex-situ* conservation

CASE INTRODUCTION

In Panjin, Liaoning, there are 21 large and small rivers, including the Liaohe river,the Daliaohe river, and the Dalinghe river, which flow into the Liaodong Bay of the Bohai Sea from there. There is the world's largest reed coastal wetland and the world's largest "Red Beach" composed of suaeda glauca communities. It is the southernmost point for the breeding of red-crowned cranes, and the largest breeding ground for Saunders' gulls in the world. The western Pacific harbor seals that breed there.

The special geographical location and suitable ecological environment make it an important stop on the East Asia-Australia migration route of Asian wading birds, the migration route of Anatidae in eastern China, the migration route of red-crowned cranes in

eastern China, and the migration route of Saunders' gulls between China and Japan. There are as many as 182 species and millions of migratory birds that migrate and stop here every year.

China's first environmental NGO was born here, as well as three "earth awards" , two "China's most beautiful ecological environmental protection volunteers", two international ecological schools, six environmental education bases, and 40,000 volunteer. "People give way to trees" here reflects respect for plants, and "people leave reeds for birds" here makes migratory birds become resident birds. There are not only beautiful legends of the harmony

between humans and birds in ancient times, but also true stories of the unity of nature and man in modern times.

The way to solve the problem

Use the "four-step method" to solve the problem of habitat protection:

1.Carry out environmental education. Organize stakeholders to go to the site to conduct environmental education, so that all parties can reach a consensus.

2.With the help of public opinion supervision. The environmental damage was exposed in the news. In 2012, under the pressure of online public opinion, a garage of a company in the Liaohe Oilfield was demolished in Nanxiaohe, the breeding ground of Saunders' gulls.

3.Give full play to the wisdom of experts. Chinese and foreign experts are invited to express their opinions, open their information channels, and upload environmental protection thinking and scientific opinions to the decision-making level. Ensure that their scientific insights are implemented.

4.Influencing government decision-making. Make reasonable opinions reach through, and ensure the government's decision-making is correct. As a result, the huge project Binhai Avenue was diverted to the north and passed through; the government stopped the development plan of 300,000 mu (~ 20,000 hectares) just after the start of construction; all 12 environmental protection suggestions put forward to the government were accepted and implemented. The Saunders' gull breeding ground Nanxiaohe has serious environmental problems, and it is difficult to establish a protection station. Finally, it was built under the decision of the government.

Main activities

organize volunteers to patrol and protect birds;

Stop the development projects that have just started and have not yet started at any time;

Organize a publicity team (including media reporters) to promote pioneer units and persons for wetland protection and bird protection;

Expose events that damage the ecological environment;

Create an environmental education base to inherit the concept of green environmental protection;

Cultivate ecological culture and protect Saunders' gulls with the power of culture. To restore the ecology of Saunders' gull feeding ground;

Organize volunteers to carry out activities to protect the ocean, clean the coast and protect the mother river.

Investigation and artificial cultivation of Yunnan's endemic rare and endangered plant Chrysanthemum vulgaris

AVIC Trust Co., Ltd

Approaches: *In-situ* conservation | Financial support mechanisms | Sustainable use

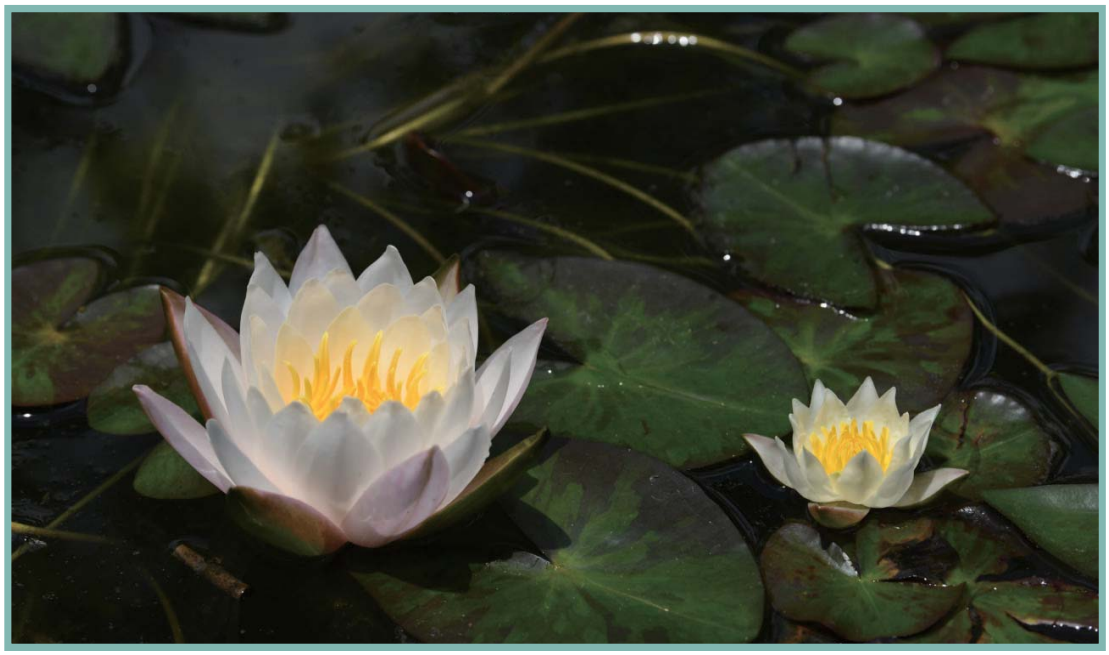
Targets: Freshwater & wetland | Flora | Freshwater creatures

CASE INTRODUCTION

On the 27th International Biodiversity Day, May 22, 2020, China Environmental Protection Foundation and AVIC Trust Co., Ltd., together with General Office of Ecology and Environment of Yunnan Province, and Kunming Institute of Botany, Chinese Academy of Sciences, jointly launched the project of "resources survey and artificial cultivation of Cibi waterlily, the endemic, rare and endangered plant in Yunnan Province". As one of the series activities responding to the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity (COP15), this project, specially supported by the "AVIC Trust & Green Ecology Charity Trust", aims to promote comprehensive conservation and

utilization research on Yunnan wild Cibi waterlily, by means of wild resource survey and population ecology research, as well as artificial and efficient cultivation of germplasm resources and cultivated plant display.

"AVIC Trust & Green Ecology Charity Trust" is the first Chinese charity trust on green ecology under which AVIC Trust Co., Ltd. is the main trustee with the goals of supporting the development of green ecological undertakings and disseminating the concept of green



ecology. The project of "resources survey and artificial cultivation of Cibi waterlily, the endemic, rare and endangered plant in Yunnan Province", funded by the charity trust, will be carried out by the Kunming Institute of Botany, Chinese Academy of Sciences. With their rich experience and team expertise in the conservation of rare endangered plants in Yunnan, the project will provide a "typical case" that can be replicated in rare aquatic plant conservation in the wetlands of Yunnan Province and even nationwide, by rescuing the important species of wild Cibi waterlily and realizing scientific protection and sustainable use of the species.

Solve the problem of stray dogs in the Qinghai-Tibetan Plateau and maintain ecological balance

Gangri Neichog Research and Conservation Center

Approaches: *In-situ* conservation

Targets: Species diversity

CASE INTRODUCTION

Once a good helper of herdsmen's family, Tibetan mastiff has also been advertised as a symbol of wealth over the past decade. In recent years, it has become hot-pot ingredients to be sold in vehicle, or it walks around the villages and temples in Tibetan areas. Sometimes they look for food in garbage dumps, and sometimes local Tibetan adult women feed them leftovers. Besides, they may involve in cattle and sheep hunting in pastoral areas in herds. Or they may even hunt wild animals or scramble for food with wild animals.

Some wild animals like rock goat, pika, marmot, red fox and argali used to appear in the feces of stray dogs. And rock goat, pika and marmot are the main food of snow leopards

brown bears and wolves, the top carnivores. They not only exert an impact on wildlife, but also influence the lives of local people. According to the survey on the attitudes towards stray dogs, 82.1% of the interviewees agreed it was a tough problem in their living area. On November 24, 2016, an 8-year-old girl died of the attack when going to toilet by a female stray dog with puppy.

At the same time, biting, dirtying the environment nearby and stealing food are the most common problems reported by local people. Echinococcosis, also known as "hydatid cancer", is now prevalent in Tibetan areas. In severe cases, it could be fatal. Dogs are a key source of transmission, and a response is urgently needed.

But the international culling practices cannot be accepted by locals. Based on the survey, local people opposed not only the killing of stray dogs, but also "euthanasia". They deemed that "deaths in all forms" were the greatest pain in life. Without death penalty, how could we deal with thousands of stray dogs and eliminate the negative impacts brought by them?

Gangri Neichog mobilized local forces to sterilize stray Tibetan mastiffs, and cooperated with local monasteries to promote adoption. In other words, "capturing + adoption + sterilization (training local vets) + immunization" can reduce the conflict. In the meanwhile, they let locals understand the hazards of stray Tibetan mastiffs and safety protection measures by filming documentaries and distributing manuals of stray dogs. Besides, they jointly discuss treatment methods, and introduce external veterinary trainers to train local veterinarians in sterilization techniques by way of cooperating with local government, animal husbandry and veterinary station as well as Lama from temples.

Locals shall be encouraged to handle the problem of Tibetan mastiffs. As of October, 2020, 71 local veterinarians have been trained in dog spaying and neutering, 700 dogs have been sterilized and over 500 stray dogs have been adopted via cooperation with temples. Such practices have been accepted by government.

Forestry Carbon Sink Project in Inner Mongolia Shengle International Ecological Demonstration Zone

China Green Carbon Foundation

Approaches: *In-situ* conservation

Targets: Species diversity | Forest | Grassland | Dry and sub-humid land | Flora | Mammals | Avifauna

CASE INTRODUCTION

The project was joint launched in 2010 by the Lao Niu Foundation, Inner Mongolia Forestry Department, The Nature Conservancy (TNC), China Green Carbon Foundation, in Inner Mongolia and Linger County. It aims to drive community development, attract social resources to participate in the ecological restoration process, and jointly consolidate the results of ecological restoration based on the climate target and the comprehensive restoration and management technology of arbor-shrub-grass compound land. What's more, it is the first forestry carbon sink project that successfully developed in arid and semi-arid regions of China. In 2013, it was successfully registered in the Executive Council of the United Nations Framework Convention on Climate Change (UNFCCC), and obtained

the "Climate, Community and Biodiversity Standards (CCBs)" gold certification for the forestry carbon sink project.

Horinger County is located in the middle of the Inner Mongolia Autonomous Region, with diverse topography, including mountains, hills and rivers. It is the transition zone from the Inner Mongolia Plateau to the Loess Plateau. Its climate is the arid and semi-arid continental monsoon climate, with an average annual precipitation of 392.8mm. This place is located in farming-pastoral ecotone, while- the farming-pastoral ecotone in northern

China is the most serious area of China's desertification process in the past 50 years. In this area, the existing soil erosion area is 1053km², accounting for 30.7% of the county's total land area, and the degree of soil erosion is 5000-10000t/km²; the desertification land area is 396km², accounting for 11.5% of the county's total area; the aeolian sandy soil area is 290km², accounting for 8.4% of the county’ s total area. In addition, since people's demand for water resources in production and life continues to expand, and the groundwater level continues to decline, water shortages are becoming more and more prominent. Under the ever-increasing development pressure, these ecological problems are still deteriorating. Lessons from the past remind us that we must repair the wounds that development has brought to the environment, gradually establish a stable ecological security pattern, and solve the current major ecological problems, so that we can have sustainable prosperity.

The planned area of the project is located in the transitional zone from the Inner Mongolia Plateau to the Loess Plateau, which is the northern China sand prevention belt in the "building three green shelters and two ecological belts" strategy. On the one hand, this area is part of the Huhhot-Baotou-Ordos-Yulin economic zone, one of the national important development areas, on the other hand, it is in ecotone. The area of the carbon sink afforestation project area is 2,191.21 hectares. The location and area of the project are determined based on scientific ecological restoration planning methods, the applicable conditions of the CDM afforestation carbon sink project methodology, and climate, community and biodiversity standards (CCB standards). Also, we also take the following factors into consideration: the evaluation of the important ecosystems and their service and species, the overlay analysis of the important ecological functions, key ecosystems, the status of ecosystems, and the needs of responding to climate change, and the aim to promote ecological restoration and protection and the development of ecosystem carbon sink functions. Through the implementation of the project, 200,000 tons of emission will be reduced in the 30-year crediting period.

In 2015, the project won the "China Charity Award--Most Influential Charity Project Award" issued by the Ministry of Civil Affairs. In 2016, it was selected as an outstanding case of the United Nations Development Program (UNDP) "Solution Database".

Lao Niu Ecological Restoration and Protection Project

Lao Niu Charity Foundation

Approaches: *In-situ* conservation | Public participation | Financial support mechanisms

Targets: Forest | Grassland | Farmland | Dry and sub-humid land | Flora | Mammals | Amphibians | Avifauna | *Ex-situ* conservation

CASE INTRODUCTION

The "Lao Niu Ecological Restoration and Protection" project is committed to providing about 41% of the earth's land area, supporting about 38% of the world's population, possessing about 1/3 of the world's biodiversity hotspots, and providing 28% of endangered species. The arid ecosystem in the habitat provides a feasible plan for the local "harmonious development of ecology and economy". In 2010, the Inner Mongolia Laoniu Charity Foundation, in collaboration with The Nature Conservancy (TNC), China Green Carbon Foundation, and Inner Mongolia Forestry and Grassland Bureau, initiated the initiative in the arid and semi-arid regions of Inner Mongolia and Linger County, which have important ecological barrier functions in my country. The "Inner Mongolia Shengle

International Ecological Demonstration Zone" project was invested and hundreds of millions of yuan were invested to explore and demonstrate ecological restoration in four aspects: climate adaptation, vegetation restoration, water resources management, and green industry. Repairing nearly 40,000 mu of degraded land, planting more than 3.3 million trees such as Pinus sylvestris and spruce, with a survival rate of over 85%, increasing biodiversity from less than 30 species to more than 80 species, and fixing an average of

25,000 tons of soil per year. Soil erosion has been effectively controlled, and the total amount of potential soil water storage has increased from 4 million tons to 5.3 million tons. 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 The Walt Disney Company. Relying on the results of ecological restoration, cooperatives were established in communities, and more than 10,000 people in the 13 administrative villages of the project benefited through climate-smart agriculture and smart grassland management. Among them, the average income of farmers in the cooperative increased by RMB 10,492 per year. A sustainable development model of "economic development supports ecological restoration and ecological restoration guarantees economic development" has been explored. With the support of the People's Government of Balinzuo Banner in Chifeng City, relevant experience has been applied to the "Balinzuo Banner Deeply Poverty Village Comprehensive Improvement Project" jointly initiated by the Three Gorges Group, Lao Niu Foundation and TNC to promote the promotion of 80,000 mu of dry farming. Explore and practice green agriculture and animal husbandry development models, restore and improve soil health and ecological security, enhance agriculture's ability to mitigate and adapt to climate change, and at the same time increase community benefits, achieve targeted poverty alleviation and rural revitalization, and provide success for China's agricultural production in responding to climate change Experience. Relevant experience in grassland smart management was replicated and promoted in Xilin Gol League in Inner Mongolia for 80,000 mu, and a guiding breeding plan was developed for herdsmen through technical means such as satellite remote sensing, meteorological data, mobile phone APP, and monitoring data, so as to maximize the utilization of grassland resources. Increase in income of herders and healthy and sustainable use of grassland resources. In Zhangjiakou City, Hebei Province, replicate and promote 30,000 acres of "trees, shrubs and grass" Winter Olympics carbon sink forests to help the "2022 Winter Olympics". Discuss the cooperation intention with the Mongolian University of Life Sciences, and jointly formulate a local "ecological and economic harmonious development" plan for the relevant area.

The Restoration project of degraded Grassland at the Source of the Yellow River

Didi Foundation

Approaches: *In-situ* conservation | Public participation

Targets: Grassland

CASE INTRODUCTION

In 2019, Didi completed the world's first carbon emission reduction methodology for ride-hailing, based on which it supports carbon emission reduction assessment and green value transparent transmission for all business lines and user trips on the platform.

Known as the "water tower of China", the Sanjiangyuan region is the source of the Yangtze, Yellow and Lancang rivers, supplies nearly 60 billion cubic meters of water to the middle and lower reaches of the three rivers every year, and is vital to one billion people in China and Southeast Asia. Affected by global climate change and human activities, the alpine meadow and alpine grassland in the Sanjiangyuan region are degrading.

To solve the problem

Drops public welfare through the linkage of the products for clients and offline environmental protection ground, incentive practice more green travel at the same time, through the matching gift, combined multiple public welfare institutions to carry out the "drops of carbon to protect water spring degraded grassland restoration project" public welfare projects, supporting the source of Yellow River in three national park in 1203 mu of

the recovery of degraded grassland management work.

main activities

I.Open up the client side of the product and apply the carbon emission reduction methodology of online car hailing to enhance the public's attention and enthusiasm for environmental protection.

In December 2020, the public joint drops carpooling, we born "123 carpooling day" operations, to guide the public to use carpooling, participate in low carbon travel, and through the application of network car about carbon reduction methodology to quantify the user personal single stroke by carpooling carbon emissions reductions, turning it into public welfare donations, and combining the donated public welfare project. Users understand the value and significance of carpooling low-carbon travel, and enhance the public's attention to environmental protection.

2.Linking offline environmental protection projects to restore degraded grassland and protect biodiversity.

Through online operating activities to promote the public environmental awareness. At the same time, we drops the public line joint and landscape protection of China environmental protection foundation center, carries out "drops of carbon to protect water spring degraded grassland restoration project" public welfare projects, and supports the source of Yellow River in three national park in 1203 mu of the recovery of degraded grassland management work. In the Yellow River Source area of Sanjiangyuan National Park, the following 4 measures are mainly implemented: 1. 2. Artificial irrigation; 3. Fencing; 4. Mission project.

Cadillac Guards G7 Highway Ecological Charity Project

Cadillac Brand of SAIC Motor Sales Co.

Approaches: Sustainable use

Targets: Dry and sub-humid land

CASE INTRODUCTION

Land desertification is a serious problem facing the global environment, and China is one of the countries with the most serious desertification in the world. The Beijing-Xinjiang Expressway (G7) connects Beijing and Urumqi through five provinces, with a total length of 2,739 kilometers, and is a national "Belt and Road" landmark project, as well as the longest highway in the world through the desert.

In order to support China's desertification control and respond to the national "Belt and Road" development strategy, Cadillac launched the "Belt and Road Ecological Protection Project" along the G7 highway. In concrete practice, the brand and its dealers launched the

"Harness" Sand Project with the China Environmental Protection Foundation and the "Little Poplar Project" with the China Greening Foundation to carry out reforestation work in Xinjiang and Inner Mongolia, the two autonomous regions with the largest area of desertified land in China, respectively, to protect the ecological environment of the G7 route and promote desertification control.

Starting from 2018, a total of RMB 45 million will be invested over three years. By 2021,

the project will have planted more than 990,000 seedlings, of which 270,024 seedlings will be planted in Ejinabis of Inner Mongolia under the "Little Poplar Project" and 460,106 and 265,366 seedlings will be planted in Alar and Qitai of Xinjiang respectively under the "Sand Harnessing Project". and 265,366 seedlings respectively. The planting is mainly local species, including poplar, white elm, small-leaved ash, tamarisk, date palm, sea buckthorn and other dryland plants. The project has played a role of wind and sand control, water connotation and soil conservation, alleviated the degradation of ecological environment caused by drought and human activities, promoted vegetation and restoration and reconstruction, and effectively reduced the erosion of roads by wind and sand.

Protection and Restoration of Water Sources in the Middle South-North Water Diversion Route

The Nature Conservancy (USA) Beijing Representative Office

Approaches: *In-situ* conservation | Technological innovation | Sustainable use

Targets: Forest | Freshwater & wetland | Farmland | Avifauna

CASE INTRODUCTION

The Danjiangkou Reservoir in Henan Province is the water source of the South-North Water Diversion Project, and the ecological safety of the area around the reservoir directly affects the water safety of about 79 million people in Henan, Hebei, Beijing and Tianjin. The area is also one of the richest in biodiversity in Henan Province. However, the ecological environment around the Danjiangkou Reservoir area is very fragile, with long-standing problems such as rocky desertification in the mountains, soil erosion on slopes, surface pollution of farmland and unreasonable use of wetlands.

Since the beginning of 2018, The Nature Conservancy (TNC) has been working with the Henan Provincial Forestry Bureau and the Xichuan County Government to carry out

ecological conservation and restoration work in and around the Danjiang Wetland National Nature Reserve in Xichuan County, Henan Province, in an effort to safeguard the ecosystem health and important ecosystem services in the water source areas of the South-to-North Water Diversion Project. The project uses nature-based solutions to protect surviving wetlands, forests and biodiversity, and to prevent further negative impacts on the ecological environment; to restore damaged wetlands and forest

ecosystems (rocky-deserted land); to introduce regenerative agricultural management practices such as cover crops to sustainably reduce soil erosion and farmland surface pollution; and to optimize agricultural cultivation structures and explore new green development models so that At the same time, the project will optimize the agricultural cultivation structure and explore new green development models, allowing local communities to benefit from the green development model, promoting sustainable economic and ecological benefits and putting into practice the national strategy of " green mountains and clear water are as good as mountains of gold and silver ".

Over the past three years, the China TNC Henan Project has assisted the Danjiang Wetland National Nature Reserve (hereinafter referred to as the Danjiang Wetland) to restore 6,000 mu of degraded wetlands; assisted in strengthening the capacity of patrol and management, cooperated in preparing a management plan for patrol and management work and organised five professional skills training sessions; cooperated with the Danjiang Wetland Management Office, the Xichuan County Forestry Bureau, the Wuhan Botanical Garden of the Chinese Academy of Sciences and the Wild Bird Society of Henan Province to build a damaged ecosystem (forest) with a total area of over 1,500 mu. The project has also worked with the Henan Provincial Forestry Bureau, Henan Danjiang Wetland Protection Office, Xichuan County Agricultural Bureau, Dashiqiao Township Government, Wuhan Botanical Garden of the Chinese Academy of Sciences and local enterprises to develop a demonstration area for green agriculture technology with a total area of over 40 mu. The project also actively explores the development of new green industries such as forestry carbon sinks and ecological bird watching, which will continue to increase the income of local community residents. The project has demonstrated the multiple ecological, social and economic benefits of conservation work, and provides a useful experience for China's water source protection areas, integrated watershed management and multi-party participation mechanisms.

Case study of collective Forest management in Baishuijiang National Nature Reserve, Gansu Province – a case study of collective forest management in Liziba Village, Bikou

Baishuijiang National Nature Reserve Administration, Gansu province

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Policy-making & implementation

Targets: Forest | Flora | Mammals | Amphibians | Avifauna

CASE INTRODUCTION

Liziba Village is under the administration of Bikou Conservation Station of Baishuijiang National Nature Reserve. Located in the southernmost part of the reserve and gansu Province, it is the only village on the southern slope of The Skyscraper hill in Baishuijiang National Nature Reserve. It borders Qingchuan County of Sichuan province in the east and Dongyanggou Nature Reserve of Sichuan Province in the south. West to tangjiahe nature reserve in sichuan province. The total area of the village is 6500 hectares, and nearly 4000 hectares are plot of forest for personal needs (forest owned by farmers themselves). Liziba village contains 9 communities named Majiawan, Moziping, Qingshuzi, Qingyaguan, Dujiayuan, Chayuan, Wangjiayuan, Shuigoubian and Majiaqiao, total population more than

700 people, 20 hectares per family, Almost all of the land used to tea trees plantation. Compared with other communities in the reserve, the plot of forest here is relatively abundant and can fulfill household fuel needs.

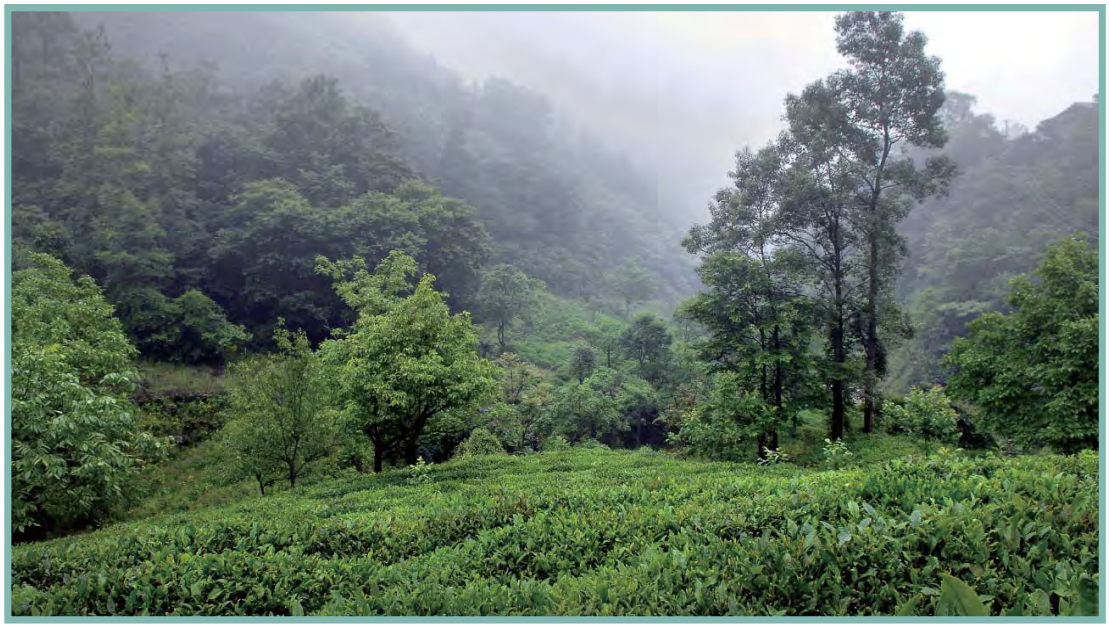
Gansu Baishuijiang National Nature Reserve carefully studied Liziba village, analyzed resources distribution, adjusted the forest management and protection mode, and innovatively established a collective forest management and protection mode to fulfill needs of Liziba village. Reserve in accordance with the "responsibility to people,

management area to family, funds to the village, funds supervision to station" principle, complete the management system, standardize community co-management organizations, ensure villagers to participate in the management and benefit in the process of management, and inaddition to protect the collective forest area in baishuijiang effectively.

In 2008, the "5.12" earthquake damaged Liziba village seriously. Shanshui conservation center and the community and biodiversity conservation research center of Lanzhou university supported the reconstruction and ecological protection of Liziba village. They carried out protection project in Liziba village under agreement, accomplished the management system of patrol team and internal resource usage, promoted the development of Liziba village ecological protection work and has achieved good protection results.

The forest patrol team has been established since 2003 and participated in the agreed protection project from 2008 to 2011. Till now, the forest patrol team has formed a complete working system, and the management structure of the patrol team has been further optimized according to the new requirements.

During the phase II of Tianbao project in 2011-2020, Bikou reserve station and Liziba village signed contract titled "Contract of Baishuijiang National Nature Reserve Forest Management, Gansu province ". The village signed contracts with each patrol teamworkers, contract titled as “Liziba village native forest patrol and protect administrative contract, Bikou town, Wen county, Gansu province”. under the guidance of administration bureau and Shanshui conservation center, A mature participatory community management system has been formed.



Saihanba artificial forest ecosystem is healthy and sustainable and promotes the coordinated social and economic development of surrounding areas

Saihanba Mechanical Forest Farm in Hebei Province

Approaches: *In-situ* conservation | Public participation | Sustainable use

Targets: Ecosystems | Forest

CASE INTRODUCTION

The Saihanba Mechanical Forest Farm is located in the most northern part of Hebei Province, the southern edge of the Hunshandake Sandy Land in the Inner Mongolia Plateau, with an altitude of 1010-1939.9 meters. The extreme maximum temperature is 33.4℃, the minimum temperature is minus 43.3℃, and the annual average temperature is minus 1.3℃. The average annual snow cover is 7 months, the average annual frost-free period is 64 days, and the average annual precipitation is 479 mm. Established in February 1962 with the approval of the former Ministry of Forestry, it is a large-scale state-owned forest farm directly under the Hebei Forestry and Grassland Bureau. It is located in the forest-grassland transitional zone of China, and the main tree species in the forest ecosystem are Larch, Pinus sylvestris, Pinus tabuliformis, spruce, white birch, etc. It's home to 256 species of terrestrial wild vertebrates, 13 species of fish, 548 species of insects, and 625 species of plants. Among them, 33 species of animals and 9 species of plants are under state key protection. Through the efforts of several generations of forest farmers and tens of thousands of volunteers, the forest coverage rate of the forest farm has increased year by year, and the stability of the forest ecosystem has increased year by year. At present, compared with the initial stage of construction, the forest area has increased

from 240,000 mu (1 mu=0.0667 hectare) to 1.151 million mu (1 mu=0.0667 hectare), the forest coverage rate has increased from 11.4% to 82%, and the stock of living trees has increased from 330,000 cubic meters to 10.368 million cubic meters. The forest stock per unit area is 2.76 times the average of national planted forests. The wetland covers an area of 103,000 mu (1 mu=0.0667 hectare) and is an important water source for the two major water systems of Luanhe and Liaohe River.

In order to further strengthen the protection of the ecosystem and biodiversity, the forest farm has applied for and successfully established a national forest park and a national nature reserve, with a total operating area of 1.4 million mu (1mu=0.0667 hectare), forming a solid Beijing-Tianjin-Hebei green barrier.

The Saihanba Mechanical Forest Farm has won the titles of the Most Beautiful Struggler, the Model of the Times, the National May 1 Labor Award, the National Civilized Unit, the National Greening Advanced Group, the National Advanced Group for Outstanding Contributions to Ecological Construction, the State-owned Forest Farm Construction Model, the Moving China 2017 Group Award, the Advanced Collective of the Three-North Shelterbelt System Construction Project and the Example of Hebei Province's Ecological Civilization Construction. In December 2017, it was awarded the highest environmental honor "Guardian of the Earth" by the United Nations Environment Program. In February 2021, the CPC Central Committee and the State Council awarded the Saihanba Mechanical Forest Farm the honorary title of "National Poverty Alleviation Model". In June 2021, the CPC Central Committee awarded Saihanba Mechanical Forest Farm the title of "National Advanced Grassroots Party Organization" .

Ecological biodiversity conservation

Maoxian Jiuding Mountain Wildlife Friends Association

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy

Targets: Flora | Mammals | Amphibians | Avifauna

CASE INTRODUCTION

Jiuding Mountain is located in Mao County, Sichuan Province, and it sits in the middle of Longmen Mountain Ranges of Minshan Mountains. In the 1960s and 1970s, there were hundreds of thousands of wild animals in Jiuding Mountain. But after the land was contracted to households, the villagers had more time to poach. In addition, the staff of some units also went up the mountain with rifles for hunting. In some villages, there may be dozens of hunters every year. They carry steel wire ropes, iron clips, shotguns and hounds for poaching. Most animals are stolen and killed. Even many species are endangered, such as leopard, clouded leopard and green elk, which have become extinct now.

To be more seriously, in the 1990s, due to the lack of prey, the hunters set fire to burn the large Rhododendron forests, incense coil forests and grass slope, forcing wild animals to escape from the forests, and then they killed the wild animals with shotguns. Over the past decades, more than 100000 mu (1mu=0.067 hectares) of forests have been burned, and a large number of precious wild animals have been stolen and killed.

The association was registered in the Civil Affairs Bureau of Mao County on October 14, 2004. Focusing on protection of wild animals and plants, it carries out ecological

protection activities such as anti-poaching, monitoring of ecology, training and publicity as well as tree planting and afforestation. It helps to improve the awareness of residents in rural communities to take care of the ecological environment and wildlife, and it also helps to promote law-abiding and the harmonious development of human beings and nature.

1: Patrol for Anti-Poaching

The patrol is carried out twice from January to March, which aims to protect wild animals who go down the mountain to look for food during the period when snow has not melted. The patrol is carried out for 4 times from April to June, which aims to check if there are any poachers during the period of digging of Chinese herbal medicine in Mao County and Mianzhu. The patrol is carried out for 3 times from July to September, which aims to conduct large-scale patrol, monitoring and cleaning of garbage in the east, south and north of Jiuding Mountain when animals are growing very fast due to rich food. The patrol is carried out twice from October to December, which aims to check if there are any poachers during the period when wild animals may go to places of low altitude for food due to the closure of mountain by heavy snow.

The patrol is carried out at least 10 times a year, with a maximum scale of 15 to 16 people each time and a minimum scale of 5 or 6 people. It usually lasts for maximum of more than 15 days and minimum of less than 7 days.

2: Restoration of Vegetation

Tree Planting and Afforestation: the association organizes members to carry out tree-planting and afforestation activities spontaneously every year. Over the past 20 years, it has planted more than 2000 mu (1mu=0.067 hectares) of trees voluntarily. And the landslide in Chashan Village has been controlled effectively.

Grass Planting: the association organizes villagers to plant grass, and the area of artificial grass has reached more than 1000 mu (1mu=0.067 hectares).

3: Collection of Garbage to Clean Mountains

In order to reduce pollution, the association has regularly organized villagers to collect garbage every year since it was set up. And more and more villagers are volunteered to collect garbage.

4: Training and Publicity

The association has distributed more than 6000 publicity materials on protection of wildlife, with more than 10 campaigns. It has participated in more than 30 trainings, and has organized more than 40 trainings for members of the association, with total participants of more than 1600 people.

Nuohua Forestry Carbon, community and biodiversity afforestation and reforestation project in Sounwest Sichuan

Sichuan Dadu River Afforestation Bureau

Approaches: *In-situ* conservation | Sustainable use | Publicity & advocacy

Targets: Forest | Flora | Mammals | Amphibians | Avifauna

CASE INTRODUCTION

At the location of Liangshan Yi Autonomous Prefecture in southwestern Sichuan Province, this project is carried out in the Daduhe river basin, the secondary tributary of the Jinsha River in the upper reaches of the Yangtze River. As one of the 32 priority areas for biodiversity conservation in China, this region covers the priority area in the southern section of Hengduan Mountain which is the southern end home to giant pandas. Due to long-term improper use of forest resources by humans in history, however, sharp decline in forest vegetation is seen in the area with no effective restoration in place for long, and

there is also severe land degradation and soil erosion with most lands in a state of rocky desertification.

This project, focusing on afforestation and reforestation for the purpose of clean development, plans to plant 4196.8 hectares of multifunctional artificial forests on the partially degraded land in 17 towns and 27 villages in counties of Ganluo, Yuexi, Zhaojue,

Meigu, Leibo, and three provincial nature reserves including Maanshan at Ganluo, Shenguozhuang at Yuexi and Mamize at Leibo, in Liangshan Yi Autonomous Prefecture, Sichuan Province. Trees to be planted are all native species including fir, spruce, armand pine, alpine poplar, alder, and cedar, with no invasive alien or genetically modified species. With a total budget of about 100 million yuan, the afforestation activities started in 2011 and lasted for 4 years. The goals of this project are:

Using native tree species in afforestation after scientific planning to absorb carbon dioxide from the atmosphere and to mitigate climate change;

Increasing the income of local communities and helping reduce poverty and alleviate poverty;

Strengthening the biodiversity protection and the adaptability to climate change by improving the connectivity of the forest ecosystem landscape around the protected area;

Improving the ecological environment, reducing soil erosion, and enhancing the soil and water conservation in the upper reaches of the Yangtze River;

Providing afforestation examples for poor areas through scientific methods and mechanisms of carbon sink afforestation.

The crediting period of the project is 30 years (2011-2041) during which it is expected to reduce emissions of 1.206 million tons of carbon dioxide.

Sustainable public welfare protected areas

Paradise International Foundation

Approaches: *In-situ* conservation

Targets: Forest | Freshwater & wetland

CASE INTRODUCTION

After more than 60 years of efforts, China has established nearly 12,000 nature reserves of various functions, which have played an important role in the protection of biodiversity. However, the huge demand for nature conservation is still insufficient, so it needs the input of all sectors of society.

The Paradise Foundation tries to promote a type of public nature reserve that is authorized and supervised by the government, funded by the society, managed by public welfare organizations, and coordinated with community development. Its characteristics

are:

Authorized and supervised by the government, and managed by private institutions to achieve long-term ecological protection goals;

Adhere to the three basic courses of patrol, community and facility management, and introduce Internet of Things and AI technology to create intelligent patrol system of

protected areas to improve the management effect of protected areas;

Establish extension areas in the communities surrounding the protected area and incorporate them into the daily work of the protected area;

Guide communities to develop eco-friendly industries in the expansion area, and set up protection zones/community protection areas to carry out spontaneous protection actions;

Establish star ranger system and employee growth ladder;

In 2011, Laohegou, Pingwu County, Sichuan province established the first public welfare protection area. Ten years later, wild animals such as pandas and takins appeared frequently. Nearly half of the villagers in the community participated in the ecological agricultural products program, and the average household income increased by more than 10,000 yuan.

Subsequently, The Paradise Foudation duplicated the old river gully model in Yuelin, Sichuan province, Xianghai, Jilin Province, Jiulong Peak, Anhui Province, Yangyang Ping, Hubei Province, Jiangshan Xueling, Zhejiang Province, and other places. Currently, the protected area is more than 600 square kilometers, with more than 80 frontline protection employees, and the accumulated patrol mileage is more than 150,000 kilometers.

Community forestry enabling long-term stewardship of high biodiversity value forests by local communities in West Kalimantan, Indonesia.

PRCF (People Resources and Conservation Foundation)

Approaches: *In-situ* conservation | Public participation | Financial support mechanisms | Sustainable Use | Access and benefit-sharing | Traditional Knowledge

Targets: Forest | Freshwater & wetland | Farmland | Mountain | Flora | Mammals | Amphibians | Avifauna | Freshwater creatures | Germplasm resource conservation | Fair and equitable sharing of the benefits arising out of the utilization of genetic resources

CASE INTRODUCTION

PRCF works with local forest-dependent communities to protect the habitat and population of several threatened species, including the critically endangered Bornean Orangutan, the vulnerable Tomistoma Crocodile, and several others. We currently support the establishment and development of 'Village Forests' (Hutan Desa) and the building of village stakeholder capacities for long-term conservation management of high conservation value forests, and for villages to reach sustainable livelihoods through conservation-friendly activities. Before securing legal tenure of Village Forests by local communities, these forests suffered from degradation practices that included logging,

mining, agricultural encroachment, and forest fires. Securing the long-term management rights to Village Forests has helped safeguard the forest from threat, as feasible plans for effective long-term management came into place and received funding to carry out plan prescriptions. Existing village forest management institutions were strengthened with the capacity to plan and carry out forest conservation prescriptions, together with support to the village community for needed socio-economic development. The PRCF Community Forestry and Biodiversity Program in West Kalimantan highlights that substantial conservation of forest and endangered species can be achieved while benefiting local communities. With most biodiversity confined beyond the boundaries of protected areas, which are in many cases weakly managed, conservation through community stewardship is

vital. It presents a viable alternative to the conventional paradigm of biodiversity conservation through protected areas where local communities are rarely part of the solution.

PRCF Indonesia works with local forest-dependent communities to safeguard the habitat of globally threatened species, including the critically endangered Bornean Orangutan, Sarawak Surilli, Helmeted Hornbill, the endangered Mueller´s Gibbon and Rhinoceros Hornbill, and the vulnerable Tomistoma Crocodile. This takes place via direct conservation support towards the species, but also through the involvement of local communities via the establishment of Hutan Desa, complemented by capacity building towards long-term conservation management, forest protection and restoration, and village sustainable livelihoods. The PRCF Community Forestry and Biodiversity Program is in the process of helping local communities manage over 50,000 hectares of high conservation value forest, as Hutan Desa. Based on the ongoing Nanga Lauk Hutan Desa initiative, ongoing efforts seek to secure additional certification for 20 or so villages, enabling long-term sustainable management of over 65,000 ha of high conservation value forests through community stewardship. Further, this will be replicated in several coastal mangrove villages forests (presently in planning for five villages), covering an additional 9,700 ha of mangroves. As the forests across Borneo are cleared for development of industrial plantations (oil palm in particular) and otherwise logged out, securing substantial areas under legal management of forest-dependent communities is vital for the conservation of forest ecological integrity beyond protected areas. The landscape the program is securing for biodiversity conservation and human wellbeing contains stands of Dipterocarp lowland and peat swamp forests rapidly disappearing across Borneo due to large-scale forest clearing for industrial purposes. These community-managed forests, together with protected areas like the Danau Sentarum National Park, give refuge to many of Borneo´s most iconic and endangered species under increasing pressure.

Nature-based Solution Aimed at Restoring Bird Habitat – Case Study of Ecological Restoration in Yancheng Yellow Sea Wetland Heritage Site

Yancheng Wetland and World Natural Heritage Protection and Management Center — Asia Practice Base Center for Nature-based Solutions (NbS), Ministry of Natural Resources

Approaches: *In-situ* conservation | Sustainable use

Targets: Ocean and coastal | Freshwater & wetland | Avifauna

CASE INTRODUCTION

At the 43rd Session of the World Heritage Conference, Yancheng Yellow Sea Wetland, as a habitat for Chinese yellow (and Bohai) sea migratory birds (the first phase), was successfully listed on the World Heritage List, becoming the 14th World Natural Heritage site in China, the first of its kind nationwide to be listed and the second inter-tidal wetland World Heritage site in the world. Due to the influence and disturbance of human activities, the yellow Sea wetland ecosystem had been seriously damaged before World Heritage application, which had resulted in the decrease of bird habitats and the loss of biodiversity.

In order to turn this situation around, to actively explore new ways of protecting and

managing the yellow Sea wetland World Natural heritage, restore the ecological function of bird habitats and protect their migration routes, Yancheng has carried out a series of ecological restoration projects in the heritage site, taking measures of ecological reconstruction, assisted regeneration, natural restoration, protection and conservation, based on the technical concept of "Natures-based Solutions".

For example, Dongtai Tiaozini, part of the World Heritage area in Yancheng City and an important transfer station of waders on the migration route of East Asian-Australasian flyway, sees the habitat loss caused by reclamation, illegal hunting and human disturbance. This leads to waders' facing threat of the reduction in population and

distribution. In 2020, Dongtai City regulated 48-hectare (720 mu) land in the nearby first-line seawall reclamation and aquaculture zones to establish a high-tide habitat. Guided by the principle of "ecological and natural restoration as the main task, supplemented by moderate artificial intervention", the first fixed high-water migratory bird habitat in China was successfully created through habitat construction of small waders such as Spoon-billed sandpiper, restoration of bare beach wetland, island construction, and breeding ground of Saunders's gull on the basis of respecting the law of nature. Soon after its founding, 1150 Nordmann's greenshank, an endangered species, were detected in the site, breaking the widely-accepted belieft in the global academic world that there are no more than 1,000 Nordmann's greenshank remaining. After the completion of the 48-hectare (720 mu) climax habitat based on NbS concept, the number of birds living here increased by 22 species to 410, which was praised by CCTV "News Broadcast" as the "Chinese sample" of natural heritage ecological restoration. In addition, the project of "returning fishing to wet" in the endangered birds reserve in the Yellow Sea Wetland Heritage Site and the ecological restoration project of No.1 water reservoir of Sheyang Salt Farm have achieved remarkable results in ecosystem services by creating a better habitat for birds and other organisms through nature-based solutions.

The Yellow Sea Wetland Heritage Site will continue to adhere to the principle of "from nature to nature" and adopt "nature-based solutions" to restore the wetland ecosystem to a greater extent, make full of the ecological functions of the ecosystem and build a new model of harmonious coexistence between man and nature, between wetland protection and sustainable development.

Regenerative seaweed production linked to iMPA

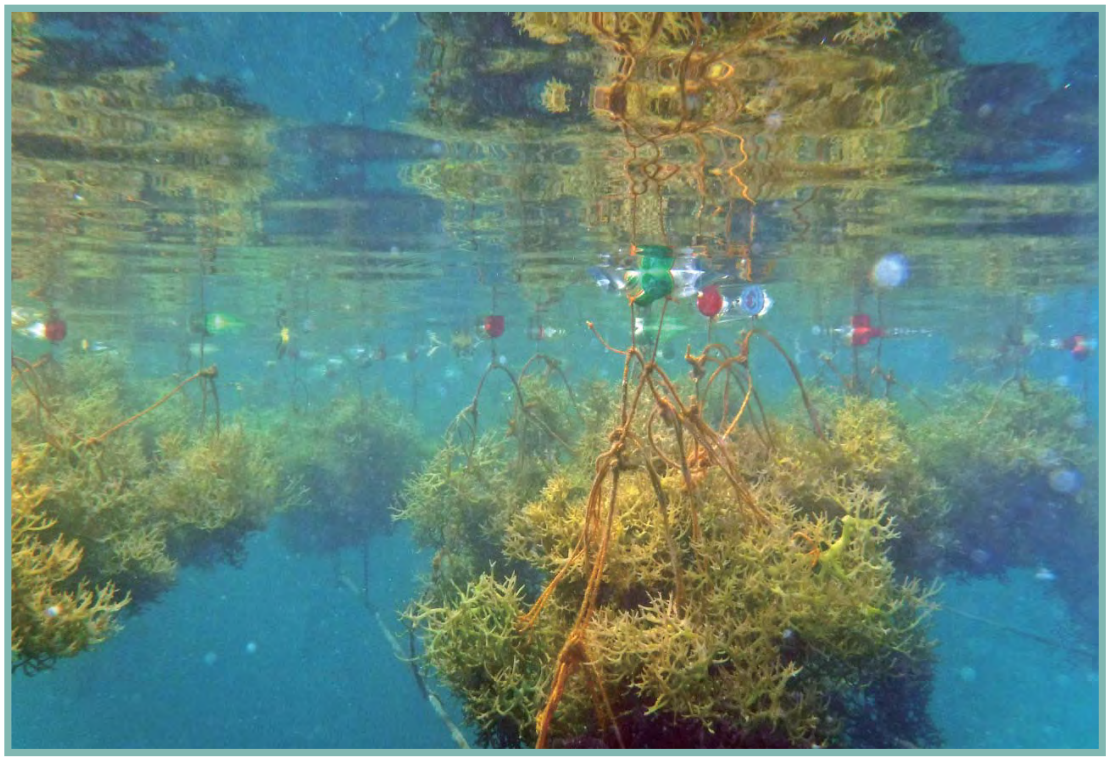
Coast 4C Limited

Approaches: *In-situ* conservation | Public participation | Financial support mechanisms | Sustainable use of biodiversity | Fair and equitable benefit-sharing of genetic resources | Traditional knowledge

Targets: Ocean and coastal

CASE INTRODUCTION

Coast 4C integrates regenerative seaweed farming with larger and more effective community-based marine protected areas (MPAs), in a model that we co-developed with coastal communities and have co-branded 'iMPA' where the "i" stands for a range of values identified as important to the communities and to the team: innovative, integrated, inclusive, improved. iMPAs are 45 times larger than the average MPA size in the Philippines and are underpinned by a sustainable business model. This is achieved through a combination of strategies: (a) establishment of strong and inclusive social infrastructure linked to social marketing tools that increases participation in the whole process, from spatial planning through to management and enforcement, and particularly increases female participation; (b) broadening out MPAs from being focused on coral habitat to incorporating habitats from mangroves through to deeper water areas beyond



the reefs; (c) integrating appropriately sited ecological seaweed farming zones that both reduce impacts on sensitive habitats and provide a safe and healthy space for growing seaweed; (d) integrating concepts of Territorial User Rights in Fisheries (TURFs) within sustainable use zones to incentivise community enforcement and compliance; (e) supporting small-scale fishers to adopt ecological seaweed farming methods that increase their yields, reduce risk and offering them a price premium contingent on meeting social and environmental criteria (including iMPA performance) to offset the opportunity costs of larger iMPAs; (f) underpinning the iMPA with a sustainable business model that is based on trading of regenerative seaweed; (g) integrating plastics reduction and recycling strategies, including buying end-of-life Nylon 6 fishing nets that are sold for recycling, and; (h) working closely with local government and increasing capacity to support iMPA implementation. Specific examples of practices include the modification of guardhouses, which are present in all Philippine iMPAs, to be multifunctional and act as platforms for tending and maintaining seaweed farms, reducing incidence of theft, and including seaweed drying facilities on these platforms to increase the quality of seaweed and reduce post-harvest losses.

Seaweed farming of Eucheumatoid seaweeds is responsible for around 30% of fisheries production in the Philippines, which is the second largest producer of these seaweeds after Indonesia, which together contribute more than 85% of global Eucheumatoid seaweed production. Eucheumatoid seaweeds are the worlds most cultivated seaweeds, primarily supplying the USD 1billion carrageenan market. Recent technology advances are opening new and exciting markets for these seaweeds, including green biorefinery technology close to source that allows these seaweeds to act as the seedstock for bioplastics, biofertilisers, feed and food. Farming of Eucheumatoid seaweeds has been promoted by NGOs and governments for over 4 decades as an alternative to overfishing, unsustainable and illegal fishing. However, research that provided the basis for Coast 4C's approach has identified that seaweed farming has in fact had a detrimental impact on marine biodiversity due to convoluted and opaque value chains, lack of proper support services (including financial and technical services) for seaweed farmers who rely on outdated seaweed strains and practices that are no longer fit for purpose in the context of climate change, and the fact that seaweed farming is not directly linked to conservation measures. As a result, seaweed farming now accounts for around 50% of marine plastic pollution contributed by small-scale fishing communities, environmentally destructive practices such as clearing of corals from farm areas and blasting to scare fish away. Additionally there is strong evidence that seaweed farming is subsidising overfishing. Seaweed farming is undertaken by small-scale fishers as part of a diversified livelihood. Risks associated with seaweed farming mean that fishers tend to reinvest any surplus into fishing activities, increasing fishing effort.

Coast 4C has been able to address these issues by integrating seaweed farming with iMPAs, which helps to reduce risks from theft and destructive fishing practices such as poison fishing. We provide access to appropriate financial services, including through the use of the proven Village Savings and Loan Association model that was developed by CARE and is now used by major development organisations to deliver financial services to over 20 million people in 77 countries. We provide access to support to implement new and improved seaweed farming methods and strains that increase yields and eliminate marine plastic pollution and habitat damage. And we pay a price premium to registered farmers that meet social and environmental criteria. We aggregate farmers through a large and growing network, and process seaweed locally for sale to responsible global markets with traceability.

Fish Forever

Rare

Approaches: *In-situ* conservation | Public participation | Policy-making & implementation | Financial support mechanisms | Technological innovation | Sustainable use of biodiversity

Targets: Ocean and coastal | Flora | Marine creatures

CASE INTRODUCTION

The Threat

Coastal seas contain the highest concentration of marine biodiversity in our oceans. Additionally, 40% of the world's population lives within 100km of the sea. The proximity of people and nature means that coastal communities are at the center of both the cause and the solution to environmental problems. Nowhere is this intersection between people and nature more apparent than in the developing tropics. Coastal villages depend on local fisheries for food and employment, coral reefs protect their shores from erosion and wave damage, mangrove forests stabilize sediments in their estuaries, and seagrass beds filter water and create habitat for juvenile fish and crustaceans. Combined, these ecosystems support an unparalleled richness of biodiversity and the wellbeing of tens of thousands of rural communities.

Coastal ecosystems are facing unprecedented threats. Unsustainable fishing,

exacerbated by habitat destruction and the effects of climate change, are changing the ecology of our oceans. About half of the world's coral reefs have already been lost, more than 35% of mangroves have been deforested and a third of the world's fisheries are overfished. And now a negative feedback loop has developed: Overfishing reduces habitat quality, and degraded habitats support fewer fish. Trapped in the vortex of this downward spiral and unable to see other options, fishers increase fishing effort and adopt ever more destructive fishing methods to maintain their catches. This behavior places even more pressure on the ecosystem, causing a race to the bottom of diminishing returns.

But there is another path: one that can break this cycle and align the benefits of effective conservation with sustainable production and community prosperity. This alternate path can inspire change so people and nature thrive.

The Solution

Launched in 2012, Fish Forever is the first global effort delivering a replicable model to reverse overfishing, protect biodiversity, and safeguard the prosperity of coastal communities. By linking the protection of critical habitat with a community's exclusive rights to fish in surrounding waters, Fish Forever builds clear incentives to replace destructive competition with effective coordination, where communities receive measurable benefits from protecting critical marine habitats and managing their local fisheries. This work supports healthier coastal habitats, creates resilience to climate change, preserves diverse marine life, and challenges policymakers to rethink the way coastal ecosystems are prioritized, protected, and managed.

Fish Forever aims to deliver lasting change across the coastal zone of eight priority countries where globally significant biodiversity intersects with high dependence on local fisheries for food security and rural livelihoods. To achieve this, Fish Forever partners with local communities and governments to:

Establish managed access areas that provide fishing communities clear rights to fish in certain areas.

Create networks of fully-protected and community-led no-take marine reserves to replenish and sustain fish populations and protect critical habitat.

Build community engagement and effective management bodies to support local decision-making.

Enable fishers to adopt more sustainable and better-regulated fishing behaviors (e.g., become a registered fisher; record fish catch; respect fishing regulations; and participate in fisheries management).

Collect, disseminate, and help fishing communities use data for decision-making.

Advance coastal fishing communities' inclusion in financial and market opportunities to increase household resilience.

Mobilize public and private investment in coastal fisheries and marine natural resources.

Enact policy to promote and sustain a community-based management approach.

Save the Spoon-billed Sandpiper

Mangrove Foundation

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Financial support mechanisms | TSustainable use

Targets: Ocean and coastal | Freshwater & wetland | Flora | Avifauna | Marine creatures

CASE INTRODUCTION

Birds, as the main indicator biological group of coastal ecosystems, are the focus of coastal wetland conservation work. Among them, the number of migrating waterbirds in the East Asia-Australia Flyover Area (hereinafter referred to as EAAF) is declining sharply at a rate of 5-9% per year, making it the most severely protected migration area in the world. The Spoon-billed Sandpiper (Calidris pygmaea) is one of the most endangered and rare birds on the planet, and it is also the flagship species of EAAF coastal wetland conservation, with great protection and symbolic significance (EAAFP, COP8, 2015).

This project adopts scientific-based conservation and education, based on the results of actual investigations, and adopts adaptive management to promote systemic changes, with a view to reducing or mitigating the major threats faced by EAAF migratory waterbirds and their habitats, and promote 3-5 key points The quality of habitat has been improved to curb the global decline in the number of spoon-billed sandpipers.

(1) Through scientific research, monitoring and database construction, a scientific foundation will be laid for the design of protection projects, rapid response to threats to habitats, and policy advocacy.

The project supports the research of migratory waterbirds represented by the spoon-billed sandpiper, such as the collection of bird flag information, and supports the research on the population dynamics, migration and reproduction ecology of waterbirds in the migratory area; the investigation and research of the food resources of the coastal sandpipers in China, Assess the habitat quality of coastal wetlands.

(2) Improve the habitat quality of key habitats of Spoon-billed Sandpiper (Zhanjiang, Tiaozini)

In response to the threats and challenges faced by key habitats, promote the exploration of local socialized protection models. Especially for key issues in the field of wetland protection and management, such as the evaluation of the management and effectiveness of the invasive species Spartina alterniflora, the construction of high tide habitats for plovers, ecological monitoring, etc., to implement cooperative actions.

(3) Carry out international cooperation to support the research and protection of the breeding grounds and wintering grounds of the spoon-billed sandpiper, etc.

Maintain close ties with major international forces concerned about the protection of Spoon-billed Sandpipers, such as supporting Russian breeding grounds Chukchi to carry out related work such as artificial breeding of Spoon-billed Sandpipers and control of breeding bird predators; Supporting the ecology of Spoon-billed Sandpipers as the main wintering site in Myanmar Monitoring, community protection actions, etc., to promote and implement Spoon-billed Sandpiper protection actions at the scale of the relocation zone.

(4) Through the Spoon-billed Sandpiper Conservation Alliance, we will integrate relevant Chinese government departments, protected areas, social organizations, enterprises and other resources to form a united front and work together to protect migratory birds and their important habitats in migration areas.

(5) Promote the public welfare cooperation of the "Spoon-billed Sandpiper Global Guardian Ambassador" to significantly increase the public awareness of the "Spoon-billed Sandpiper".

Wetland Ecological Restoration and Trash Management Project of Laoshi Village, Danzhou city, Hainan Province

The Blue Ribbon Ocean Conversation Association of Hainan Province

Approaches: *In-situ* conservation | Public participation

Targets: Ocean and coastal | Freshwater & wetland | Flora

CASE INTRODUCTION

The Laoshi Village of Haitou Town is located in a typical estuary, surrounded by the Zhubi River, where rivers and marine ecosystems intersect, forming a unique ecological environment and an important habitat for various aquatic animals. According to the Dan County Chronicles, it used to be the political, economic and cultural center of Haitou Town during the Qing Dynasty. Salt fields had been the pillar industry in its economy for generations. Since 1990, it had been under government control and leased to a Zhengzhou company for prawn farming. Later as the company went bankrupt, the lease was terminated . Prawn ponds in the village idled. As the original salt fields and wetlands in the village were ecologically damaged during the prawn farming period, plus there was large volume of unmanaged trash in the village, some of the unmanaged trash ended up in the Zhubi River and further into the Beibu Gulf, causing ecological damages. There are now

about 280 permanent residents in the village. Due to a lack of professional skills and economic industries in the town, most residents work away from home to make ends meet, and the awareness of environmental protection is weak.

1. Implement scientific restoration of mangrove habitat.

Ecological restoration and conservation of mangrove habitats. Invite ecological wetland conservation experts to conduct habitat survey on the project site, formulate an overall wetland restoration plan, and carry out a pilot project for comprehensive restoration of 1,500 square meters of mangrove wetland;

2. Explore the "community ecological economy".

Build experimental farms for ecological farming, explore the development of the community's ecological economy, and transform from "invest money to improve ecology" to "ecology supports livelihood". Select leaders to be in charge of ecological farming and invite farming experts to assist in scientific farming.

3. Mobilize the internal drive of the community and promote the environmental governance mechanism transition from "ask me to do" to "I want to do".

Organize and carry out environmental treatment actions by villagers, to remove the accumulated trash and reduce land-based pollution:

(1) Set up a project management committee to encourage the villagers to take initiatives in cleaning up and maintaining the environment;

(2) Regarding riverside trash and historical trash, organize marine trash cleaning operations regularly to reduce the amount of unmanaged trash into the sea;

4. According to local conditions, empower communities to rely on livelihood skills compatible with the ecological environment, exploring rural revitalization with the belief that "Lucid waters and lush mountains are invaluable assets".

Build villager empowerment classrooms, and invite experts to give technical training and guidance:

(1) Educate villagers on marine protection knowledge and awareness, conduct publicity and training on trash sorting , marine trash pollution prevention, and etc., make an attempt to promote rural trash management, and help the prevention and control of land-based pollution in Laoshi village;

(2) Support Danzhou Municipal Government's project on the renovation of abandoned prawn ponds and ecological restoration plans, invite experts to provide guidance and support for ecological farming, and organize farming representatives to exchange in pilot areas with mature technologies and replicable models;

(3) Invite technical experts, with women as the main audience, to carry out trash sorting training, in an efforts to reduce trash produced at home as a source of trash and train women to become the leading force in social supervision, improve women's ability in participating in labor, improve women's status, and increase their income.

China Salmon Public Welfare Protected Area

THE FOREVER NATURE CAPITAL FOUNDATION (FNCF)

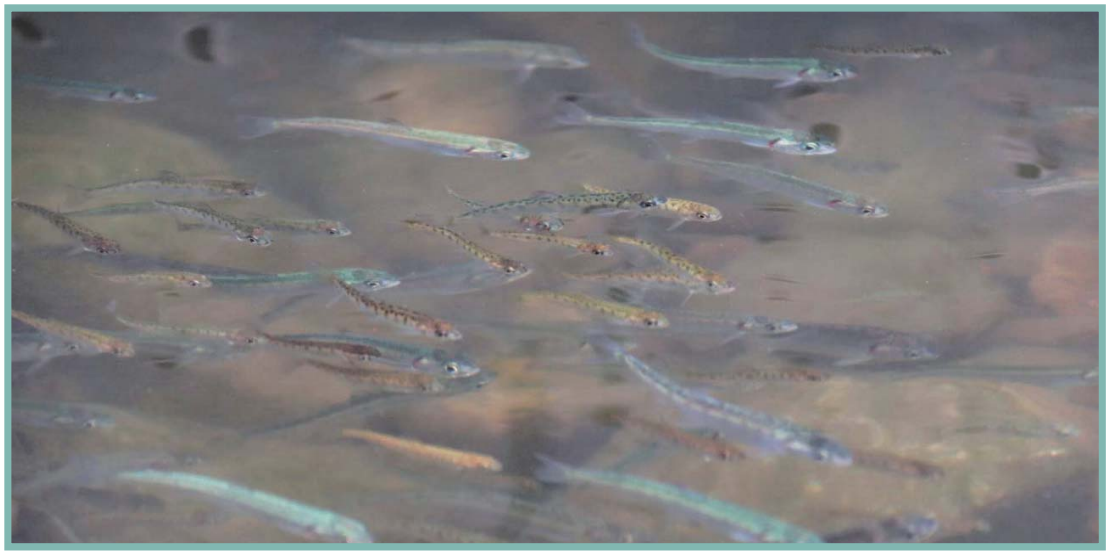
Approaches: *In-situ* conservation | Public participation | Policy-making & implementation | Sustainable use

Targets: Freshwater & wetland | Freshwater creatures | Germplasm resource conservation

CASE INTRODUCTION

"TAKE ME HOME" public welfare project is a river ecological environmental protection project initiated by many Chinese entrepreneurs, with the vision of sustainable development of ecological rivers; the mission is restoring the river ecological system; focus on Chinese salmon population resources and spawning ground environment,through multiplication and release, fishery protection policy advocacy, and establishment of public welfare protected areas, explore the best pathway for aquatic wildlife protection, and restore Chinese salmon population and other wild fish It hopes to eventually restore the health of the river ecosystem. Environmental Education Society of Heilongjiang Province and Fuyuan Salmon Ecological Environmental Protection Association are also the executive agencies.

The executive agency takes the protection of salmon in the Heilongjiang, Suifen River



and Tumen River basins as its entry point, establishes a demonstration project for sustainable fishery development in the basin; establishes a river system ecological protection area with fish and other aquatic animals as the core. The protection of Chinese salmon is carried out through four ways: scientific artificial breeding and release, policy advocacy, public welfare protected areas, and publicity and education.

The restoration of the salmon population and fishery resources in China is inseparable

from the policy support and strong law enforcement of the national and local governments. FNCF has participated in the formulation of 1 law, 3 cases of the CPPCC committee, and 3 proposals submitted to government agencies, obtained the attention and instructions of the leaders of the State Council and the Jiling and Heilongjiang Provincial Government; provided consultation to the fishery management departments of Fuyuan City, Dongning City, Heilongjiang Province and Yanbian Prefecture of Jilin Province.

The team, universities, and scientific research institutes provided technical support to three domestic salmon release stations, wrote 6 process documents, participated in the formulation of 2 standards; designed standard release stations to improve breeding technology and management level, which has improved the survival rate of salmon fry; FNCF has applied to the North Pacific Migratory Fish Commission (NPAFC)for a dedicated number section for otoliths dedicated to the Mijiang release station in Hunchun. Chinese Salmon has gained an "international passport".

In April 2019, with the support of the Dongning Municipal Government, we established my country’s first river-type public welfare protection area on the Suifen River; in December 2019, we signed the "Cooperation Agreement on the Protection of Wild Fish in the Tumen River Basin" ; In August 2020, signed the "Cooperation Agreement on Conservation of Endangered and Rare Fish Resources" with the Department of Agriculture and Rural Affairs of Heilongjiang Province and Northeast Agricultural University; in 2021, participate in the construction of salmon culture characteristic villages in Mijiang Township, Hunchun City, and participate in the joint management of the aquatic germplasm resource protection zone, and in the future will drive the local economy with the development of salmon culture and industry.

Leyi Habitat Garden- the breathing urban community ecosystem

The eighth neighborhood committee of Lvyuan Residential Quarter at Xinjing Town, Changning District, Shanghai

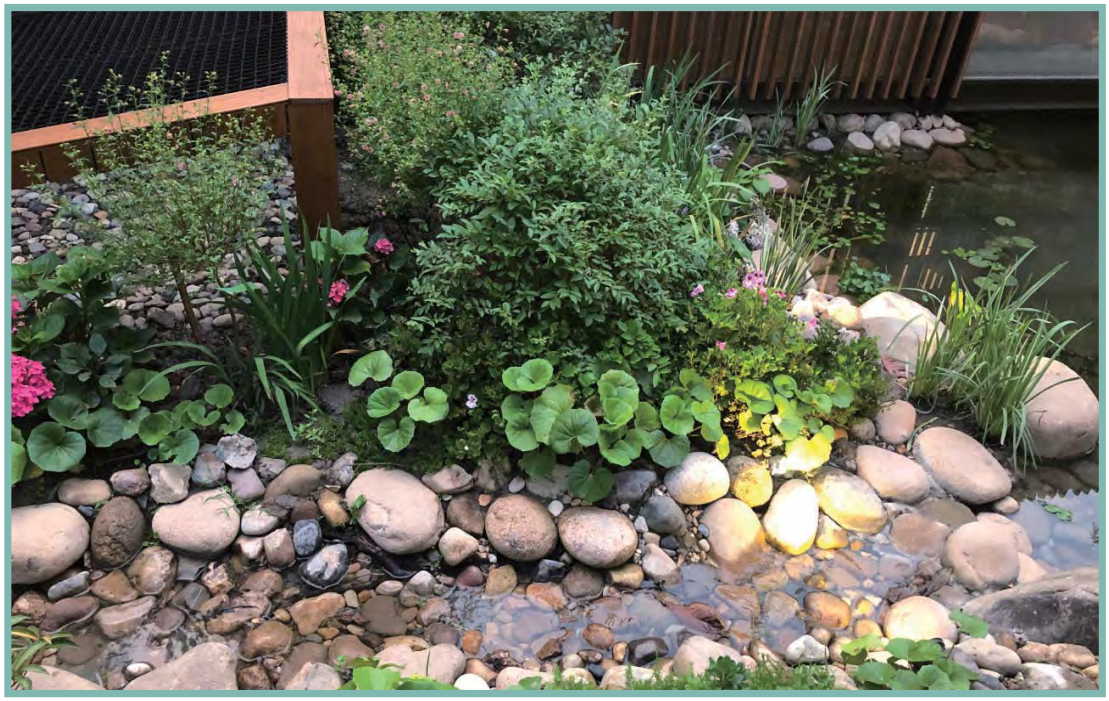
Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Sustainable use

Targets: Urban | Freshwater & wetland

CASE INTRODUCTION

Leyi Habitat Garden, located within the eighth neighborhood of Lvyuan community in the west of Changning District and adjacent to the city's best regulated river Nanyupu, has become the largest community habitat garden in Shanghai with a riverside landscape corridor and a land area of 732 square meters. Upholding the ecological thought of "landscape, forest, field, lake and grass as a community of shared life", the garden is divided into six major areas: Four Seasons Garden, Habitat Rest Station, Butterfly Stream, Healing Garden, Science Corridor, and Nature Conservation Area. Lovely and fun scenery can be seen around the garden, not only beautifying the shabby forgotten corners in the community, but also creating a model for innovative restoration of the urban community ecosystem.

Following three brainstorming sessions involving community residents and more than ten regular meetings attended by volunteers and residents with expertise in construction, biology and gardening, Leyi Habitat Garden made its first stunning appearance after 180



days of construction. Turning from a weedy "leftover" into a vibrant "spot", the garden presents a new model of community building with full democratic participation.

Opinions of environmental experts and the public were fully respected in the construction. The garden not only preserves the original metasequoia woodland, but also extracts river water from Nanyupu and collects rainwater via the roof and sponge ground to feed the Iris pond, where a symbiotic environment with black algae, water lilies, smelt fish and ornamental frogs takes form which purifies the water and attracts such native animals as yellow ferrets, hedgehogs and even raccoon dogs to drink, play and take baths by the pond, making it a fabulous habitat rarely seen in urban communities.

At this unique garden, as no pesticides are applied to native flowers and plants, pepper, loquat, citrus, pomegranate and red leaf plum become the host of insects such as citrus swallowtails and pheasant butterflies; alongside the stream is the science corridor inlaid with hollow display panels of common local birds; transom window made of bamboo and wood and dimming glass makes the garden house an excellent spot for the residents to observe the birds drinking, bathing, and grooming; the garden house is decorated with Xi Jinping’s calligraphy works on his thought of ecological civilization, and collage characters “Leyi”, the garden name, made by leaves and petals, which is full of natural and wild fun; walking through the Mind Cable Bridge, children can observe squirrels and birds, enjoy the flowers, fossils and fruits and vegetables in the Healing Garden area, feeling the power and gift from nature whilst in it.

Besides the completion of Leyi Habitat Garden, a volunteer team named "Leyi Fifth Space" has been set up comprising of interested building representatives, volunteers, and retired garden and animal experts. In order to ensure the proper operation and the sustainable maintenance of the precious ecological resources, the Resident Congress passed Leyi Habitat Garden Residents Convention, Article 16 of which states the points for attention and regulates the acts of tourists, making it a vivid practice of General Secretary Xi's thought of "People's City" and ecological civilization.

Beijing High-density Urban Community Biodiversity Conservation Demonstration Project

Evergreen

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Sustainable use

Targets: Urban | Flora | Amphibians | Avifauna

CASE INTRODUCTION

Under the call of the national ecological civilization, sustainable development, and the practice of civilization in the new era, urban citizens have gradually awakened their awareness of ecological protection and development, and they have the special prerequisites to invest in urban biodiversity protection under appropriate guidance. Especially in the post-epidemic period, urban residents are paying more and more attention to the relationship between human settlements and animals. At this moment, the intervention, organization and guidance of professional teams are urgently needed to guide urban residents to pay attention to the natural environment and the sustainable development of the city, and through publicity and education, to effectively participate in biodiversity conservation actions in their daily lives.

The Evergreen focuses on Beijing, one of the most biodiverse metropolises in the world, and leads the public in residential areas including the old traditional ones and the emerging dense high-rise in Xinjiekou Street in Xicheng District and Zhongguancun Street

in Haidian District, to participate in biodiversity conservation actions in the urban human settlement environment.

The activities of the project mainly includes:

1.On the site left from demolishing illegally buildings, through comprehensive methods such as garbage composting, soil restoration, "neo-naturalism" plant community planting, and small-scale biological habitat creation, the 400-square-meter ecosystem was restored and a community ecological education demonstration base was built;

2.Improved the quality of the existing green space in the communities, and promoted measures such as roof greening, family planting, and installation of ecological facilities;

3.Developed a community-based online and offline environmental education platform and curriculum;

4.Established a community environmental protection volunteer team of about 50 people, with children and housewives as the main participants; established a community self-organized and sustainable communication platform;

5.In the two communities where the project is implemented, at least 100 social workers have been trained in relevant professional knowledge of ecological communities; by changing their working methods, they will influence the green lifestyle of community residents;

6.Investigated the public awareness of urban biodiversity conservation;

7.Cooperate with Beijing Forestry University, Beijing Academy of Environmental Sciences and other research teams to observe the dynamic changes of community biodiversity and bring advanced scientific and technological research into the application of community projects;

8.The model of community members' participation in biodiversity conservation was summarized and promoted.

The project has been selected into the United Nations Development Program (UNDP) Global Environment Facility Small Grants Program (GEF SGP), and it is also the site of the World Conservation Congress's proposal "The Role of Youth in Nature Conservation" in China.

Peking University Yanyuan Nature Reserve

Center for Nature and Society, Peking University

Approaches: *In-situ* conservation | Public participation

Targets: Urban | Flora | Mammals | Amphibians | Avifauna | Freshwater creatures

CASE INTRODUCTION

The Yanyuan campus of Peking University upholds the traditional Chinese garden design concept "learn from the nature". It not only provides a beautiful learning and working environment for students and staff members at Peking University, it also became an important carrier of the spirit of Peking University, and has extremely important value in the protection of biodiversity. Yanyuan had retained its natural landscape and features, and has a complete plant community. It also has various types of water bodies, which provides an miniature landscape with almost all types of wetland in the East Asian plains, thereby preserving the native biodiversity of the eastern plains of China. Since the completion of the Yanyuan Garden, this pattern has been well-preserved, making Yanyuan a green island suitable for wild animals and plants to survive in a in busy city like Beijing, providing a perfect example of the harmonious coexistence of man and nature.

Since 2002, nature lovers amongst students and staff members of Peking University have begun to investigate the situation regarding the life of birds, fish, beasts, insects, and plants that live in Yanyuan. Since 2009, with the assistance and guidance of teachers and students from the Peking University Center For Nature And Society, past

student members from the Peking University Green Life Association have carried out systematic campus bird monitoring and plant phenology monitoring and patrol work, which has continued to this day. Currently, there are more than 230 species of birds, more than 600 species of vascular plants, 11 species of beasts, 26 species of fish, 11 species of amphibians and reptiles, 27 species of butterflies and 26 species of dragonflies, that have been recorded on the campus of Peking University. Peking University's campus can be described as one of the urban green spaces with one of the most abundant native flora and fauna in China.

Under the long-term promotion of a group of Peking University students and staff members, Peking University established the Yanyuan Nature Reserve. The reserve covers all the historical garden areas on the north side of the campus, as well as a small area of 50 hectares that is in the south of the campus and outside the west gate of the University. This is not only the first nature reserve in a Chinese university, but also the first nature reserve in Beijing. As the initiator, Peking University Center For Nature And Society has formulated a series of management plans, delineating and enclosing an explicit area for biodiversity conservation. The plans also included detailed management measures that are different from traditional urban green space management methods of habitat spaces, such as water bodies, woodlands, and large trees, for important species. This plan also preserves the near-natural restoration of multi-species native vegetation, and incorporate long-term adherence to biodiversity monitoring into the management plan of the protection community.

The home for raccoons: Citizen science promotes the research, protection and science,and education of urban biodiversity

Conservation Biology Group, Fudan University

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Policy-making & implementation | Financial support mechanisms

Targets: Urban

CASE INTRODUCTION

The rapid change of urban environment has added tremendous difficulties to biodiversity conservation. The significant gaps in research, management, and popular science education make this key goal full of challenges. The Conservation Biology Research Group of Fudan University closely integrated the three key links of scientific research, conservation management, and popular science education. It initiated citizen science projects and successfully filled the gaps in biodiversity research in Shanghai's megacities, and promoted the implementation of biodiversity conservation policies. A large number of popular science works have achieved good protection effects and social influence.

Specifically, the first point of success lies in breaking the traditional scientific research model and adopting innovative forms of "citizen scientists" to carry out research and protection work. During the implementation process, it cooperated with social institutions such as the Shan Shui Conservation Center to form a citizen scientist team of more than 200 citizens, which promoted the establishment of student associations such as the Natural Science Research Institute of Fudan University. Through the participation of the citizen science team, a mammal diversity monitoring network covering the whole city of Shanghai was successfully established to fill in the data gap; the city-wide distribution and habitat assessment of the national second-class protected raccoon animal was completed, and the Little Civet as the first-class protected animal, was discovered. The local conservation projects were promoted and the projects such as riverside biodiversity restoration were launched. This work has cultivated the power of citizen science and explored the development model of citizen science.

The second point of success lies in supporting policymaking. Taking "human-raccoon coexistence" as the starting point to assist the Shanghai forestry department to formulate an emergency response plan for the human-raccoon conflict. It has also repeatedly carried out education, transformation, and consultation activities in key areas such as Milano Guidu. It has also resolved citizens' complaints, and has assisted the competent authorities in handling human-wildlife conflicts and human rights issues, which promote the coexistence of urban biodiversity and urban residents.

市民志愿者调查现场：
超过300名市民志愿者接受
培训，并加入生态调查队伍

In addition to this, a lot of policy support has been completed. For example, during the epidemic of the COVID-19, the group together with the Shanghai Forestry Station has formulated a management plan for urban bats and other wild animals to maintain the balance of the urban ecosystem. The station also participated in the formulation of urban stray animal management strategies. The group has long provided suggestions for urban ecological construction that served as the natural protection in Shanghai Local experts and Yangpu urban planning and construction experts.

The third success point is the creation of a large number of original science popularizations, leading the public to care about the protection of urban biodiversity. There are more than 200 million views for the Weibo popular science articles and. The group has described the protection and management of urban biodiversity on the show of "CCTV News", "Science Zoo" and other columns. The online video platform has played more than 6 million public welfare science lessons, and 1.7 million have been played on the Bilibili and other video platforms. The video materials have been forwarded by the official account of the Ministry of Ecology and Environment, the focus area of the homepage of People's Daily, and reposted by www.xuexi.cn.

Agricultural Biodiversity Conservation and Utilization of Dry Farming Terrace System in Shexian County

Shexian County Association of the Protection and Utilization of Day Farming Terrace （Terrace Association）

Approaches: *In-situ* conservation | Public participation | Sustainable use | Traditional knowledge

Targets: Farmland | Dry and sub-humid land

CASE INTRODUCTION

The dry farming terrace system of Shexian County, Hebei is one of the most representative areas of dry farming terraces in the north. It is located in the middle section of the Taihang Mountains in the southwest of Hebei Province, at the junction of the three provinces of Shanxi, Hebei and Henan.

In the process of adapting to nature and transforming the environment, the local people make full use of the unique geographical and climatic conditions and abundant food resources in the area, through the farming technology of "having grains on the ground", the storage technology of "storing grains in the warehouse" and the survival skill of "saving grains from the mouth", and with the custom of reserving seeds that have been inherited from generation to generation, and the agro-ecological wisdom of harmony between man and nature, not only have the they created a large-scale stone-based terraced landscape,

but also created a unique mountain rain-fed agricultural system, which preserves a large number of important agricultural species resources.

According to "Shexian County Chronicles", the terraces of Shexian County have 176

families, 633 genera, and 1441 species of plants. As the core area, Wangjinzhuang Village retains 26 families, 57 genera, and 77 species of agricultural species, including 171 traditional farm varieties.

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Today, when global agriculture is facing multiple challenges such as food security, resource shortage, environmental damage, global climate change, and the disaster of the COVID-19 epidemic, It is of great significance to the protection and utilization of the dry farming terrace system in Shexian County to carry out the protection and utilization of its agricultural species and heritage diversity.

The project site Wangjinzhuang Village, Jingdian Town, located in the core area of dry farming terraces in Shexian County, was selected to establish a seed bank through investigation, interview, collection, sorting, field investigation, planting, identification, analysis, and research, investigate the family background of agricultural species and agricultural genetic resources in the core area, and through field planting identification, distinguish the same or different names of the same species, verify the character description of the traditional farm varieties in the survey and interviews of the farmers, to confirm the name and quantity of local traditional crops and traditional farm varieties.

On this basis, we summarized the characteristics of dryland terraced agricultural biodiversity, protection and utilization methods, as well as existing problems, and developed a model of a combination of community seed bank preservation and farmers' own seeds for the in-situ conservation of traditional crops and their traditional farm varieties. This also provides experience that can be used for reference for the on-site protection of agricultural biodiversity in agricultural cultural heritage sites.

700mu (~47 hectares) farmland in the Taihu Lake catches 10% of the bird species in China

Suzhou Wetland Protection Management Station

Approaches: Public participation | Policy-making & implementation

Targets: Ocean and coastal

CASE INTRODUCTION

The Taihu Lake Basin is the birthplace of the farming culture of the water towns in Jiangnan. There are 22.66 million mu (~ 1.5 million ha) of arable land in the basin. The nominated practice is located in the Tianfu National Wetland Park in the north of Huaqiao Economic Development Zone in Kunshan City, Jiangsu Province. It is a rare ecological reserve in the highly modernized urban agglomeration in the Yangtze River Delta. The case area is about 700 mu (~47 ha). It was originally a degrade horse farm. After habitat protection and wetland restoration, it has become a demonstration area for agricultural wetland protection and agricultural non-point source pollution treatment in Lake Taihu.

The core challenge for the degradation of agricultural wetlands in Taihu lake is the contradiction between non-point source pollution caused by agricultural retreat and food production security. In the rice field system, the agricultural return water is rich in various inorganic and organic particulate matter, and also contains a large amount of nutrients such as nitrogen and phosphorus. On the one hand, these nutrient elements can easily cause eutrophication of water bodies after entering lake wetlands, and on the other hand,

nutrient elements are valuable fertilizers for agricultural production.

In response to the above problems, the practice fully considers the two-way demand of agricultural wetlands. First, the land-source particulate matter reduction technology of "ditch-pond-river course" is proposed, and the parallel water particulate matter buffer

system is designed to filter and intercept the particulate matter that enters the river during the process of seeding and beating of farmland. Effectively alleviate the adverse effects of agricultural retreat on surrounding rivers and improve regional water quality. Secondly, use farmland ponds to create near-natural habitats, by designing gentle slope ponds of different sizes, depths, and water level adjustment facilities to meet the habitat needs of different birds in different seasons. Furthermore, improve ecological monitoring technology, deploy water quality, soil, atmosphere and other environmental monitoring equipment with automatic data collection, recording and transmission, and provide timely feedback on restoration results through high-frequency monitoring, and provide scientific decision-making basis for habitat restoration. Finally, the concept of "season paddy fields" is introduced. During the rice harvesting and fallow period, water storage projects will be implemented to create shoals, open water and other suitable habitat conditions for waterbirds to inhabit, provide more habitats for migratory birds, and achieve the sharing of rice fields between people and migratory birds .

The strategies proposed in the case provide practical references for effectively solving agricultural non-point source pollution in the Taihu Lake Basin. At the same time, traditional agriculture is regarded as a biodiversity conservation asset with unique cultural heritage, and extensive and detailed farmland biodiversity monitoring and research have been carried out. This case restored the degraded farmland wetland system, reversed the loss of biodiversity, protected key areas of biodiversity represented by farmland, and contributed to improving the coverage and quality of global terrestrial nature reserves and reserves. Consolidated the progress made by the "United Nations Decade of Ecosystem Restoration" initiative.

100+ 生物多样性保护全球案例

100 Biodiversity Positive Practices and Actions Around the World

02

Law-related Approach

All stakeholders' participation in building a big black-necked crane conservation network
© Kunming Institute of Zoology, Chinese Academy of Sciences Bird Ring Logging Center, International Crane Foundation

Tanzania: No to Road Construction in the Serengeti National Park - East African Court of Justice stops Tanzania from building a road that would disrupt animal migrations

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Ecosystems

CASE INTRODUCTION

In 2010, Africa Network for Animal Welfare, a Kenya-based NGO, filed a case in the East African Court of Justice to prevent the government of Tanzania from building a highway through the iconic Serengeti National Park. The project plans to build a 53-kilometer highway across the Serengeti National Park, which has been listed as a World Heritage Site by UNESCO. The NGO objected to the construction of the highway on the grounds that it would cause environmental damage and disrupt migrations of wildlife. According to the Tanzanian government, the road was necessary to boost the economy by connecting the northwest of Kenya with the rest of the country.

The East African Court was established on the basis of the 1999 East African Community Treaty, aiming to ensure that the contents of the treaty are effectively observed. Africa Network for Animal Welfare believes that the road project violates the provisions of the Treaty. According to the requirements of the Treaty, all contracting parties (including Tanzania) have an obligation to protect and manage the environment and natural resources. In 2014, the First Instance Division of the Court ruled that Tanzania's proposal to to build a highway across the Serengeti was unlawful.

Two important aspects of this case are - the inherent power of East African Court of Justice to grant an injunction, and the threshold of an action of a state.

Tanzania argued that the the East African Community does not grant the Court the power to issue injunctions. The Court, however, held that it possessed inherent power to grant injunctions including those of permanently stopping countries from carrying out any action that is an infringement of the East African Community Treaty. Inherent powers enable courts to fulfil their mandates properly and effectively. The inherent power of a court to issue injunctions is not derived from any written laws, rather, such power is inherent in the courts in order to empower them to ensure adherence and compliance with the law. Without the inherent power to issue injunctions, courts become toothless - unable to dispense appropriate punishment when laws are broken.

According to Tanzania, a proposal

is an idea or plan and not an action attributable to the State. Tanzania, therefore, maintained that the project , that was in its infancy at the time of ruling, could not be considered to be an “action of a state” which could be faulted for a breach of the Treaty. Tanzania held that the First Instance Division had erred in declaring that the proposed “initial proposal to build the road” breached the Treaty. The Court highlighted the difficulty in determining the threshold of what would constitute an action of a state that can constitute a breach of the Treaty. Howevere, in this particular case, the Court opined that in order for a threshold to exist for an initial idea or plan to transform into a challengeable act of a State the Government needed to have in place, among other things, the following:

-Agreed architectural plans and drawings;
-Bills of quantity;
-Cabinet approval of the project;
-Appropriate budget, endorsed or approved by parliament;
-Commencement of loan processed for financing the project where necessary;
-Commencement of procurement processes (whether public or private bidding), as appropriate;
-Practical manifestation of actual commencement of engineering works (such as official field surveys or delivery of construction machinery and materials to the site);

In the view of the Court, “the above accompaniments - whether singly or in multiples - and whether separately or in combination (s) - would signal the manifestation of an “action” or a series of “actions” on the part of the Government to actualize its plans to construct the impugned Super Highway” and pass the bar of what would constitute an action of a state set by Article 30 of the Treaty. Despite finding that the proposal to build a super highway in the Serengeti had not reached the threshold of an action of Tanzania, the Court declined to lift the permanent injunction issued by the First instance Division of the Court given that evidence showed that if the “initial plan” was to crystallize into an action, it would result in “imminent risk of irreversible damage” to the ecosystem of Serengeti.

The Case provided the Court to declare in equivocal terms its inherent powers to grant injunctions including permanent injunctions even where the treaty did not expressly grant those powers. The Court elucidated the necessary elements for determining whether plans have transformed into actions of a state which can be challenged before the court for the breach of the Treaty provisions on the protection of the environment.

After weighing economic benefits and the need for protection of biodiversity, the court permanently stopped any future plans of construction of a road in the Serengeti which would have intruded in the natural habitat and caused tremendous stress to migrating animals.

Brazil: The case of protecting the Amazon rainforest - Supreme Court closes a loophole used by destroyers of Amazon rainforest

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Forest

CASE INTRODUCTION

In response to the phenomenon of deforestation in the Amazon, in November 2017, the Federal Attorney's Office (minist é rio P ú blico Federal) of Brazil launched the "Defend Amazon" action, which aims to promote afforestation in areas with degraded vegetation and to charge additional compensation on the material and mental damage caused by deforestation. At the end of 2020, a major case handled by this action was heard in court. In this case, the Federal Attorney's Office and IBAMA filed a civil public interest lawsuit against "an owner of an unidentified and unaccounted embargo zone" on 67 hectares of deforested forest, requiring him to carry out afforestation activities in degraded areas, and compensate material and mental environmental damage. In February 2021, Brazil's Supreme Court decided that the deforestation that has occurred in recent years may also hold landowners accountable, regardless of whether the land was in their name when the deforestation occurred.

This case has set a precedent for the "Defend Amazon" action. One of the key points of

the case is the argumentation of property obligations. In large remote areas of the Amazon rainforest, deforestation often occurs because nobody lives there. Satellite photos taken in the same area over the years have recorded logging and wood processing activities, and these photos and transportation documents are all evidence that can prove illegal intrusion. Deforestation has also become a strategy to legalize illegal intrusion in some areas through notarization or registration. For example, they apply for a loan to purchase the land that has been emptied of trees, and then convert it to pasture, or develop agriculture on these lands via private or public banks' loans. However, once the property obligations are established, the responsibility for afforestation and compensation should be passed on to the current owner or holder of the land.

The significance of this judgment is particularly reflected in the fact that it has cleared the way for prosecutors to continue handling 3,500 outstanding cases. This means that the obligation to restore the forest and pay compensation falls on the current owner of the land. In this way, for illegal intruders, deforesters, and those who obtain land rights in the name of the intruder or sub-purchase from the intruder, the chain of illegal activities that legalize the deforestation area is broken. This massive public interest litigation campaign initiated by federal prosecutors has global significance. It has made great contributions to the protection of the Amazon rainforest, the world's largest terrestrial biodiversity hotspot.

Australia: Burga Coal Mine Case - the public stop coal mining expansion in biodiversity-rich areas

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Ecosystems | Species diversity

CASE INTRODUCTION

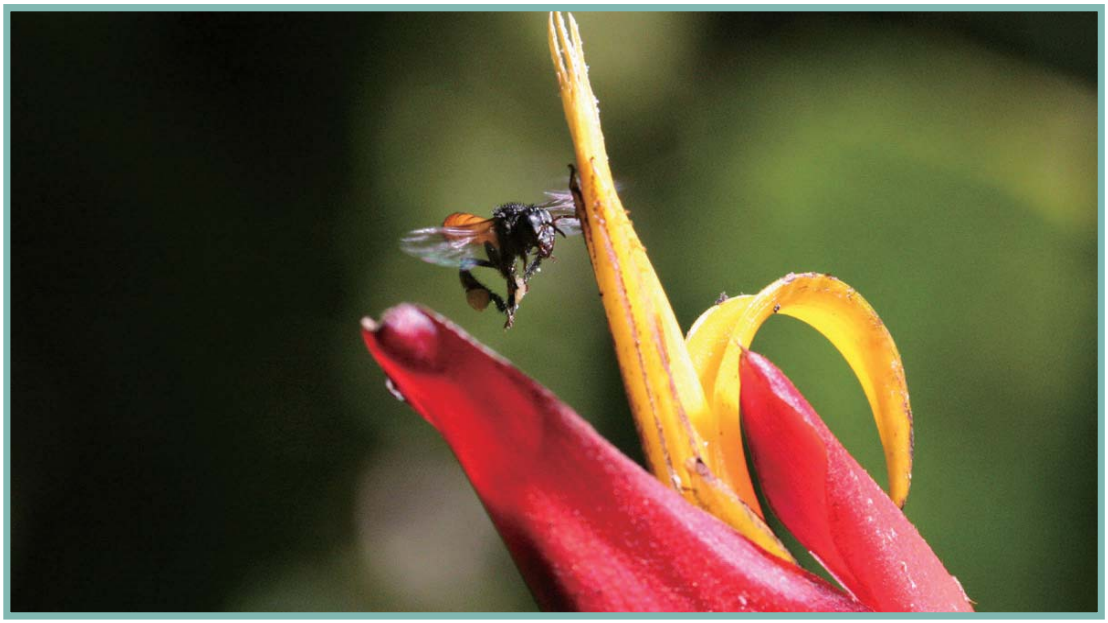
The Minister of Planning and Infrastructure of Australia approved Warkworth Mining Company's open-pit mine expansion project. This administrative decision aroused dissatisfaction among Bulga residents. The latter filed an application with the New South Wales Land and Environment Tribunal, requesting the court to conduct an external merits review on this decision. Resident Democracy Zhang rejected the decision to approve the project because the project will have an impact on biodiversity, as well as noise, dust, and other unacceptable social impacts. The court rejected the application to expand the coal mine project based on consideration of the following factors:

- Impact on biodiversity;
- Noise and dust impact;
- Social influence;
- Economic factors.

In reviewing the administrative decision of the Minister of Planning and Infrastructure of granting the approval of the proposed extension of the project, the Court first analysed the statutes which contain the power of the decision maker to make the decision to approve or

disapprove and then the power of the Court to review the merits of the decision in order to determine the nature, scope and parameters of the powers that the Minister is bound to consider and those that he has a discretion to consider. The Court then proceeded to undertake fact- finding and inference drawing from the evidence before it in order to determine the likely impacts of the project on the environment with a view of ascertaining the nature and type of each impact and efficacy of the proposed measures in the application for approval or "that could be imposed as conditions of approval, to prevent, mitigate or compensate for each type of impact". The Court review involved determination of how much weight each relevant matters of impacts on biodiversity, noise, dust, social and economic issues should receive. The Court finally "weighted matters to be balanced, each against others".

Relying on the facts as well as extensive expert witnesses' reports, and after the balancing exercise of all relevant matters, the Court concluded that the Project extension would likely have significant impacts on endangered ecological communities, and key habitats of the species of the local fauna. The Court also concluded that "Warkworths offset package and direct offsets and other compensatory measures would not adequately compensate for the significant impacts that the Project would have on the extant endangered ecological communities in the disturbance area. The Court, in arriving at its final conclusion of disapproving the Warkworth Project application, undertook an exercise of balancing the negative and positive impacts, especially the economic benefits and positive impacts in the broader area and region.



Costa Rica: Ban on pesticides harming bees – application of the precautionary principle in environmental cases

ClientEarth (UK) Beijing Representative Office

Approaches: Law-related approach

CASE INTRODUCTION

Neonicotinoids account for more than 25 per cent of the global pesticide market and are applied to almost every major crop. These insecticides are so potent that they can kill insects not only through direct contact, but can also infiltrate plant tissues and cause insects to die after eating the plant. As a result, non-target insects can also be affected -- bees, for example, are damaged by neonicotinoids through nectar and pollen.

Scientists have long linked the decline in bee populations to the use of neonicotinoids. The chemicals damage the bees' nervous systems and affect their learning and memory abilities -- crucial for the social insects, which rely on learning and memory to communicate the location of food to their peers.

In a tradition of putting the environment first, costa Rica's Supreme Court ordered the country's Ministry of Agriculture and Livestock to organize a scientific analysis of neonicotinoids, one of the most widely used pesticides in the world, on bees, the

environment and public health. The findings could lead to a ban in Costa Rica on pesticides that damage pollinators.

The main legal issue in this case is whether and when the precautionary principle can be applied and preventive measures taken.

Addressing the precautionary and precautionary constitutional principles of environmental protection established in this decision, the court affirmed that states must act to prevent risks to biodiversity and the environment. For example, if an activity may have a negative impact on the environment and the risk or environmental damage caused by it is certain, the preventive principle should be adopted, which means that the potential environmental damage must be fully assessed and checked before any activity is carried out. On the other hand, if the impact of an activity on environmental sustainability cannot be fully confirmed scientifically, the precautionary principle (precautionary principle) should be applied, requiring states not to delay effective measures to prevent environmental degradation or biodiversity loss on the grounds of lack of scientific certainty.

This case sets a typical precedent that fully interprets the precautionary principle. By its decision, the Constitutional Chamber of the Supreme Court of Costa Rica has guaranteed the public's right to health and life, as well as citizens' right to a sound environment. It also ensures the country's food security and biodiversity.

India: The Asian Lion Case - Urges the Gujarat government to create a second habitat for the Asian Lions

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Mammals

CASE INTRODUCTION

Asiatic lions now are critically endangered, surviving as one population of about 500 individuals in a single location in India – Gir National Park in the state of Gujarat. To protect them, two NGOs – Centre for Environment Law and WWF India, won a case against the Indian government when the country's Supreme Court ruled for Asiatic lions to be reintroduced to Kuno National Park where would be their second foothold.

The Asian lion was nearly extinct in the early 20th century, but after strengthening protection and conservation, its population has recovered to a certain extent. According to historical records, Asian lions were once widely active in most parts of West Asia, the Middle East, and northern India. At present, the scope of Asian lion activities is limited to the Gil National Park and surrounding areas in Gujarat, India.

In 1990, a unit of the Indian government proposed to establish a second wild Asian lion habitat to protect the population of Asian lions in Gir National Park from disasters. After in-depth investigation and research, experts found that Kuno Wildlife Sanctuary is the best place to reintroduce Asian lions. The local government immediately carried out a series of

preparatory work, including the relocation of villages. However, in 2004, the Gujarat government refused to relocate some Asian lion populations to new habitats.

The Centre for Environment Law and WWF India brought a legal case against the government, seeking to compel it to proceed with the reintroduction.

The issue for determination in this Case before the Supreme Court of India was whether or not there was a necessity for the reintroduction of the Asiatic lion, a species under the threat of extinction, to the Kuno Wildlife Sanctuary. While examining the necessity of a second home for Asiatic lions, the Supreme Court relied on the following relevant matters:

-The anthropocentric v. eco-centric approaches;
-Kuno historical habitat re-introduction;
-Prey Density at Kuno

The Supreme Court took the eco-centric approach rather than the anthropocentric approach and applied the species best interest, that is the best interest of the Asiatic lions. The Court disregarded the anthropocentric approach which postulates that "humans take precedence and that human responsibilities to non-humans are based on humans benefits" in favour of the eco-centric (nature-centre) approach which propounds that "humans are part of nature and non-humans have intrinsic value". The Supreme Court opined that Article 21 of the Constitution of India ("Right to Life") not only protects the human rights "but also casts an obligation on human beings to protect and preserve a specie becoming extinct, protection of environment is an inseparable part of right to life". The Court relied on the doctrine of public trust as enunciated in its earlier decision in M. C. Mehta v. Kamal Nath and Others (1997) 1 SCC 388. The doctrine suggests that certain common properties such as rivers, seashores, waters, forests and air "are held by the Government in trusteeship for free and unimpeded use of the general public" and that "the State, as a custodian of the natural resources, has a duty to maintain them not merely for the benefit of the public, but for the best of flora and fauna, wildlife and so on." In line with the doctrine, the Court opined that "human beings have a duty to prevent the species from going extinct and have to advocate for an effective species protection regime".

Relying on the uniformity of the expert views that to have a second home for an endangered species like the Asiatic lion is of vital importance, as well as on a detailed study that found the Kuno Wildlife Sanctuary to be the best habitat for the reintroduction of the Asiatic lion, the Supreme Court held that the reintroduction of the Asiatic lion in Kuno was a priority that could not be delayed if the specie is to be protected from extinction. The Court supported their directive for reintroduction by the facts that the Asiatic lion had historically lived in the wild in Kuno and that sufficient prey density now existed in Kuno. The Supreme Court ordered the Ministry of Environment and Forest to issue a directive to reintroduce the Asiatic lion in Kuno within six months.

In 2013, the Supreme Court of India ruled in favor of the plaintiff, and the Gujarat government was dissatisfied with the appeal, which was then rejected. But up to now, the re-introduction work has not yet been carried out.

Belgium: Traders in Protected Bird Species Sentenced -Criminal organization broken up following an international investigation

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Avifauna

CASE INTRODUCTION

After a long and large-scale joint investigation by prosecutors from Belgium, Britain, Spain, France, Germany, Austria and the Netherlands, a Belgian court finally convicted four people for smuggling protected endangered birds.

The four suspects belonged to the same criminal organization, which specializes in poaching activities in Spain and southern France. Most of the poaching targets are eggs and chicks of rare birds of prey. The suspects handed over the successful prey to the farm for incubation and breeding, and forged CITES certificates for commercial transactions. By virtue of the above illegal methods, the organization has made huge profits. The illegal bird trade is lucrative. For example, Bonelli eagles sell for 10,000 euros each, bald eagles sell for 5,000 euros each, African fish eagles sell for 6,000 euros each, and boot sculptures sell for 5,000 euros each.

Therefore, the prosecutors have been sued against four suspects for participating in

organized criminal activities, forging CITES export licenses, failing to keep CITES records, and illegally using traps and fishing nets to catch birds. After investigation, the court found the above crimes guilty and imposed a fine and short-term imprisonment on the suspect. In the judgment, the court emphasized that the defendant had a direct and irreversible impact on biodiversity, and severely undermined the efforts made at the national and international levels to protect these fragile and rare bird species. Bird Protection Organization, a Belgian non-governmental organization, participated in the lawsuit as a civil party and received 15,250 euros in spiritual compensation.

This case is a typical case of successful multi-country cooperation in combating organized international crime. Organized international crime is one of the main reasons leading to the loss of biodiversity. Because it involves multiple links such as poaching, smuggling, distribution and sale of illegal wild animals, it is difficult to crack down. In addition, the special significance of this case is also reflected in the court's recognition of the NGO's qualified plaintiff status and support for its claim of compensation for mental damage.

Colombia: Deforestation in the Amazon - The Supreme Court supports a youth lawsuit against Amazon deforestation

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Forest

CASE INTRODUCTION

In 2018, 25 young plaintiffs ranging from 7 to 26 years old filed a special constitutional lawsuit against the Colombian central government, several local governments, and companies to defend their basic rights. The plaintiffs claimed that climate change caused by the government's ineffective response to deforestation has violated their individual and collective rights, including the right to a healthy environment, the right to life, the right to health, the right to food and the right to water.

The plaintiffs believes that, in accordance with relevant international treaties and national laws, the Colombian government has a statutory obligation to reduce the rate of deforestation year by year, but the actual situation is that the rate of deforestation has accelerated. The district court initially rejected the plaintiffs' request. The plaintiffs

refused to accept and appealed to the Colombian Supreme Court and got their support ultimately. In its judgment, the Supreme Court emphasized the threat of deforestation to biodiversity - an imminent crisis caused by the deforestation of the Amazon rainforest is the mass extinction of animals and plants.

The court issued a mandatory order requiring the government defendant to formulate an action plan to deal with deforestation and climate change, and to reduce deforestation and greenhouse gas emissions through extensive public participation in the creation of the "Intergenerational Agreement for Life in the Colombian Amazon-PIVAC", and actions should be taken within 48 hours after the judgment takes effect in order to alleviate the problem of deforestation.

This case had a far-reaching impact because the court adopted an "ecological-centered" approach, treating the Amazon forest as a "subject of rights" that should be protected by law, and emphasizing that protecting the Amazon is an obligation of the state and the international community.

Finland: Wolf Hunting Declared Illegal - Long campaign by an NGO makes Finnish government comply with the EU law

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Ecosystems

CASE INTRODUCTION

Wolves are listed in Annex IV of the EU Habitats Directive (Council Directive 92/42/EEC 1992) as strictly protected species, meaning that their killing is strictly prohibited, except for a very limited number of reasons. However, Finland negotiated an exception for wolves in certain parts of the country to be listed under Annex V that imposes fewer restrictions, so that hunting permits could be granted by the local Finnish authorities.

A non-governmental organization established by three local Finnish women filed a series of lawsuits against the local government's issuance of wolf hunting permits. The European Court of Justice accepted one of the lawsuits and clearly pointed out that the Finnish government had not done enough to protect the wolves and ruled that the government should abide by the EU Habitats Directive. After the European Court of Justice issued the judgment, the Supreme Administrative Court of Finland determined that the wolf-hunting permits were illegal in March 2020 and required the government to explore other effective ways to protect the Finnish wolf pack.

In response to a previous complaint brought by a large Finnish environmental NGO in 1997 to the European Commission, the Commission initiated a formal infringement procedure against Finland that finally reached the CJEU. The result was stricter national regulation in Finland, however, wolf killing permits were still allowed under section (e) of Article 16(1): "under strictly supervised conditions, on a selective basis and to a limited extent", without specifying a clear purpose and leaving a space for the discretion of authorities. As a result, wolf population kept going down. Worse still, despite objections in

public consultation, a plan was announced in 2014 to reintroduce managed wolf hunting.

Although environmental organizations are generally allowed to bring public interest litigation under the Finnish law pursuant to the access to justice requirement under the Aarhus Convention signed by Finland, challenges to hunting permits in the country are nonetheless regulated by the Hunting Act, where only the local and regional associations are eligible to sue.

For this reason, three local individuals registered a small NGO called Tapiola, which covered most of Finland's territory in order to be able to litigate the hunting permits issued in different administrative regions. Tapiola requested courts in different Finnish regions to (1) issue injunctions against the permits, and (2) to refer the case to the CJEU because Finnish law was breaching the EU law. However, almost all the regional courts rejected these claims based on lack of standing, for example the location of Tapiola's registered office located too far from the region in question.

When the next hunting season came, the government started issuing permits again, Tapiola changed litigation strategy, splitting the NGO into 6 regional organizations. However, claims were rejected again either on standing or on merits, but one of the appeals went up to the Supreme Administrative Court that finally referred the case to the CJEU, asking whether and under what circumstances was wolf hunting permitted and whether Finland was violating EU law. At this point, the case was finally transferred to the CJEU.

The CJEU ruled in 2019, imposing highly stringent restrictions on wolf hunting, and essentially agreeing with the claimants on all the issues. By emphasizing the main aim of the EU Habitats Directive to "ensur(e) biodiversity through the conservation of natural habitats and of wild fauna and flora", the Court ruled that:

(1) the said objective of the permits - to reduce illegal hunting - is not stated in a clear and precise manner and the authorities failed to establish that the killing was appropriate to achieving that objective, which shall be supported by rigorous scientific data;

(2) the authorities failed to establish that no other satisfactory alternatives existed;

(3) the authorities failed to guarantee that the hunting permits will not harm wolf populations concerned at a favorable conservation status in their natural range;

(4) there had been no impact assessment of the wolves' conservation status when issuing the hunting permits;

(5) not all conditions under Article 16(1)(e) are satisfied, compliance with which must be established in particular by reference to the population level, its conservation status and its biological characteristics.

Therefore, although the CJEU did mot have to determine on issues of fact in a preliminary judgment as such, it concluded that the permits at issue did not appear to satisfy the EU law and lack sufficient reasons. The Court imposed high burden of proof, based on rigorous science, on the government side. Following the CJEU ruling, the Supreme Administrative Court of Finland ruled accordingly and declared wolf hunting permits illegal.

Philippines: Marine Mammal Protection Case - Citizens Prevent Illegal Offshore Oil Exploration

Client Earth Beijing Office

Approaches: Law-related approach

Targets: Marine creatures

CASE INTRODUCTION

In November 2007, oil exploration company JAPEX strated drilling exploratory wells in the Tañon Strait in the Philippines. In response to this behavior, local lawyers and an NGO sued JAPEX on behalf of both whales and dophins, and local fishermen. The case went to the Supreme Court of the Philippines who ruled that oil exploration in the Tañon Strait had to stop.

JAPEX stated that its exploration activities are supported by a presidential decree. However, the Tañon Strait is an environmentally fragile area and has been designated as a protected area. Therefore, any development activities carried out in this area must comply with the relevant laws of the protected area - even if it is a presidential decree, if it is contrary to relevant laws and regulations, it should be considered invalid. Local residents claimed that oil exploration activities have adversely affected the environment, and related seismic exploration activities have also caused a decrease in the number of fish that can be caught in the strait. Residents also stated that JAPEX did not consult or discuss with local stakeholders before embarking on oil and gas exploration activities. The court finally made a judgment that the oil exploration activities in the Tañon Strait were illegal, which was beneficial to local marine mammals and residents.

In this case, two major issues need to be considered regarding the judgment made by the Supreme Court:

-Who has the legal standing to sue as plaintiffs;

-The validity of the presidential decree.

Here, the original plaintiffs were the resident marine mammals, including toothed whales, dolphins, porpoises and other cetacean species that inhabit the waters in and around the Tañon Strait. They were represented by "legal guardians and friends" (collectively known as "the Stewards"), and an NGO was established for the welfare of the fishermen. Hence, the consolidated petition involved three different set of plaintiffs: the resident marine mammals, the Stewards (of Nature), and an NGO as representatives for subsistence fishermen and their future descendants.

When deciding the eligibility of the plaintiffs, the Supreme Court adopted the Rules of Procedure for Environmental Cases, which stipulate that "any Filipino citizen in representation of others, including minors or generations yet unborn, may file an action to enforce rights or obligations under environmental laws". In the Annotations to these rules, the Supreme Court commented that "to further encourage the protection of the environment, the Rules enables litigants enforcing environmental rights to file their cases as citizen suits. This provision relaxed the restrictions on the eligibility of plaintiffs filing cases to enforce environmental laws. It recognized that all humans are stewards of nature,

and one doesn't have to have a personal and direct interest in this matter to bring a case as required by the traditional doctrines."

Ultimately, the Court held that the standing for animals was no longer necessary because of the adoption of the Rules of Environmental Procedure. The wording of the petition reflects that the plaintiffs ideally wanted standing granted to the resident marine mammals for their own sake. However, the Court denied standing to the dolphins on the basis that humans, as stewards of nature, can bring actions on nature's behalf to enforce rights of obligations under environmental laws. This indicated that the Court was embracing a more anthropocentric view of the role of "stewards of nature".

It is worth noting that, although this case was filed in 2007, years before the Rules of Procedure for Environmental Cases came into effect, it has been consistently held that rules of procedure "may be retroactively applied to actions pending and undetermined at the time of their passage and will not violate any right of a person who may feel that he is adversely affected, inasmuch as there is no vested rights in rules of procedure."

The validity of the presidential decree was also discussed in the ruling. The Court held that because the Tañon Strait was designated as a protected area in 1998, no activity outside the scope of its management plan could take place without the delivery of an Environmental Compliance Certificate granted after conducting Environmental Impact Assessment to determine the effect of such activity on the ecosystem. The Court held that the Environmental Impact Assessment System and the National Integrated Protected Area System were not complied with by defendants before the implementation of the seismic survey. Therefore, the Court held the defendant to be in violation of the National Integrated Protected Areas System Act of 1992.

Furthermore, the court held that the presidential decree which was used as a legal basis for the service contract between the Government and the oil company in charge of the oil exploration activities was ultra vires. In fact, because the Tañon Strait is a protected area, the contract required a law passed by the Congress. Therefore, the constitutional court cancelled the contract and all the permits related to oil exploration in the Tañon Strait.

The precautionary principle is quite material to show that further destruction of the marine ecosystems through offshore drilling and other destructive projects such as reclamation will further aggravate the already precarious condition in the protected seascape.

The Tañon Ruling is a categorical statement by the judiciary which demonstrates the important rights of animals and reiterates environmental protection as a primordial duty of the State that must never be compromised. The Constitution and the national laws of the State which contain safeguards to protect environment should be complied with by government agencies tasked to implement them whensoever.

100+ 生物多样性保护全球案例

100 Biodiversity Positive Practices and Actions Around the World

03

Public Participation

Free flying wings
© SEE Foundation

Enhancing NGO capacity on community-based conservation and development in Myanmar

Global Environmental Institute (GEI)

Approaches: *In-situ* conservation | Public participation

Targets: Forest | Ocean and coastal | Freshwater & wetland | Flora | Mammals | Amphibians | Avifauna | Marine | Fair and equitable sharing of the benefits arising out of the utilization of genetic resources

CASE INTRODUCTION

The community Conservation Concession Agreement (CCCA) is a conservation model introduced, demonstrated and innovatively improved in China by GEI. The basic concept is to give environmental protection rights and limited development rights in protected areas to different stakeholders in the form of agreements. Since 2005, GEI has been adapting the CCCA model to pilot, improve, and innovate conservation in several western provinces in China and protected over 150,000 hectares of land and benefit over 65000 individuals. In 2016, CCCA model was introduced to Myanmar through the collaboration between GEI and four local NGOs: Ecosystem Conservation and Community Development Initiative (ECCDI), Community Development Action (CDAction), Myanmar Forest Association (MFA) and Myanmar Environment Institute (MEI). In this first phase, 16 pilot projects were conducted with 10932 acres of land conserved by these communities. However, during the project, GEI found out that the lagging capacity of Myanmar's environmental groups and organizations is one of the major challenges to conserve Myanmar's biodiversity. In 2017, GEI applied CEPF's grants, seeking for support to enhance Myanmar NGOs capacity on community-based conservation and development and to increase the impact of CCCA model. With CEPF's supports, GEI did three things:

1.Conduct 4 trainings and workshops for local NGOs to enhance capacity of CCCA implementation. In total over 150 environmental professionals from 4 governmental departments, 2 research institutes, 9 local NGOs and 10 international NGOs joined;

2.Assist four NGO to increase CCCA pilot community to 27 with 22264 individuals and 4295 households participated;

3.Build platform for Myanmar local NGOs to communicate with governmental departments and network with international donors, especially Chinese philanthropies such as SEE Foundation, Sundan enterprise, etc.

The CCCA project evaluation concluded that these projects contributed to the conservation of more land and ecosystems by communities. The conservation area protected by communities within these projects expanded to 40,890.5 acres, which contributes to 0.024% of land cover in Myanmar, are now protected by 27 local communities. With this small number of communities, projects increased to an amount that could contribute to 0.25% of Myanmar's commitment of expanding areas of forest protection to 10% of land cover by 2030. These projects protected five key biodiversity areas in Myanmar, covering deciduous forest, mangrove forest and wetland ecosystems. It is also good to see that most of threats were addressed by conservation actions. The evaluation also showed local communities have a good awareness of environmental issues, especially about deforestation and climate change, which demonstrated positive

outcomes from awareness raising trainings from both NGOs and local forest departments. In 2018, Protection of Biodiversity and Protected Area Law was passed by Myanmar government, recognizing "Community Protected Area" as an official category of protected area.

In April 21st, 2017, to appreciate GEI's effort on facilitating the $ 3.3 million USD worth of climate aid goods donation from China to Myanmar through South-South Climate Cooperation, Forest Department of Myanmar reserved 300 cookstoves and 300 households solar-powered lighting system to be distributed through local NGOs to project communities. These climate aid goods not only can promote renewable energy in rural areas, but also will be used as a "stepping stone" to establish community conservation and development micro-finance fund (shorter for "Community Fund"). Before the distribution, NGOs and community committees will discuss an underquoted price for each cookstove and lighting system and encourage any interested resident to submit an application. After reviewing these applications, recipients will be chosen depending on their household income and personal credits. All the money collected through climate aid goods will be contributed to the Community Fund to support conservation and development works for communities sustainably. By using the aid goods as leverage for community conservation and sustainable livelihoods development, GEI also intends to provide a sample operational model and experience for China's South-South Climate Cooperation Fund (SSCCF) and potentially other foreign aid programs to have continuous impacts in the long term.

To ensure these projects are sustainable, it is also important to measure whether extension and outreach work was conducted before projects ended. GEI has involved several organizations as following:

SEE Foundation: The SEE (Society of Entrepreneurs and Ecology) Foundation is the first environmental protection NGO in China with a membership comprised mainly of entrepreneurs dedicated to advancing enterprises' social responsibility. In July 2019, the SEE Foundation provided 75,796 RMB ($10,612 USD) to support the "Community-based Conservation Model in South-East Asia Learning and Networking Workshop" as well as field visits with experts to Inle Lake watershed communities.

GEIF: Global Environmental Innovation Fund (GEIF) aims to contribute to global efforts to explore and practice innovative environmental and development mechanisms, models and solutions. As a reserve fund and re-granting platform, GEIF offered $20,000 as co-funding to support CCCA projects in Myanmar and to explore opportunities to influence governmental policies.

Mercy Corp: Mercy Corps is an international organization that partners with communities, corporations and governments to transform lives around the world. During the project, MEI reached out to Mercy Corps for collaboration and received a donation of over 200 clean cookstoves.

Through the project, four new livelihood sources were created, including pig raising, mango plantation and durian plantation within 7 project communities, as well as goat raising in 4 communities. Other project communities did not develop new livelihoods for communities, focusing on enhancing their capacities through trainings and providing loans through a community fund. However, these communities also invented new business as car rental (in Ya Gyi village) and producing coffee berries (in Ah Le Gyaung village). The capital amount of community funds established within projects and the management mechanism to measure the funds' resilience. From the 9 communities out of 13, the capital amount of the community fund ranges from US$1,056 to US$5,039.80, with an average of US$2,728.7.

Nationalwide Citizen Science of Bird Collision Prevention

Duke Kunshan University

Approaches: Public participation | Publicity & advocacy | Policy-making & implementation

Targets: Urban | Avifauna

CASE INTRODUCTION

Bird collision is usually used to describe the phenomenon where birds collide with man-made objects including wind turbines, electric wires, airplanes, buildings, etc., causing the birds to be injured or even killed. Among them, collisions with buildings or glass refers to the phenomenon of birds colliding with buildings, especially glass windows. Birds' collisions with buildings are mainly related to the glass and night lights on the buildings. Collisions against buildings have serious consequences for birds. Most birds will die directly after collisions with buildings. Even if they survive the impact, the birds will suffer damage ranging from a broken beak to an intracranial hemorrhage.

Duke Kunshan University is located on the migration route of East Asia-Australia. Migrating birds pass by the campus of Duke Kunshan University every fall and spring.

Due to the large glass structure used on the campus of Duke Kunshan University, bird collisions are not uncommon on campus (Picture 1).

Therefore, the Bird Collision Prevention project of Duke Kunshan University came into being, dedicated to investigating and improving the situation of bird collision on campus.

Starting from the autumn of 2018, except for a spring survey that could not be carried out due to the COVID-19 epidemic, every spring and autumn during the period of bird migration through Kunshan,

The Duke Kunshan University project team conducted systematic bird collision data collection under the guidance of Professor Li Binbin. After each survey, the project team will analyze the existing data and use stickers and other forms to deal with the school buildings in a targeted manner on the campus (Picture 2).Such measures have proved to be effective in long-term monitoring, and the frequency of bird collisions has been significantly reduced in the locations where the treatment has been carried out.

At the beginning of 2021, the Duke Kunshan University project team and the Youth Climate Change Action Network (CYCAN) cooperated with the Chengdu Bird Watching Society to plan to expand the bird collision project to the whole country. Since February, within a few weeks of recruitment, the National Bird Collision Research Project has recruited more than 300 individual volunteers and nearly 50 volunteer teams.In March, the Duke Kunshan University project team established a cooperative relationship with the Shanghai Natural History Museum, conducted another round of volunteer recruitment, and held a bird collision lecture in the museum (picture 3). As of the completion of the recruitment of volunteers, there are about 400 individual volunteers and nearly 50 volunteer teams in the nationalwide project. They are located in 31 provinces and cities across the country, from Hainan and Guangdong in the south to Liaoning and Heilongjiang in the north.

Bird collision with buildings is considered to be the second leading cause of direct bird deaths caused by humans in North America after domestic cats. In Canada, the number of bird deaths due to collision with buildings is estimated to be about 25 million, while this number in the United States is between 365 million and nearly 1 billion. With the advancement of urbanization, the increase of human settlements and the popularity of glass walls in architectural design, the risk of birds facing collide buildings may become increasingly serious.

Among the eight important migratory bird migration areas in the world, the three major migration areas of West Asia-East Africa, Central Asia and East Asia-Australia pass through China and cover almost the entire territory of China.However, densely populated Chinese urban areas such as the eastern coast, the North China Plain, and the Chengdu Plain may pose a greater risk of injury or death from collisions with man-made buildings for migratory birds. Therefore, research on bird-building collisions in China will have important practical significance for bird protection worldwide.

As a nationwide citizen science project, this case combines urban biodiversity surveys and bird watching and other natural hot topics of social concern. Only at the beginning of the launch, it attracted more than 30 domestic provinces and nearly 400 volunteers to participate, and held many online and offline lectures, which were popular among the audience.

In addition to Duke Kunshan University, the case partners include Chengdu Bird Watching Club, Shanghai Natural History Museum, CYCAN and other institutions. They have also carried out effective publicity and mobilization work in their respective cities and networks, and have received many media comments. Interviews and reports. It is believed that the social impact of this case will be further expanded in the future.

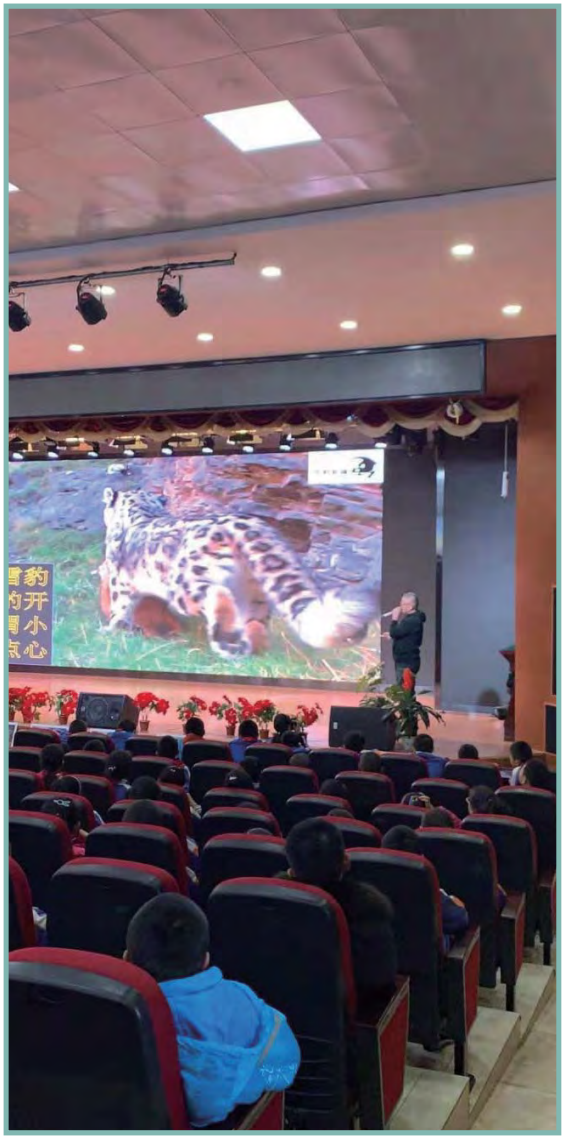
Demonstration project on snow leopard protection by volunteers and communities in the eastern Tianshan Mountains in Xinjiang

Nature Conservation Science Popularization Center of Shaqu District, Urumqi

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Financial support mechanisms

Targets: Mountain | Mammals

CASE INTRODUCTION



Situated in the heart of Eurasia, Urumqi, the city of Xinjiang is at the northern foot of the middle section of the Tianshan Mountains and the southern edge of the Junggar Basin. With a unique natural landscape integrating glaciers, mountains, forests, grasslands, rivers, deserts, and Gobi as well as its vital geographical location that has easy transportation, Urumqi is an ideal place for building a city. In the process of urban development, however, Urumqi is faced with different problems including severe damage to natural vegetation, animal habitats and the living environment of wildlife, weak capabilities in urban biodiversity management, and insufficient investment in nature conservation, etc.

Since 2014, Wilderness Xinjiang has been monitoring local snow leopard populations living in the Nanshan area of Urumqi. With the support of the State-owned Forestry Administration of the Eastern Tianshan Mountain in Xinjiang Uygur Autonomous Region, together with its sub-bureaus, Tiandong Forest Public Security Branch and its subordinate police stations, the People's Government of Sardababan Town, Xuelian Valley Community, Urumqi County Education Bureau, China Communications Construction First Highway Engineering Bureau, Bridge and Tunnel Engineering Company Limited, and Alxa SEE-Silk Road Center etc., Wilderness Xinjiang has set up Urumqi River Snow Leopard Protected

Area, which is the first monitoring and protection station in the Nanshan snow leopard project site and Xinjiang's first snow leopard protection area, with following work carried out in parallel:

Based on the "agreed protection mechanism in the community" and the continuous efforts on capability building, a front-line patrol and monitoring team has been built in the project area aided by the local herdsmen. Independent routine patrol and scientific monitoring on snow leopard habitat have been carried out, and the community, with the assistance from the project, has set up a database on each individual snow leopard as well as a data room with videos and pictures of the animal.

To facilitate the interaction between local communities, government departments and the general public, joint meetings attended by protection bureaus, community representatives, and NGOs are held on a regular basis, focusing on establishing and implementing the mechanisms of patrol and monitoring evaluation, illegal incidents response and patrol staff incentivizing.

A public-project supporting mechanism has been formed to explore wildlife-friendly livelihoods. Also, annual community activities including "Snow Leopard Conservation Day", wildlife photo exhibitions and snow leopard protection classes are organized, so as to change local people's impression on snow leopard protection. Going forward, the project site will have the conditions to continue to carry out long-term and in-depth activities on snow leopard protection .

By disseminating protection stories in the project site via online and offline activities and guiding the volunteers and the city public to participate in the nature educational sessions, external intellectual and economic support can be provided so as to help ease human-animal conflicts at the community.

Public education sessions on natural science have been carried out in the city of Urumqi to promote knowledge dissemination in different ways and to raise citizens' awareness of ecological and environmental protection, thus creating the ecological business card of "City of Snow Leopard" through policy advocacy.

Ant Forest

Ant Group

Approaches: Public participation | Publicity & advocacy | Financial support mechanisms | Technological innovation | Sustainable use

Targets: Forest | Grassland | Mountain | Flora | Mammals | Amphibians | Avifauna

CASE INTRODUCTION

"Ant Forest" is an ecological protection public welfare platform under the Ant Group, which was officially launched on Alipay in August 2016. Netizens' low-carbon behaviors, such as green travel, paper and plastic reduction, energy saving and consumption reduction, and recycling, can be counted as "green energy" through carbon emission reduction methodologies. When the energy accumulates to a certain level, they can apply for planting a real tree in desertified areas or "claim" one square meter of protected area in areas where biodiversity is in urgent need of protection. After that, companies including Ant Group donate funds to public welfare organizations and cooperate with local forestry departments to implement ecological restoration and biodiversity conservation projects in corresponding areas.

In the past five years, Ant Forest has participated in ecological restoration work in 11 provinces across the country, planting a total of 326 million trees, of which more than 100 million trees are in Gansu and Inner Mongolia. At the same time, Ant Forest has also set up 18 protected areas in 10 provinces across the country to protect over 1,500 species.

In May 2020, Ant Forest cooperated

with the COP15 Executive Committee Office and the China Environmental Protection Foundation to launch the "Everyone One Square Meter, Jointly Protect Biodiversity" action, and more than 100 million people participated. Internet innovation has broadened the public's access to ecological protection knowledge, promotion of awareness, and extensive participation.

Up to now, Ant Forest has driven more than 600 million people to participate, becoming the world's largest environmental protection public welfare platform, which forms long-term interanimation between the low-carbon life of urban people and the front-line work of biodiversity protection. The value of biodiversity protection is widely spread.

At the same time, as an Internet public welfare platform, Ant Forest provides convenient and efficient action and incentive solutions for all sectors of society to participate in ecological restoration and biodiversity protection. In the past five years, under the guidance of local forestry and environmental departments, Ant Forest has cooperated with China Environmental Protection Foundation and other non-profit organizations, and attracted nearly a thousand partners of various types to participate, including scientific research institutions, cities, universities, brands, etc. Biodiversity protection comes into public attention through the Internet platform.

Citizen science based database of bird conservation

China Birdwatching Association

Approaches: Public participation | Publicity & advocacy | Technological innovation

Targets: Avifauna

CASE INTRODUCTION

Birds are an important part of natural ecosystems, and their species, distribution and population dynamics are important indicators of the integrity of the whole ecosystem. An accurate understanding of the status and changes in the populations of various bird species, as well as reasonable conservation measures, relies on data as a basis. Wildlife conservation in China has been underway for decades, but the lack of a digital concept in the overall governance of the country has kept wildlife conservation work at a relatively rudimentary stage, with no baseline data even known, and a lack of regular monitoring work and corresponding databases. The collection and collation of such data, which is not enough for scientists and forestry departments alone, can be effectively supplemented by citizen science approaches.

Since the late 1990s, birdwatching has been a flourishing activity in China, generating a large amount of bird observation data, and in late 2002, the PC-based "Bird Talker" Chinese Bird Records Centre was launched as a platform for birdwatchers to submit and query bird records. In order to further enhance the functions of the online database and make full use of the value of bird records, the China Birdwatching Association took up the construction

and maintenance of the database in 2014 and renamed it the China Birdwatching Records Centre (www.birdreport.cn).The database structure was rebuilt and a new bird classification system was adopted to provide users with daily bird observation records collection and query statistics, as well as to undertake bird surveys and submit real-time data and statistics online in birdwatching competitions. The app was launched in 2020, integrating the ability to submit and check records. In 2020, a mobile webpage was launched to provide access to records and statistics, in addition to the PC webpage. There are now nearly 15,000 active users, including birdwatching enthusiasts, researchers and frontline nature conservationists, with records of 1,321 species of birds distributed in China and 71.44% of the country's county-level administrative units. The database technical support team has also worked with professional organisations to optimise the underlying data architecture, embed big data cleaning algorithms and form a regularly updated national bird distribution map based on bird data, using a combination of model algorithms and manual review.

China Birdwatching Association also works with relevant scientific teams to carry out analyses of bird observation data, tap the scientific value of shared data for conservation decisions with the help of co-authored scientific reports, papers and policy recommendations, and promote information sharing for national wildlife authorities and international conservation platforms to provide scientific and technical support for wild bird conservation.

The bird observatory - a community based biodiversity conservation approach on the migratory bird's flyway

The International Birding & Research Center, Eilat

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy

Targets: Avifauna

CASE INTRODUCTION

Bird observatories are probably one of the most advanced tools of community based nature conservation. It involves conservation of an authentic natural asset, wildlife monitoring, research, environmental education, eco-tourism and community work.

The mission of the International Birding & Research Center, Eilat (IBRCE) is to safeguard the migratory bird's intercontinental flyway that swarms Eilat's and Southern Arava's habitats with millions of migratory birds. The ancient and rich saltmarsh that served as the main stopover site for the migrants is gone for construction and development, hence the migrants are pushed into man-made habitats such as saltpans, sewage reservoirs, gardens, fields and orchards. Because these site's primary function is not as a wildlife habitat, we need to adjust our approach to conservation of the flyway. Rather than forming nature reserves or conduct ecological research, we need to cooperate and collaborate with our our public, businesses and stake holders.

To help the birds we build a wide base of public support that will help us change the hearts of decision makers. The decision makers can be stake holders such as a mayor, a member of a planning committee who discuss a plan that might risk birds, an architect, investor or a judge, but can also include a farmer, someone who works at the sewage plant a private gardener or even someone with an active social media account. All these people have impact on the state of the migratory birds and can be agents of a good change for conservation.

Our bird observatory is the Eilat bird sanctuary. It serves as a recruiter of public opinion in many ways. It's an example of a genuine restoration project for birds - the old stopover site, the salt marsh, was destroyed, therefore we have built the bird sanctuary as a replacement habitat for the migratory birds. The diverse habitats allow every specie of bird to find the needed resources to complete its journey in the form of food and shelter. We also conduct research that directs us to better maintenance of the bird sanctuary and better understanding of the needs of the birds. Nevertheless, the bird sanctuary is mostly a hub for environmental culture - education we do on site and in schools, an eco-tourism initiative that spreads appreciation and love for birds, and

a place to talk and do nature conservation. At the sanctuary we run five large community events per year, when up to 4,000 participants from the local and visiting community arrive to enjoy birds and hear how they can support our campaigns for the birds and make a change. The bird sanctuary is also a volunteering place for tens of young and old members of the community. These volunteers help with the usual work of bird ringing, maintenance, and bird surveys but when we have a specific campaign, they become our cutting edge to make a change within their local communities and friends.

The concept of a managed site, that runs exemplary work of nature conservation, involving large parts of the local community in diverse ways has a significant impact on the state of the migratory birds in Eilat and Southern Arava. In the past years we have lead numerous campaigns against hazardous infrastructure for birds. A good example is a campaign against a plan to build a wind farm between the most important stopover sites of migratory birds. Following a community based campaign that involved communal events at the bird sanctuary, lectures in town and villages, an open conference and a lot of social media work, a kibbutz that was a partner of the investors voted out and the initiative was canceled. Our volunteers within the kibbutz led a one on one work with the voting members until a majority against the initiative was achieved.

Becoming an acknowledged source of knowledge can also change reality - a plan to build an antenna held by cables, created a severe danger of bird collision was changed to a friendlier pylon for birds by the city architect, following our advice. A maximum of 50% glass fronts of buildings in new neighborhoods of town to prevent bird collisions is another result of our impact.

We also use our impact in a positive approach. The sewage works engineer, recruited our help to make the main sewage reservoir a safer and better stopover site for birds. We helped the water company identify hazards for the birds and opportunities to improve the site, made a detailed plan with the assistance of a planning team, implemented what we could with our own resources and fundraise for a larger project that will make it a prime site for birds. A kibbutz who asked our help to improve its residential, agricultural and industrial premises as a site better suited for birds.

To recruit farmers to make their farms more inviting and safer for the migrants, we took the approach of a scientific study, with cooperation of the R&D agricultural institute, to convince the farmers that migratory birds are a natural asset for their crops in the form of ecological services of pest control. We complete this activity within the agricultural communities with an educational program about ecological system services and how to enhance them to improve our lives.

Over the last few years the Eilat bird sanctuary have become the local source of knowledge, an agent of mitigating conflicts and solving problems with birds and a hub for civil participation in wildlife conservation. We derive our strengths and impact from the wide public support we cultivate from community based activities in the bird sanctuary. Because anthropogenic effect on natural habitats is growing, and habitats that are not necessary natural support a growing part of wildlife, we believe that bird observatories and community based nature conservation are an important tool for the future.

100+ 生物多样性保护全球案例

100 Biodiversity Positive Practices and Actions Around the World

04

Publicity & Advocacy

Practice on youth nature education
© Nature Guide

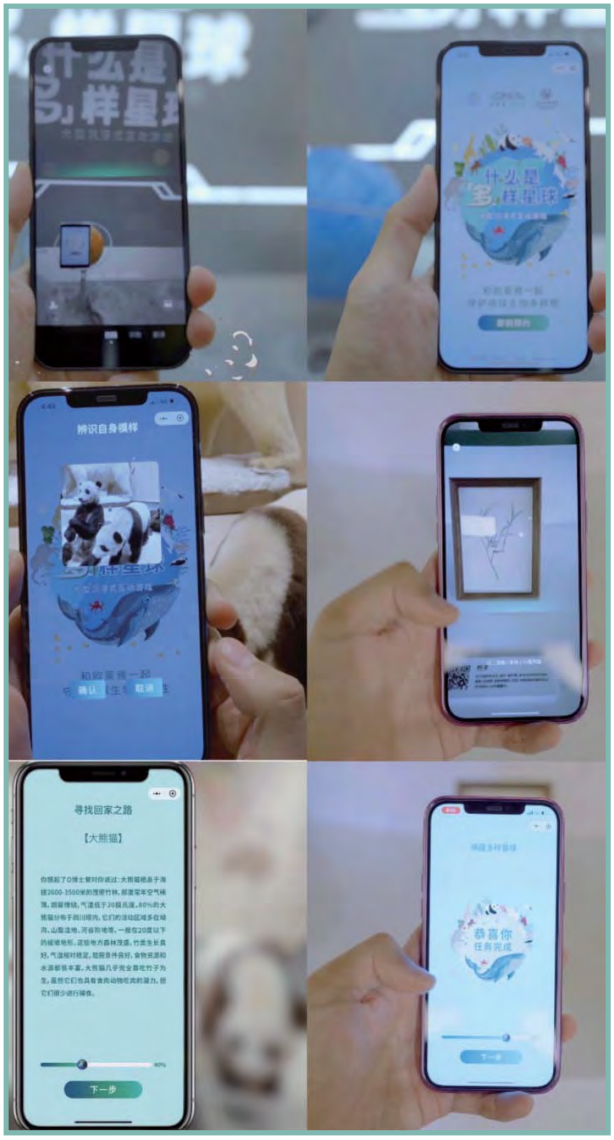
Immersive and interactive game of "what is the diverse planet"

L'Oreal (China) Co., Ltd.

Approaches: Public participation | Publicity & advocacy

Targets: Forest | Grassland | Ocean and coastal | Flora | Mammals | Amphibians | Avifauna | Marine creatures |

CASE INTRODUCTION



Against the background of Convention on Biological Diversity (COP) 15 in China, L'Oreal China carried out related science popularization education themed at "biodiversity" in line with the 2030 sustainable development strategy of "L'Oreal for tomorrow". The difficulty in popularising biodiversity is how to spread the knowledge in an interesting manner. L'Oreal China and Shanghai Museum of Natural History engaged in cooperation across fields and jointly created the project of science popularization focusing on the knowledge of biodiversity - the large-scaled immersive and interactive game called as "what's the diverse planet". Inspired by the popular escape room and scripted games among youngsters today, it is a pioneering attempt to break the clear distinction between casual games and serious knowledge.

This popular science game is an attempt to promote the public popularization of biodiversity and ecological knowledge based on the form of escape room and immersive script, which is popular among young people. We position the game of "what is the diverse planet" as 2.5 dimension. The concept of "2.t dimension" refers to the interaction between the reality and digital world. Two dimensions can be

understood as the online virtual plane world which differs from our daily life, while the three dimensions refer to the real world in which we physically exist. All in all, 2.5 dimension is the form of dimension with the joint interaction between two and three dimensions, the form in which the real and virtual digital world co-exist.

In terms of the 2.5 dimension way of the game "what is the diverse planet", the public learn about the history of biodiversity from the background story of the game by starting the corresponding mini program on their mobile phones at the museum of natural history; users then select corresponding animal characters and take part in the immersive script to experience interactive games. Also, the public will travel online as animals and go to different parts of the natural history museum under the guidance of mobile phone mini programs to fulfill multiple offline physical tasks such as the seek for entities of animals and listening to animal sound with installations. By integrating online and offline, people can understand the knowledge about animals' habitat and food chain and the biodiversity in future. In addition, it could promote the dissemination of the idea of biodiversity conservation and sustainability.

We hope to disseminate the knowledge on biodiversity protection in a pleasing and innovative way by organizing the immersive game with science popularization. We appeal to all members of the public to understand and participate in the conservation of biodiversity and build a diverse planet.

Pangolin protection

Wildaid Beijing Representative Office

Approaches: Publicity & advocacy

Targets: Mammals

CASE INTRODUCTION

Pangolins are the world's most heavily affected wild mammal by illegal trade. The International Union for Conservation of Nature (IUCN) estimates that at least 1.1 million pangolins were killed in the 11 years from 2006 to 2016, driven by demand for their scales and meat. So at the end of 2016, all eight pangolins were upgraded to CITES Appendix I status, banning all international trade in pangolin products and body parts. The Chinese pangolin, which is distributed in China, has been classified as "critically endangered" by the IUCN Red List of Endangered Species due to excessive hunting and utilization.

In 2016, WildAid was the first nature conservation agency to launch a pangolin protection project. The goal is to raise public awareness of pangolin protection, reduce consumption of pangolin products, reduce pangolin poaching and raise pangolin protection levels.

From 2016 to 2019, WildAid has continuously tracked domestic and international

events related to pangolins. With the influence of three celebrity ambassadors, Jackie Chan, Jay Chou and Angelababy, the pangolin has gradually become a new "iconic" species for wildlife and biodiversity conservation. And make pangolin-related issues become the mainstream information of major media attention.

In 2020, pangolins were upgraded to first-class national protection. China gradually began to report the discovery of the critically endangered Chinese pangolin sporadic population news.


栖息地丧失、盗猎和非法贸易，正导致穿山甲面临严重生存威胁
拒绝非法穿山甲制品的你，不错哦
非法买卖穿山甲制品，最高可获十年以上有期徒刑，并处罚金或没收财产
野生救援
WILDAID
周杰伦
野生救援公益大使


野生救援
WILDAID
让母爱
延续更多
生命
穿山甲已极度濒危，
非法的穿山甲药材，
不应该成为通乳的选择。
请抵制非法买卖穿山甲制品，
它能否拥有这份母爱，
选择权在你手中。
没有买卖，就没有杀害。
wildaidchina.org

Natural science popularization for ecological protection of Yangtze River

Yangtze Finless Porpoise Science and Education Center
(Chuanbei Education Technology (Nanjing) Co., Ltd)

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Policy-making & implementation | Financial support mechanisms | Technological innovation | Sustainable use | Traditional knowledge

Targets: Ecosystems | Species diversity | Genetic diversity

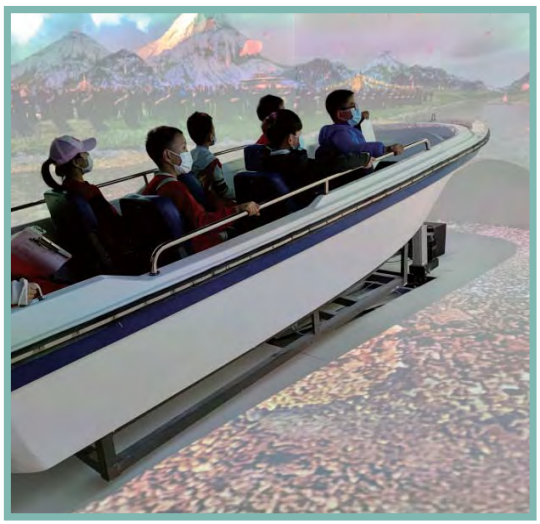
CASE INTRODUCTION

As the flagship species in the Yangtze River Basin, the Yangtze finless porpoise is the only freshwater finless porpoise existed in the world. Finless porpoise can be divided into three species: Yangtze finless porpoise, East Asian finless porpoise and Indo-Pacific finless porpoise. Except for the Yangtze finless porpoise, the other two species are marine finless porpoises. The Yangtze finless porpoise has lived on the Earth for 25 million years. It is known as the "Living Fossil" of the Yangtze River Ecology and the "Panda in the Water". After the extinction of the white-flag dolphin, the finless porpoise became the last remaining cetacean in the Yangtze River. But the number of it is decreasing year by year. In 2013, it was listed in The IUCN Red List. According to the results of science investigation in 2017, which focuses on the ecology of the Yangtze finless porpoise, the quantity of the Yangtze finless porpoise is about 1012, which means that it is more endangered than panda. The extinction of white-flag dolphin has sounded an alarm to human beings. If the ecology of the Yangtze River still could not be improved, the Yangtze River finless porpoise will need to face the Functional extinction in 10-20 years. On February 5 this year, the Yangtze finless porpoise was upgraded from national wildlife under second class protection to the first class protection.

Many older generation natives in Nanjing have seen the "Pig in River" in the

Yangtze River before. The " Pig in the River " is the Yangtze River finless porpoise. Nanjing is the only city in China where the Yangtze finless porpoise can be seen stably all year round. In order to better protect the Yangtze finless porpoise and the ecological environment of the Yangtze River Basin, Nanjing proposed to protect the finless porpoise in January 2014; and in September, Jiangsu Provincial Government approved the establishment of provincial nature reserve for Nanjing Yangtze finless porpoise. Though the nature reserve has been built, the public still knows a little about the "Pig in River". People are still unfamiliar with this kind of mammal living in the Yangtze River.

In order to enable more people to know and love finless porpoises, as well as to re-understand the Yangtze River and the beautiful city of Nanjing, we established the Yangtze Finless Porpoise Science and Education Center near the Yangtze River in Nanjing, which is also the place where the Yangtze finless porpoises usually gather. The Center was opened on October 24, 2020, which was also the date when the Second Freshwater Porpoise Protection Day was celebrated. The Yangtze Finless Porpoise Science and Education Center is located in Jiangxinzhou Street, Jianye District, Nanjing, and it is surrounded by Yangtze River. As the exclusive operator of the Center, Chuanbei education, together with Shengke International Water Affairs Center, made full use of its unique geographical advantage. They planned and positioned from the initial stage of construction, with the core theme of promoting the education of awareness to protect the Yangtze River, and the concept to protect the Yangtze finless porpoise. They organized scholars from their own expert database to make a structure for the contents of the “Yangtze Finless Porpoise Science and Education Center”, in terms of the geography and landforms of the Yangtze River, distribution of animals and plants, water environment science, protection of endangered species and biodiversity, and the ecological protection. The Center is aimed to popularize the protection of the Yangtze finless porpoise and publicize the awareness to protect the Yangtze River. It can comprehensively improve teenagers’ or even all the people’s ecological protection awareness. By publicizing the protection of aquatic organisms in the Yangtze River, strengthening public welfare propaganda and education, promoting the protection and development of the fishery and cultural heritage of the Yangtze River, it can help us better understand the historical and cultural connotation of rare hydrobionts and their habitats in the Yangtze River Basin, together with their ecological value. It can also help to create a favorable environment for the whole society to care and support the protection of the Yangtze River.



Community Snow Leopard Festivals

Public organization Kudak va Jomea

Approaches: *In-situ* conservation | Public participation | Sustainable use of biodiversity | Fair and equitable benefit-sharing of genetic resources | Traditional knowledge

Targets: Mountain

CASE INTRODUCTION

Members of the public organization "Kudak va Jomea" in an alliance with the non-governmental environmental organizations "Kuhhoi Pomir" (Pamir Mountains) and "Kuhsori Badakhshon" (Mountain Badakhshan), initially as an initiative group for the first time in the Republic of Tajikistan, began to conduct environmental cultural and educational events – community snow leopard festivals.

According to the policy of the project, festivals were organized in remote areas close to the snow leopard's habitat, where, according to statistics, there was a frequent appearance of the snow leopard and where high and constant poaching was recorded. Through festivals, an attempt was made to draw the attention of communities living in remote places to preserve the best folk traditions for the protection and preservation of wildlife. These festivals were organized in Roshtkala (in 2015), Rushan (Bartang valley) (2017), Ishkashim (2018) and Murghab (2019) districts, in sacred natural places, in order to attract the attention of a huge population to the problems of wildlife, especially to the life of the snow leopard. The ultimate goal of the campaign was to involve mountain communities in the careful conservation of endangered mountain goats, sheep and snow leopards. Particular emphasis was placed on the preservation and protection of the snow leopard, the rarest wild mountain animal included in the country and world Red Data Book.

Local people took part in organizing the festivals with great initiative. The festivals have become a good example of the involvement of government, public, commercial and international organizations in the project. This event was actively attended not only by

official environmental organizations, but also by kishlak organizations, schools, creative organizations, public associations, and mobile companies.

The program of each festival, which was held under the general theme "Man, Culture and Nature", included: performances by cultural practitioners, sacred people, poets, writers and scientists, organizing an exhibition of local dishes, handicrafts, drawings and essays by schoolchildren about nature, performances, presentations , quizzes, the revival of folk songs and dances, folk games, various sports and gambling competitions, thematic shows to protect the local nature. Poets, writers and artists were involved in the event to promote biodiversity and enhance the local nature. The artists held master classes with local schoolchildren and teenagers and donated their paintings to the local school. Performances of creative people at festivals were of great importance in the cultural education of children in the spirit of respect for local history and culture, biodiversity. Within the framework of the project, competitions of essays and drawings, as well as handicrafts on the theme of protection and conservation of wild fauna and flora, including the snow leopard, were announced annually among schoolchildren of pilot schools. The contests have become a useful tool for encouraging schoolchildren to collect and transfer folk traditional knowledge about the protection and preservation of nature. The winners, who took the first and second places, were invited by the project to the venue of the festival, where they were presented with valuable gifts.

To popularize the snow leopard in the district, regional, republican media, numerous articles, television and radio broadcasts, 3 television films were organized on Internet sites, which were inserted on the YouTube channel.

In order to gain greater knowledge of the local nature and culture, after each festival, the project created a snow leopard corner and a biodiversity and biocultural room in schools. To improve the information and technical state of schools, they were allocated: a computer, a professional camera, a smart TV.

Dragon Yunhe Forest School

Danba County Denglong Yunhe Education Consultant Co.Ltd

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Sustainable use
Traditional knowledge

Targets: Forest | Farmland | Mountain | Flora | Mammals | Avifauna | Germplasm resource conservation

CASE INTRODUCTION

Zhonglu Township is located in the middle-eastern part of Danba County, in a low-latitude and high-altitude area. The forest ecosystem is intact, rich in biological resources, nationally treasured vegetation and protected animals are distributed, and the species diversity is high. Since 2014, Zhonglu Township has carried out the planning and promotion of the local eco-tourism industry, but it has faced many problems in tourism development. In this context, the Dragon Yunhe planning team formulated a sustainable tourism planning and design plan for the Zhonglu Tibetan village. The Forest School project is one of the infrastructure projects, responding to the current status and willingness of Zhonglu villagers to participate in tourism. As an innovative education center based on the local ecology and community, the Forest School promotes the transformation of local natural resource value by promoting the educational travel model, and drives the local Gyalong Tibetan community to develop towards kindness, exploring the balance between protection and development.

In order to promote the development of the local green economy, Forest School relies on the professional support of R&D design and camp mentor team to develop and promote local ecological travel and educational travel projects, and establish the school seed museum as a place for scientific research and educational travel. The knowledge transformation of external professional forces and the collaborative development of the practice team enable the forest school to promote the research and science popularization

of local forest ecosystem protection while providing nature education to students: identified more than 220 species of plants, more than 110 species of birds and insects, and more than 550 species of plants. At present, more than 14 different nationalities and nearly 2,000 students have visited and participated in the local forest school courses.

In the process of promoting local eco-tourism and educational travel, the Forest School has gradually formed a co-creation mechanism with the community. The school promotes the establishment of rural tourism cooperatives in Zhonglu Township to drive local community residents and develop a series of empowerment projects brought by research tourism, such as providing tourists with characteristic catering services, accommodation services, and community guided tours. In order to ensure that an eco-friendly model can be formed in the local area, the Dragon Yunhe team conducted a series of rural eco-tourism training for more than 240 villagers with the support of the local tourism bureau, which not only enhanced the competitiveness of the community, but also stimulated the vitality of the villagers.

In addition, the forest school has established a protection agreement with the local community. The former promises to promote the development of the local collective economy, support community construction, and cultivate the villagers' awareness of environmental protection and tourism service capabilities; While the cooperative promises to make rational use of natural resources, stop logging, poaching, grazing, mining and other activities from outsiders, and organize members to participate in forest ecosystem protection actions and ecological education activities.

At present, the forest school has reached a good cooperative relationship with the local community, and develops and progresses together while protecting the local forest ecosystem.

Dreamland Nature Center Public Outreach Project

Hangzhou Dreamland Nature Center

Approaches: Public participation | Publicity & advocacy

Targets: Urban

CASE INTRODUCTION

The Dreamland Nature Center is based on Alibaba Public Welfare Foundation's "Plant Master Training Camp", which was jointly established by three parties: Hangzhou Botanical Garden, Alibaba Public Welfare Foundation and The Paradise International Foundation. The model of tripartite establishment integrates the power of the government, private enterprises and NGOs, putting in place a stable configuration of one party providing site, one party providing funds and one party providing talent and three parties and interacting with each other.

Since its establishment in 2017, Dreamland Nature Center has carried out 3 major projects, namely Green Vest Public Welfare Initiative, Nature Carnival, and Dreamland Classes.

Through a series of activities such as campus lectures, nature education experience courses, nature notes, and community nature games, the Green Vest Civilization Public Welfare Initiative provides offline nature education activities for young people in the city, strengthens the connection between young people and the nature, alleviates the "nature deficit disorder" among urban children, establishes an advanced ecological concept among young people, and helps the young establish the concept of respecting and

protecting the nature. In 2020, the Green Vest project won the Gold Award in the Fifth National Competition of China Youth Volunteer Service, which was co-sponsored by the Central Committee of the Communist Youth League, the Civilization Office of the Central Communist Party Committee, the Ministry of Civil Affairs among seven ministries.

Nature Carnival is a collection of nature experience activities for the general public held at the Hangzhou Botanical Garden every spring and fall, to allow the public to be in nature, to understand the nature and protect the nature. The Nature Carnival not only leaves a seed of nature in the children's experience, but also provides practitioners in the field of nature education with more opportunities to engage with the public.

Dreamland class is a cross-disciplinary program, which, by basing the classes on concrete grass, tress, birds and animals, and dedicated to inspiring imagination and creativity, prompts the public to pay attention to environment around them and think deeply about the relationship between human and the nature. In the design of the courses, we hope that after reaching out to the public in terms of awareness, knowledge, attitudes and skills, we can leave enough room for imagination and creativity and maintain an enlightened attitude towards man and the nature as well how they interact with each other in the future, before actions are taken. If Dreamland class wants to bring impact and change to the participants, it must also embrace change accordingly, building and paving the way for imagination and creativity to be incorporated into the course activities, embracing the new possibilities that imagination and creativity can bring.

2020 "Ford Motor Environmental Award" Wildlife Conservation Short Video Selection Program (hereinafter referred to as "Wild Shadow Project")

Corporate Citizenship in Action

Approaches: Public participation | Publicity & advocacy

Targets: Forest | Grassland | Ocean and coastal | Urban | Freshwater & wetland | Mountain | Avifauna | Dry and sub-humid land | Flora | Mammals | Amphibians | Marine creatures | Freshwater creatures

CASE INTRODUCTION

The sudden outbreak of the COVID-19 epidemic in early 2020 made wildlife a hot topic of public concern in China for the first time. The threat of illegal use of wildlife to public health made the public realize the urgency and importance of wildlife conservation. In order to help the public understand the value of wildlife and biodiversity, to showcase conservation practices and achievements, and to enhance the public advocacy capabilities of professional conservation organizations and expand the stage for their voices, as the 20th anniversary of Ford China's Conservation and Environmental Grants China (CEGC) Awards approached, a special event was held to facilitate more public participation in environmental protection and to further improve the social influence of the Awards. The Wildlife Protection Short Video Competition Project ("Wild Film Project") collects and selects wildlife related videos from frontline conservation organizations and the public.

The project is co-organized by the CEGC Award, Kuaishou and Wild China, and co-organized by the Beijing SEE Foundation. The project was launched on May 22nd, 2020 Biodiversity Day and ended in mid-July, during which original short videos were collected from both professional conservation organizations and the public. The two topics #wildlifehere# and #wildlifeguardian# are for professional environmental agencies to collect first-hand precious images of wildlife and plants as well as stories of people engaged in species conservation, hoping to comprehensively display the work and achievements of domestic grassroots

conservation; the topic #FantasticBeastsHere is for the public to collect original short videos related to wildlife protection, so that more members of the public can also participate. The public can enter the "Wild Film Project" page to watch and interact with the videos by opening the topic #FantasticBeastsHere in Kuaishou.

After one and a half months of efforts, the total number of short videos released under the topic #FantasticBeastsHere was more than 31,000, among which 105 professional environmental protection organizations from all over China provided 902 short videos, the total number of participants under the topic #FantasticBeastsHere was more than 20,000, and the number of views under the topic #FantasticBeastsHere was 2.1 billion. In the end, six environmental organizations, including Cloud Mountain Conservation, won the "Best Species Video" award, and six professional organizations and individuals, including He Xin, an associate researcher from the Shanghai Nature Museum, won the "Best Guardian Video" award. These 12 professional organizations and individuals, as leaders in spreading biodiversity through short videos, shared a total of $400,000 in prize money from the Wild Film Project. Twenty netizens won the "Fantastic Beasts Guardians" honor in the public track.

During the contest period, the Wild Film Project invited Chen Peng, a nature education expert from Shaanxi Changqing National Nature Reserve, to live-stream the search for wild pandas on May 25, Xi Zhinong, founder of Wild China, to live-stream a visit to Qingbi Creek, one of the 18 streams in Cang Mountain, on June 1, and Qian Zhengzhi, an expert from the Yangtze River Ecological Protection Foundation, conducted a live broadcast of the science of finless porpoise on June 19, attracting more than 768,000 users and nearly 5,000 user comments.

At the same time, five online empowerment trainings were conducted jointly with Kuaishou, so that professional environmental protection organizations and people could learn to tell wildlife stories with short videos and spread the value of biodiversity. 154 people eventually received support channels for Kuaishou's quality content, and the "Wild Film Project Partners Exchange Group" continues to empower the participants until today.

Practice and Reflection on Youth Nature Education — Also the Understanding of Biodiversity Conservation

Nature Guide

Approaches: Public participation | Publicity & advocacy | Traditional knowledge

Targets: Forest

CASE INTRODUCTION

Beginning in 2009, some teachers with long-term experience in leading students to fieldwork activities in Peking University High School and Beida Resources Middle School (now "Beijing University High School Experimental School", the same below), according to their own understanding of school education, according to their own understanding of school education and experience of the growth process of adolescents, learning from the concepts, methods and contents of natural history, created and designed an elective course with school characteristics—the natural history elective course.

The Nature Guide was established in 2014. Its main job is to promote the concept and form of the natural history course based on the school's natural education work. At the same time, it gathers social forces to support the further development of this course. The main members of the "Nature Guide" are also the main organizers and carriers of the elective courses of natural history.

The natural history course lead urban youth to pay attention to nature and stimulate students' curiosity about nature; students observe natural phenomena and develop them into lifelong hobbies, and finally form a sustainable development view of nature.

As an education project, after more than ten years of research, practice and

reflection, a curriculum system suitable for the development needs of urban youth has been gradually formed.

For more than ten years, over 2,000 students have gone through a two-year course of study, and more than 4,000 have participated in nature surveys in the background of national nature reserves.

More than 10 front-line teachers in different disciplines have been trained to engage in the research and implementation of natural history courses.

Through the natural history courses, the obvious growth and changes of the students moved the parents and gained widespread recognition and support from the family.

Through the operation of the "Nature Guide" charity organization, project has attracted people from all walks of life who are engaged with youth education, including education, scientific research, jointly contributing to create a love for nature for urban youth.

Formed a long-term and stable interaction between the school's nature education work and the nature protection work of the reserve.

Elective courses of natural history involve nature education in elementary and middle schools. They have been incorporated into the long-term teaching plan in the form of courses in the work system of the Peking University Affiliated Middle School and Affiliated Primary School.

The working mode of the courses of natural history requires further ideological recognition and corresponding policy support, and can be widely promoted in schools.

100 生物多样性保护全球案例

100 Biodiversity Positive Practices and Actions Around the World

05

Policy-making & Implementation

Lower Wuyuan River Bee-eater Reserve in Haikou Photographer / Zhonghua Shi
© Haikou Duotan Wetland Research Institute

The Red Line of Ecological Protection-Institutional Innovation of China's Biodiversity Conservation

Nanjing Institute of Environmental Sciences,
Ministry of Ecology and Environment

Approaches: Law-related approach | Public participation | Publicity & advocacy | Policy-making & implementation | Technological innovation

Targets: Forest | Grassland | Ocean and coastal | Freshwater & wetland | Mountain | Dry and sub-humid land

CASE INTRODUCTION

In order to slow down the rate of species extinction and biodiversity loss, the establishment of a protected area system is recognized as a relatively effective way. In 2010, at the tenth meeting of the Conference of the Parties to the Convention on Biological Diversity, scientists proposed that at least 17% of land and inland waters, and at least 10% of coastal and marine areas should be protected. The famous conservation biologist Edward Wilson proposed the "Half the Earth" plan in 2016, that is, in order to prevent the loss of biodiversity, half of the earth needs to be protected. In 2021, the 15th Conference of the Parties to the Convention on Biological Diversity will be held in Kunming, and it is expected that a consensus will be reached on achieving the goal of protecting 30% of the earth by 2030. As a comprehensive national policy framework, the existing protected area system not only needs to consider technical solutions, but also takes into account the feasibility of economy, finance and management. An excessively high proportion of protected areas is facing the dilemma that it is difficult to implement. Therefore, relying on the existing protected area system is difficult to achieve the scientifically proposed protected area target. In this context, the technical team with researcher Gao Jixi as the core put forward the concept of ecological protection red line and established a technical system with superior scientific research units, providing a brand-new ecological protection

生态保护红线体系构成图

model, that is, by controlling important ecological spaces to minimize ecological protection area Obtain the greatest ecological benefits, maintain the integrity of the habitat and the national ecological security.

生态保护红线入选新中国成立70周年大型成就展（2017年）

The red line of ecological protection has innovatively expanded the scope of protected areas. It is no longer limited to various traditional protected areas such as nature reserves. Instead, it is an overall consideration of ecosystem services, ecological fragility and biodiversity conservation hot spots, emphasizing natural ecology The integrity and connectivity of the system to achieve large-scale and integrated protection of species and habitats provides an innovative solution for global biodiversity conservation.

In 2015, the ecological protection red line was incorporated into the Environmental Protection Law and the National Security Law. In January 2017, the Chinese government issued the "Several Opinions on Delineating and Strictly Observing the Red Lines of Ecological Protection" and organized various provinces (autonomous regions and municipalities) to delineate the red lines of ecological protection. In 2019, the "Guiding Opinions on the Overall Planning and Implementation of Three Control Lines in National Land and Space Planning" was issued to gradually establish a red line control system for ecological protection. At present, the country has basically completed the delineation of the red line for ecological protection, and about 30% of the land area is included in the red line. The ecological protection red line has an important impact on the international community. At the United Nations Climate Action Summit in September 2019, the ecological protection red line was selected as one of the 16 most climate ambitions and accelerated action initiatives.

生态保护红线入选《联合国气候行动峰会NBS倡议案例汇编》

The Saving our Species Program

NSW Department of Planning, Industry and Environment

Approaches: *In-situ* conservation | Public participation | Publicity & advocacy | Financial support | Mechanisms | Technological innovation | Sustainable use of biodiversity | Fair and equitable benefit-sharing of genetic resources | Traditional knowledge;others

Targets: Others

CASE INTRODUCTION

Between the years 1996 to 2016, the number of threatened species listed in the Australian state of New South Wales increased by 51%. New South Wales is one of Australia's most diverse states. Like other parts of Australia, New South Wales has large sandy deserts, but it also has an astounding range of habitats, ranging from snowy mountain tops to subtropical rainforests. These habitats support a large number of plants, animals and ecosystems. Because New South Wales is Australia’s most populous and most economically developed state, biodiversity here faces many challenges – there are almost as many species and communities listed as threatened in the state of New South Wales (1,047) as there are for Australia as a whole (1,681).

Saving our Species is a framework for a new approach to conservation. Rather than trying to restore every species to non-threatened status, it works to ensure the security of as many species and ecological communities as possible. Its goals are specific, measurable, relevant and time-bound: each year, the program measures the number of species and communities on track to be secure for the next 100 years. Although it is a government-funded program, it is not limited to official actions only. It works closely with businesses and community groups to achieve additional security for plants and species. It is innovative in social communication through online platforms and reaches out to the people of New South Wales.

Objective: Saving our Species aims to increase the number of threatened species that are secure in the wild in NSW for the next 100 years, and control key threats facing threatened plants and animals.

What makes Saving our Species unique?

Saving our Species is comprehensive. The first step in the framework is to review every listed species, ecological community, and endangered population in NSW. The program then works with experts and the best evidence available to develop a conservation strategy for each species. The goal of each strategy is to include exactly what is needed to secure each species or community in the wild – without any unnecessary bells and whistles. This information is stored in the program's custom database, where active projects report on resourcing and outcomes, providing a single point of truth across the state.

Saving our Species is strategic. For every species where targeted sites can be identified, the program prioritises on-ground action based on cost effectiveness – an approach recommended across the field, but rarely used. This is the Project Prioritisation Protocol, implemented with custom-built software that allows each species' project to be compared on benefit, feasibility, and cost. In many programs, resourcing goes to

charismatic species – leaving out the lesser-known species that play critical roles in our ecosystem. Under the Project Prioritisation Protocol, each species has a chance to be considered, and resourcing goes where evidence suggests there will be the greatest return on the investment. The program's database is the infrastructure that is allowing the design of innovative conservation decision-making tools and enabling improvement in conservation practice. It makes it possible for us to summarise progress in annual report cards for each species and community, and to support effective monitoring and evaluation that is essential for continuous improvement. It also allows us to provide data to support conservation science at national and global levels.

Saving our Species is innovative. The Project Prioritisation Protocol is excellent for prioritising species whose needs and sites can be clearly defined. But what about those species that need large areas of the landscape to forage and migrate, and how does the program address the serious threats that keep species in decline – threats like feral cats or noxious weeds that seem impossible to combat? To address these issues, the program looks to technological innovation. The program invests in funding ground-breaking and world leading research that improves decision-making and data collection where it matters most. For landscape-scale species, the team includes spatial scientists to develop models depicting how these species use the landscape and which patches of habitat will be connected and healthy in the future. To help make difficult decisions, the team includes decision scientists. This has led to the development of Value of Information approaches, used to evaluate whether collecting more data could lead to improved management outcomes, and the incorporation of Artificial Intelligence (AI) to support high-stakes decision making in an environment with limited information.

Practical relevance and potential benefit:

It is sometimes said that conservation science is defined by high stakes, and high uncertainty. Saving our Species has helped fill a gaping hole the field by providing essential data to save our biodiversity. The program has created a revolutionary digital ecosystem for conservation, providing infrastructure that enables the feedback between research and data – the crucial link that was largely missing prior to its inception.

How the application of this technology will influence Australian and global research:

All aspects of the Saving our Species Framework have broad scope for further application. The large-scale, multi-species data the program has collected through the database is in high demand from conservation researchers globally; there have been 113 scientific papers related to different aspects of the program, on topics ranging from individual species outcomes to multi-national comparisons. By providing data collected through robust, large-scale coordination and a central database, Saving our Species has contributed to six National Environmental Science Program (NESP) Threatened Species Hub projects. These include assessing monitoring accuracy across Australia and making major contributions toward the Threatened Species Index. These data also provide the basis for estimating the cost of threatened species recovery across the continent in NESP 7.7, “A knowledge synthesis to inform a national approach to fighting extinction." The National Environmental Science Programme (NESP) is a long-term commitment to environment and climate research, supporting decision-makers to understand, manage and conserve Australia's environment with the best available information, based on world-class science.

Exploration and Practice on the Reform of Collective Land Easement in Qianjiangyuan National Park

Qianjiangyuan National Park Administration

Approaches: *In-situ* conservation | Law-related approach | Public participation | Sustainable use
Policy-making & implementation | Access and benefit-sharing

Targets: Forest | Farmland | Flora | Mammals | Avifauna | Freshwater creatures |
Germplasm resource conservation

CASE INTRODUCTION

The Qianjiangyuan National Park System Pilot Area is currently the only national park system pilot area in the "Yangtze River Delta" region, with a total area of about 252 square kilometers, of which collective land accounts for as much as 80.3%. In response to the high proportion of collective land, with the guidance and help of a group of experts and scholars including Researcher Su Yang from the Development Research Center of the State Council, the Qianjiangyuan National Park Administration took the lead in launching the collective land easement reform in 2018. On the basis of not changing land ownership, through the establishment of a scientific and reasonable easement reform compensation mechanism and a community co-management mechanism, the unified management of important natural resources within the scope of the national park has been realized.

1. Reform of collective woodland easement. One is to confirm rights and register. Check the boundaries of the collective forest land within the scope, the mountain forest ownership certificate, the mountain forest inventory and the management circulation, etc., to fully understand the details. The second is democratic decision-making. Three

resolutions were adopted to set the content of the decision to solicit opinions on the use and management of compensation and easement reform, and the two related contracts made the residents, the village committee and the management bureau a two-tiered agency relationship. The third is to sign a contract. The village committee signs an easement contract with the administrative bureau, clarifying the basic conditions of the servitude, the amount of compensation, the contract period, and the rights and obligations of both parties. The administrative bureau gives 48.2 to the village committee under the premise of not damaging the national park environment and other obligations. Easement compensation of yuan/mu · year. The fourth is to register and issue certificates. The Bureau of Natural Resources and Planning of Kaihua County issued a "Woodland Easement Certificate" for Qianjiangyuan National Park, which was associated with the Forest Land Ownership Certificate.

2. Reform of the easement of rural contracted land. One is to clarify the scope. Based on the boundary and functional zoning of Qianjiangyuan National Park, Dongtou Village, Jiangwan Township, Wuyuan County, Jiangxi Province will be included in the scope of the rural contracted land easement reform. The second is self-declaration. The production entity declares to participate in the reform of the scope of farmland, and reports to the administration for review and confirmation. The third is to sign a contract. The production entity signed a rural contracted land easement reform contract with the administrative bureau, clarifying the basic situation of the servitude, the amount of compensation, the contract period, and the rights and obligations of both parties. The production entity must perform the "no use of chemical fertilizers, pesticides, herbicides" and other obligations. The administrative bureau will give 200 yuan/mu · year for easement compensation.

3. Supporting reforms related to easements. While carrying out the collective land easement reform, the Qianjiangyuan Public Park Administration issued the "Wildlife Rescue Reporting and Incentive Measures", "Wildlife Public Liability Insurance", "Diesel to Gas (Electricity) Pilot Project", and "Ecological Management and Protector Management". A series of supporting policies, such as the Measures and the Franchise Management Measures, effectively protect the rights and interests of service lands.

cceleration Program for Local Protected Areas - Municipal Environmental Protection Area/ APA Capivari-Monos

Qianjiangyuan National Park Administration

Approaches: *In-situ* conservation | Policy-making & implementation | Sustainable use of biodiversity

Targets: Forest | Urban

CASE INTRODUCTION

Acceleration Program for Local Protected Areas – The program aims to bring innovation to the public sector in order to foster long-term positive impacts in the management of local protected areas. In partnership with recognized institutions, ICLEI South America created a solid methodology to accelerate municipal protected areas in Brazil. The methodology counts with a roadmap of one year, including the selection and monitoring. It has six thematic axes: Strategic Planning and Implementation; Governance and Institutional Arrangement; Partnerships and Collaboration Networks; Territorial Economic Potential Development; Sources of Financial Resources for the Protected Area Management; and Communication and Engagement.

The pilot experience happened in 2020 in the municipal Environmental Protection Area (APA, category V of IUCN) Capivari-Monos in São Paulo city, involving the public servants in the Secretary of Green and Environment. The city of São Paulo was strategically selected due to its protagonism and experience in the environmental protection and biodiversity conservation agendas. ICLEI prospected the different typologies of conservation units in Brazil to focus on, choosing the Environmental Protection Area (APA) due to the expressive presence in the Brazilian National Registry of Protected Areas (CNUC), potential for innovation and replicability. The choice of this specific typology was also due to the fact that there is a great difficulty in managing due to the size of the area, occupation characteristics and activities allowed, and that there is a great gap of organizations that work specifically with APAs. APA Capivari-Monos was chosen as the pilot case for the Acceleration Program, as it is the first municipal protected area in São Paulo city, and the only APA that had an approved Management Plan. Despite being located in São Paulo, the biggest South American city, the APA is located in rural areas, whose population is often more vulnerable and does not benefit from the economic development of urban centers.

Designing the methodology, it was agreed on an implementation plan and schedule that involved six stages: (1) Initiation, (2) Understanding, (3) Interpretation, (4) Development, (5) Piloting, and (6) Evolution. The methodology itself covered the stages 1 to 4.

The Initiation Stage was marked by an alignment between ICLEI and Sense-Lab (the consultancy hired to develop and implement the program, specialized in strategy and innovation with a focus on developing the organizations, systems and leadership necessary to face the main collective challenges) and the first contact with the management team of APA Capivari-Monos and the Municipal Secretary of Green and Environment of São Paulo.

The Understanding Stage involved analyzing documents about local protected areas

and Other Effective Area-based Conservation Measures (OMECs) in Brazil, as well as interviews with key stakeholders. The main investigation goal was to understand the main challenges, axis, and mechanisms for the managing and financing of conservation units.

In the Interpretation Stage, the macro structure of the program was drawn. Impressions and reflections were collected to delimit the methodology bases.

In the Development Stage the Acceleration Program' s flow was developed. It involved assessing offerings, stages, activities, contents, and people that should be involved as mentors or specialists. This moment served to validate the methodology between all implementing actors to initiate the Piloting Stage with the APA Capivari-monos.

The Acceleration Methodology was defined as being completely online, due to the COVID-19 pandemic, combining virtual workshops, exchanges with mentors, and internal activities. The participant teams should be multidisciplinary, composed by members of different secretaries and organs. There is a broad approach of the main management aspects, with a personalized journey that would allow deepening in priority themes and areas chosen by the participants. The axes are Strategic Planning and Implementation; Governance and Institutional Arrangement; Partnerships and Collaboration Networks; Territorial Economic Potential Development; Sources of Financial Resources for the Protected Area Management; and Communication and Engagement.

The Piloting Stage began in September 2020. It was settled that the whole process would last seven weeks, counting with the EPA Capivari-monos managers and public servants from the Municipal Secretary of Green and Environment of São Paulo, but other key territorial stakeholders were also integrated in the pilot process as observers, likelocal entrepreneurs, SESC - Social Service of Commerce, non-profit private institution kept by businessmen in the trade of goods, services and tourism, representants of rural tourism and agriculture programs developed there, among others.

In the kick-starter, the participants chose to work on the axis of Territorial Economic Potential Development. After analyzing the territorial potential, the themes of agriculture and tourism were elected as areas of highest priority, both for the management of the protected area and for the local community, and there were a total of five workshops for each. There were also parallel activities, in which the participants could count with the support of Sense-Lab to complete tasks. As a result, the participants built one Theory of Change model for each theme, serving as a strategic implementation plan that brought the context and problem, the public or impact focus, interventions, outputs, and the results and short to long term in the next 5 years, as well as an impact vision.

Even with the challenge of a short implementation period, many relevant stakeholders to the local context and also specialists were engaged and intensively participated in the process, showcasing how important are internal articulation and bringing of stakeholders together, and how a broad vision about the territory and its strategy was achieved. The transversal and cross-sector approach on both the themes and the participants' background was extremely enriching to all the participants. Furthermore, the prefecture had a strong assimilation of the methodology and the program, both in a political and technical level. Even before the finalization of the program, a technical chamber was already established to execute those action plans, further revealing the impact and relevance of the Acceleration Program.

In 2021, a complete Acceleration Program is being executed by ICLEI and Sense-Lab with six municipal protected areas from different regions and ecosystems of Brazil.

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Ecological Civilization-Building a Shared Future for All Life on Earth

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