6TH National Report for the Convention on Biological Diversity

Table of contents

Sixth National Report

SUBMITTED ON: 29 DEC 2018 LAST UPDATED: 09 JAN 2019

Section I. Information on the targets being pursued at the national level

Country

China

China has adopted national biodiversity targets but chooses to report using the Aichi Biodiversity Targets for reference.

Information on why China is choosing to report progress using the Aichi Biodiversity Targets and not its national targets.

The strategic goals and concepts for ecological civilization and “building beautiful China” proposed by the Government of China, together with those identified in the NBSAP, have provided a relatively comprehensive suite of national goals and action programmes for biodiversity conservation in China. However, the China’s national targets do not cover all specific goals of each Aichi Biodiversity Targets. Therefore, the Government of China is choosing to report progress using the Aichi Biodiversity Targets and not its national targets.	EN

Section II. Implementation measures, their effectiveness, and associated obstacles and scientific and technical needs to achieve national targets

Policy and legal system for biodiversity conservation is being improved.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Since 2015, China has adopted a series of policies related to biodiversity conservation, which provide top-level design and overall arrangements for ecological civilization development and biodiversity conservation. These policies include: (a) Recommendations for Accelerating Ecological Civilization Development; (b) Master Proposals for Institutional Reforms for Ecological Civilization; (c) Proposals for Pilot Work in Formulating Natural Resources Assets Balance Sheet; (d) Rules for Accountability of Party and Government Officials for Environmental Damages; (e) Proposals for Pilot Work in Off-job Auditing of Natural Resources Assets of Party and Government Officials; (f) Proposals for Reforms in Compensation Mechanisms for Environmental /	EN

Ecological Damages;
(g) Recommendations on Improving Ecological Compensation Mechanisms;
(h) Recommendations on Strengthen Red-line Control over Resources, Environment and Ecology
(i) Recommendations on Drawing and Strictly Following Ecological Red Lines;
(j) Recommendations on Setting up Standardized Experiment Zones for Ecological Civilization Development;
(k) Master Proposals for Establishing National Parks System;
(l) Proposals for Mechanisms for Wetland Conservation and Restoration;
(m) Recommendations on Appointing River Head.
(n) Recommendations on Strengthening Biological Conservation in the Yangtze River (by the Administrative Office of the State Council).

In addition, China has revised the following laws and regulations: (a) Environmental Protection Law; (b) Air Pollution Prevention and Control Law; (c) Wild Animals Protection Law; (d) Marine Environmental Protection Law; (e) Fishery Law; (f) Seed Law; (g) Grasslands Law; (h) Water Law; (i) Land Management Law; (j) Husbandry Law; (k) Regulation on Nature Reserves; (l) Implementation Rules for Forest Law; (m) Implementation Rules for Wild Terrestrial Animals Protection; (n) Implementation Rules for Wild Aquatic Animals Protection; and (o) Regulation on Protection of New Plant Varieties. China has also promulgated a number of new laws and regulations such as Regulation on Taihu Basin Management, Regulation on Prevention and Control of Pollution from Livestock Farming and Rules for Adjustment of National-level Protected Areas. Some local governments have also developed a series of regulations. For example, provinces or municipalities such as Beijing, Yunnan, Jiangxi, Henan, Anhui, Fujian, Guizhou, Hebei and Jiangsu have developed their provincial regulations for protected areas and wetland conservation. All this has resulted in the further improvement of legal and regulatory systems for conservation and sustainable use of biodiversity.

Aichi Biodiversity Target(s)

3. Incentives

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Legal and regulatory system is yet to be further improved.

Despite a series of laws and regulations China has developed or revised, some of these laws and regulations cannot meet current requirements for biodiversity conservation and supervision due to the new national and international circumstances. Meanwhile there are gaps in the development of specialized laws or regulations on access and benefit-sharing, wetland conservation and managing invasive alien species.

Scientific and technical needs: Strengthening the development of legal and regulatory system
To improve laws and regulations on biodiversity conservation and increase law enforcement supervision;
To revise the Nature Reserve Regulations and speed up the legislative process of the Regulations on the Management of Access to and Benefit-sharing of Genetic Resources;
To study and formulate laws and regulations such as the Biodiversity Conservation Law, the Protected Areas Law, the Wetland Protection Regulations and the Invasive Alien Species Management Regulations;
To improve the system of property rights and use of natural resources assets, and implement the most stringent source protection system, damage compensation system, and life-long accountability and liability system for ecological environmental damage;

EN

A series of programmes and plans related to biodiversity conservation have been launched and implemented.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

The State Council has approved the implementation of a number of programmes which have enhanced biodiversity conservation, including the Action Plans for Water Pollution Prevention and Control, Action Plans for Soil Pollution Prevention and Control, Action Plans for Air Pollution Prevention and Control, National Planning for Major Marine Function Zones, National Environmental Protection Planning for the 13th Five-year Period and National Planning for Water and Soil Conservation (2015-2030).
Relevant sector departments have developed and implemented a series of programmes and plans that have effectively promoted biodiversity conservation. For example, the National Development and Reform Commission, together with relevant departments, have developed the National Planning for Ecological Conservation and Construction (2013-2020), Planning for Rehabilitating

EN

Agricultural Lands, Grasslands, Rivers and Lakes (2016-2030), the 13th Five-year Planning for Comprehensive Control Engineering of Rocky Desertification in Karst Areas, Comprehensive Planning for Water Resources and Environmental Protection for Qiandao Lake and Upper Stream of Xin'an River, Planning for Comprehensive Ecological Conservation in Key Areas of Western China (2012-2020), National Planning for Climate Change (2014-2020) and Environmental Protection Planning for Coordinated Development of Beijing-Tianjin-Hebei Region. The Ministry of Land Resources has developed and launched the 13th Five-year Planning for Land Resources. The Ministry of Environmental Protection has issued the Master Planning for Environmental Protection of Lakes with Relatively Good Water Quality and National Planning for Ecological Conservation for the 13th Five-year Period. MEP, together with the Chinese Academy of Sciences, has issued the National Ecological Zoning (revised), and together with the Ministry of Agriculture and the Ministry of Water Resources, the Plan for Conserving Aquatic Biodiversity in Key River Basins. The Ministry of Agriculture has formulated and issued the National Planning for Sustainable Agricultural Development (2015-2030), Medium and Long-term National Planning for Conservation and Use of Agricultural Crops Germplasm Resources (2015-2030), National Planning for Conservation and Use of Livestock Genetic Resources for the 13th Five-year Period, and National Planning for Grasslands Conservation for the 13th Five-year Period. The State Forestry Administration has developed and issued the National Planning for Forest Land Conservation and Use (2010-2020), National Planning for Forest Management (2016-2050), National Action Plan for Conservation and Sustainable Use of Forest Genetic Resources and Action Plan for Forestry Adaptation to Climate Change (2016-2020). SFA, together with NDRC and the Ministry of Finance, also issued the National Planning for Wetland Conservation for the 13th Five-year Period. The State General Administration of Quality Supervision, Inspection and Quarantine has incorporated biodiversity and biological resources protection into its 12th five-year plan, developed a plan for inspection and quarantine of imported and exported species and provided the Recommendations for Further Strengthening Inspection and Quarantine of the Import and Export of Biological Resources. The State Oceanic Administration has promulgated the National Planning for Marine Renewable Energy Development for the 13th Five-year Period, National Planning for Island Protection for the 13th Five-year Period, and National Plan for Marine Observation Networks (2014-2020). The State Council has promulgated the Strategy and Planning for Traditional Chinese Medicine Development (2016-2030). The Ministry of Industry and Information and the Administration on Chinese Medicine jointly issued the Planning for the Protection and Development of Chinese Medicinal Materials (2015-2020). A total of 18 provinces across the country have developed their provincial biodiversity strategies and action plans (PBSAPs). All these have enhanced to varying degrees biodiversity conservation at national, sectoral and regional levels.

Aichi Biodiversity Target(s)

3. Incentives

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Mechanisms and systems for biodiversity conservation are being gradually improved.

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

In 2011 a National Committee on Biodiversity Conservation was established, which is headed by a Vice Premier responsible for environmental affairs and composed of 25 ministries or departments. This Committee coordinates biodiversity conservation across the country. The ministries or departments responsible for the environment, forestry, agriculture, construction, seas and Chinese medicine have also established their own bodies for biodiversity management. For example, the State Forestry Administration set up a National Committee for Forest Biodiversity Conservation in June 2014. Some provincial governments have also strengthened their coordination mechanisms for biodiversity conservation. Since 2014, Yunnan Province has established a Biodiversity Conservation Committee. Guangxi Autonomous Region has set up a working group for developing PBSAP. Hebei Province has established an inter-departmental liaison group for protection of wild plants and animals. The strengthening of mechanisms and systems for biodiversity conservation has provided robust support for biodiversity conservation on the ground. EN

Aichi Biodiversity Target(s)

3. Incentives

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Surveying, observation and monitoring of biodiversity have been undertaken.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

In recent years, China has undertaken more surveys and inventory of species in important regions, areas and ecosystems as well as those of special populations. The Ministry of Science and Technology (MOST) has been supporting biodiversity conservation research as part of its science and technology advancement programmes. MOST also provides priority support to biodiversity conservation research in the National Science and Technology Support Plan, National Key Research and Development Plan and Specialized Programme for Surveying of Fundamental Resources for Science and Technology Development. MOST has been supporting a series of projects, such as the Research and Demonstration on Techniques for Conservation and Breeding of Endangered Species and Biodiversity Conservation, the Research on Change and Conservation of Biodiversity in China-Himalaya Region, the Collection of Specimens of Aquatic Plants in China, the Comprehensive Survey of Animal Resources and Assessment of Important Taxa in Southeastern Tibet, the Comprehensive Survey of Biodiversity in Wuling Mountain and the Surveys on Plant Community and Soil in National Forest Protected Areas and its Adjacent Areas in Northeast China. The Ministry of Environmental Protection has launched major projects for biodiversity conservation, and issued a series of technical guidelines for biodiversity survey and monitoring. MEP has also undertaken a national assessment of changes in ecological conditions (2010-2015), organized biodiversity surveys and established a national biodiversity observation network. MEP, together with the Chinese Academy of Sciences, has issued the China’s Biodiversity Red Lists-Higher Plants Volume, Vertebrates Volume and Macrofungi Volume as well as 2018 Species List of China. The Ministry of Agriculture (MOA) has undertaken the third national census on agricultural crops germplasm resources and key protected wild agricultural plants. MOA developed “Record of China’s Livestock Genetic Resources”, “Record of China’s Endemic Livestock” and “Record of Bees”. MOA has revised a list of national protected livestock genetic resources. By the end of 2017, a census has been undertaken of the Chinese medicinal resources in 1,332 counties of 31 provinces (autonomous regions and province-level municipalities). By July 2018, over 22,000 persons have participated in the census. Over 9 million pieces of data and information, over 6 million photos and more than 260,000 leaf specimens of Chinese medicinal resources have been collected, following initial counting. The State Forestry Administration (SFA) has initiated a second national survey of key protected wild plants and animals. SFA has completed the fourth survey of habitats for giant pandas, the eighth national forest inventory and the fifth monitoring of land degradation and desertification. The State Oceanic Administration (SOA) has summarized results of comprehensive	EN

surveys and assessments of offshore marine areas, inventoried marine biodiversity and undertaken biodiversity monitoring and assessments of 18 ecological monitoring areas and 77 national-level marine protected areas.

Aichi Biodiversity Target(s)

10. Vulnerable ecosystems
12. Preventing extinctions
13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

CASE STUDY 2.1.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Fund management is yet to be further improved.
In the areas of biodiversity survey and observation, biodiversity conservation infrastructure construction, and biodiversity science research, there is a need to consolidate and coordinate the use of funds. Although pilot work on biodiversity baseline surveys has been carried out, large-scale baseline surveys have not yet been carried out. The construction and management of nature reserves in some parts of China has problems of insufficient capital investment and lack of operating funds, especially in the western China region. Although ecological compensation is gradually increased in the fields of river basins, forests, grasslands, wetlands and key ecological function areas, the source of ecological compensation funds is single, mainly relying on government investment, and the diversified and market-oriented ecological compensation mechanism needs to be further improved.

Scientific and technical needs: Survey and monitoring

- Species identification technology using artificial intelligence;
- DNA barcode technology for taxonomy;
- DNA barcode database;
- Survey techniques of genetic resources and associated traditional knowledge;
- Biodiversity survey and monitoring by modern information technology, biotechnology and remote sensing technology;

EN

- Biodiversity monitoring network design techniques and tools;
- Building biodiversity monitoring networks and early warning centers;
- Integration of multi-source and multi-scale biodiversity data;
- Biodiversity databases and information systems;
- Technologies for deep mining of biodiversity big data.

Remarkable results have been achieved in in-situ conservation.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

China has established a system of in-situ conservation composed of nature reserves (as main components), scenic spots, forest parks, wetland parks, protected areas for aquatic germplasm resources and special marine protected areas. By the end of 2017, China has established 2,750 nature reserves covering a total land area of 147.17 million hectares, accounting for 14.86% of the country’s total land area and having surpassed the world’s average. Among them, there are 463 national-level nature reserves, covering a total land area of 97.4516 million hectares, accounting for 16.84% of the total number of nature reserves and 66.22% of the total land area covered by nature reserves. China has been actively promoting pilot work in the establishment of national parks system. China has established ten national parks such as Three Major River Sources Park, Northeast China Tiger and Leopard Park and Giant Panda Park and intended to establish a network of protected areas with national parks as its core components. China has also identified 244 national-level scenic spots and 807 provincial scenic spots, covering about 2.23% of the country’s total land area. Among them, 42 national-level scenic spots and 10 provincial scenic spots have been included in the World Heritage List by UNESCO. China has established 3,505 forest parks. Among them, there are 881 national-level forest parks, aiming to cover 12.7862 million hectares. By 2018, China has designated 57 wetlands of international importance and established 898 national wetland parks (pilot), with the rate of wetland conservation having reached 49.03%. By 2016, China has announced in ten batches the establishment of a total of 523 national-level protected areas for aquatic germplasm resources, covering a total area of 15.6 million hectares. So far, the area covered by terrestrial protected areas of various types in China has exceeded 18% of the country’s total land area, having achieved in advance the target of 17% for 2020 identified in the CBD’s Strategic Plan. Within these protected areas, over 90% of terrestrial natural ecosystem types and 89% of national key protected wild animals and plant species have been protected. Wild populations for some endangered and rare species are being gradually restored. The wild populations of some endangered species such as giant panda, the Amur

EN

tiger, crested ibis, the Tibetan antelope and the Yangtze alligator, have been increasing while being stabilized.

To protect the reproduction and growth of fishes in the marine areas of China, since 1995, China has implemented fishing bans during June-September in the East China Sea and Yellow Sea areas under China's jurisdiction. Since 1999, this ban has been extended to South China areas north of 12° N. Currently, the fishing ban period for the Bohai Sea and the Yellow Sea areas north of 35° N is from 1 May to 1 September. For the Yellow Sea and East China Sea areas between 35° N~26°30′ N, the ban period is from 1 May to 16 September. For the area between 26°30′ N and the marine border area in the East China Sea between Fujian and Guangdong Provinces, the ban period is from 1 May to 16 August. The same ban period applies to the area between 12°N and the marine border area in the South China Sea between Fujian and Guangdong Provinces including North Bay. During fishing ban period, all types of operations are banned except for fishing tackles. China has also implemented fishing bans in the Yangtze River, Yellow River, Pearl River and Huai River. This ban was introduced to the Yangtze River and the Pearl River in 2003 and 2010 respectively. In 2015 the main stream of Huai River was also included in the ban. Currently, fishing ban is implemented in the main stream of the Yangtze River, important rivers flowing into the Yangtze River, Poyang Lake, Dongting Lake and the main stream of Huai River from mid-night 1 March to mid-night 30 June annually. Such ban is also implemented in the main stream of the Pearl River, important branches and lakes connecting with the river from midnight 1 April to midnight 1 June every year. In 2018, the Ministry of Agriculture has extended such a ban to the main stream of the Yellow River, Zhaling Lake, Eling Lake and Dongping Lake as well as the main stream of 13 main branch rivers, from midnight 1 April to midnight 30 June annually. All fishing operations will be prohibited during the ban period and in the banned areas. The Ministry of Agriculture issued a Notice on the List of Aquatic Species Protected Areas for Comprehensive Fishing Ban in the Yangtze River Basin, and from January 2018, a comprehensive fishing ban was implemented in 332 aquatic species protected areas in the Yangtze River Basin. The implementation of fishing breaks and bans has relieved huge pressures on fishery resources caused by fishing overcapacity and excessive fishing intensity and played an important role in protecting aquatic biodiversity.

To protect endangered species such as the Chinese sturgeon, the Yangtze River dolphin, the Chinese white dolphin, spotted seal and river sturgeon, to facilitate their reproduction and to protect aquatic biodiversity, the Ministry of Agriculture has developed an Action Plan for Rescuing the Chinese Sturgeon (2015-2030), an Action Plan for Rescuing the Yangtze River dolphin (2016-2025), an Action Plan for Protecting the Chinese White Dolphin (2017-2026) , an Action Plan for Protecting the Spotted Seal (2017-2026) and an Action Plan for Rescuing the River Sturgeon (2018-2035). In these plans specific protection actions/measures have been proposed, providing guidance for the protection of endangered species in China in the next decade and beyond.

Aichi Biodiversity Target(s)

11. Protected areas

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

Case Study 2.2.pdf

Case Study 2.3.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Inadequate conservation infrastructure construction
Though some national-level protected areas in China have followed standardized development, however overall conservation capacities and infrastructure construction for protected areas are still weak. At present, the resources of wild medicinal plants in China continue to decline. The wild populations of important medicinal plants such as Panax notoginseng and Panax ginseng are very rare. It is urgent to establish a medicinal plant resource conservation facility to rescue precious wild medicinal plant resources. The Chinese botanical garden system and the wild animal breeding system are yet to be improved, and the capacity of collecting and preserving important crop germplasm resources is also insufficient. EN

Scientific and technical needs:
- Biodiversity in situ conservation systematic planning techniques and tools;
- Standards and norms for classification and grading of nature reserves;
- Effective management techniques for nature reserves;
- Technologies for appropriate use of resources of protected areas;
- Design and management techniques for biological corridors;
- Construction technologies of In-situ conservation network.

Ex-situ conservation has been further enhanced.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

Relatively rapid progress is made in the ex-situ conservation of wild animals and plants and germplasm resources. China has established over 240 zoos or animal exhibit zones, feeding 775 animal species from China and abroad. China has set up 250 bases for rescuing and breeding wild animals. The population of nearly ten extremely endangered species (on the edge of extinction), such as giant panda, crested ibis, the Amur tiger, has been recovering. The artificial propagation of over 60 species of rare and endangered animals is successful. The population of wild giant pandas in China has reached 1,864 and the number of giant pandas raised in captivity has reached 375. The habitat area for wild giant panda is 2.58 million hectares and potential habitat area is 910,000 hectares. The number of crested ibis has increased from 7 (originally found in 1981) to over 2,600 now. The habitat area for wild crested ibis has expanded from less than 500 hectares (where they were found originally) to over 1.4 million hectares now. The population of Przewalski’s gazelle has risen from less than 200 in 2003 to 2,010 currently, an increase of over ten times in the past fourteen years. In addition, China has also established stable artificially-propagated population for over 300 rare and endangered wild animal species and successfully reintroduced to nature over 10 endangered wild animal species, such as giant panda, crested ibis, David’s deer, Przewalski's horse, wild camel and the Chinese barred-backed pheasant. Overall the population of endangered species has been increasing, while being stabilized. China has established more than 200 botanical gardens (arboreta), preserving over 23,000 plant species. The number of native plant species in these botanical gardens accounts for 60% of China’s total plant species. About 1,200 plant species were introduced from other countries, enriching plant diversity in China. China has initiated the implementation of the National Engineering Planning for Protecting Wild Plants with Very Small Populations. As a result, nearly 200 sites of ex-situ conservation have been established. So far collection has been completed of germplasm resources of cycad and palm trees as well as orchid and magnolia plants that are originated from China. The Chinese Academy of Sciences took the lead in establishing China Botanical Gardens Alliance and initiated the Native Plants Full-coverage Plan. With this plan, assessments of 64,879 species/times of native plants in 14 regions have been completed, covering 501 critically endangered species, 773 endangered species and 1,299 vulnerable species. Photos of a large number of native plants, their habitats and locations have been taken which provides a good basis for taking conservation measures in the next phase. Research on artificial breeding techniques for rare and endangered wild plants as well as seed source construction have been strengthened. Wild plant cultivation bases have been reinforced or improved. Over 22 comprehensive storage banks for genetic resources of multiple tree species, 13 specialized banks for genetic resources of a single tree species, and 226 national bases for good forest species have been established, preserving over 2,000 tree species and	EN

covering most of the provinces and 60% of main tree species currently used for afforestation.
A system of germplasm resources conservation composed of national long-term storage banks, mid-term banks, germplasm gardens, original habitat protection sites and national gene banks has been established, basically covering various types of agricultural ecological areas. Within this system, a total of 480,000 possessions of specimens have been collected, inventoried and preserved in national banks and germplasm gardens. 39 endangered wild species that were originated from China such as wild rice, wild soybeans, wild relatives of wheat and wild fruit trees, have been well protected. China has established a national germplasm bank for medicinal plants, having collected nearly 30,000 isolated germplasms of medicinal plants. China has established 28 seed and seedling breeding bases for medicinal plants in 20 provinces (autonomous regions), as well as 180 branch bases, covering a total area of 4,667 hectares and breeding seeds and seedlings of 120 medicinal herbs (28 endangered species). Two germplasm banks for medicinal herbs have been established in Sichuan and Hainan Provinces, preserving 24,000 germplasms collected from the census of Chinese medicinal resources. Southwest China Wild Germplasm Resources Bank was established, which collected and preserved 79,123 possessions of wild plant seeds of 10,013 species belonging to 228 families and 2005 genera in China, accounting for 1/3 of the total number of flowering plant species in China, including 669 rare and endangered species, 4,035 species endemic to China (40.30% of total preserved species), 20,810 in-vitro culture materials of 1,850 plant species and 49,815 DNA molecular materials of 5,642 species. The system of conservation of livestock genetic resources continues to be improved, with 187 national-level seed farms, protected areas and gene banks established. National-level seed conservation bodies have been established for over 90% of livestock species included in the national protection list.

Aichi Biodiversity Target(s)

12. Preventing extinctions
13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

Case Study 2.4.pdf EN

Case Study 2.5.docx
Case Study 2.6.docx
Case Study 2.7.docx
Case Study 2.8.docx
Case Study 2.9.docx

Obstacles and scientific and technical needs related to the measure taken

Obstacles?Inadequate conservation infrastructure construction
Though some national-level protected areas in China have followed standardized development, however overall conservation capacities and infrastructure construction for protected areas are still weak. At present, the resources of wild medicinal plants in China continue to decline. The wild populations of important medicinal plants such as Panax notoginseng and Panax ginseng are very rare. It is urgent to establish a medicinal plant resource conservation facility to rescue precious wild medicinal plant resources. The Chinese botanical garden system and the wild animal breeding system are yet to be improved, and the capacity of collecting and preserving important crop germplasm resources is also insufficient.

Scientific and technical needs?
- Artificial breeding and reintroduction techniques for important rare and endangered species;
- Germplasm resources collection and preservation techniques;
- Construction of ex situ conservation system for important wild animals and plants and germplasm resources.

EN

Major progress achieved in ecosystem conservation and restoration.

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

A group of major ecological conservation and restoration projects have been implemented, such as natural forests protection, reclaiming farmlands for forestry and grasslands, reclaiming grazing lands for grasslands, forest belt construction, restoration of river, lake and wetland ecosystems, water and soil conservation, control of rocky lands, wild animal and plant protection and establishment of protected areas. During 2013-2017, China has completed afforestation of 34 million hectares, forest tending of 41 million hectares and another round of reclaiming farmlands for forestry and grasslands of 3 million hectares. China has also identified 3 million hectares for national reserve forests. 124 million hectares of national-level public benefit forests have been included in the centrally-financed forest ecological compensation scheme. Commercial logging of natural

EN

forests has been completely banned and the range of natural forest protection has been expanded across the country. The forest area has reached 208 million hectares and the forest coverage rate come up to 21.66%, with the forest stock reaching 15.137 billion m3. Among them, the increase of natural forest stock accounts for 63%, with the natural forest area increased from 119.69 million hectares originally to 121.84 million hectares, making China the country with the fastest growth in forest resources in the world. During the 12th five-year period, China has implemented over 1,500 projects for wetland restoration and compensation, having restored more than 233,300 hectares of wetlands and reclaimed 51,000 hectares of farmlands for wetlands. As a result, the total area of wetlands in China has reached 53.6026 million hectares and the rate of wetland protection has come up to 49.03%. China has completed control of 10 million hectares of desertified land, with the overall trend of land desertification basically controlled. During the 12th five-year period, a total of 47.205 million hectares of degraded, desertified and salinized grasslands have been controlled. By 2017, comprehensive vegetation coverage of grasslands in the country has reached 55.3%, and the total fresh grass output from natural grasslands has risen to 1.07 billion tons, the seventh consecutive year with outputs exceeding 1 billion tons. The grassland vegetation coverage in key ecological project areas is 15% higher than that in non-project areas, and 85% higher in fresh grass outputs per unit area.

Aichi Biodiversity Target(s)

5. Loss of habitats
10. Vulnerable ecosystems
14. Essential ecosystem services
15. Ecosystem resilience

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

Case Study 2.10.docx

Case Study 2.11.docx
Case Study 2.12.docx
Case Study 2.13.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Scientific and technical support capacities are yet to be EN

further enhanced.
With the national science and technology support plan, some initial results have been achieved in the studies on ecosystem function maintenance mechanisms, mechanics causing species endangerment and small populations maintenance mechanisms. Phase progress has been also made in biodiversity inventorying, however there are gaps and weaknesses. For example, baseline data for biodiversity are inadequate. The level of development and application of genetic resources is still low and systematic assessments of a large number of germplasms collected are lacking. The technical level for genotypic identification at molecular level is low and techniques are still short for the prevention and control of invasive alien species and examining the imported and exported biological resources and species. Fundamental research and technology development for biodiversity conservation need to be further strengthened.
Scientific and technical needs: Restoration and reconstruction of degraded ecosystems.
- Biodiversity enhancement techniques for monopoly plantation;
- Restoration and reconstruction techniques for degraded wetland ecosystem;
- Degraded, desertified and salinized grassland ecosystem management techniques;
- Degraded marine ecosystem restoration techniques;
- Restoration techniques for degraded ecosystems invaded by alien species.

Effective campaigns launched in pollution prevention and control.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

China has developed action plans for preventing and controlling water, air and soil pollution, and has been taking persistent actions in this regard. As a result, by 2017, the average concentration of PM10 in 338 cities has decreased by 22.7% compared with that in 2013. The average concentration of PM2.5 in Beijing-Hebei-Tianjin area, the Yangtze River Delta and the Pearl River Delta has dropped by 39.6%, 34.3% and 27.7% respectively, compared with that in 2013. The average concentration of PM2.5 in Beijing went down from 89.5μg /m3 in 2013 to 58 μg/ m3. Key goals and tasks for air quality improvement identified in the Action Plan for Air Pollution Prevention and Control have been fully achieved. Coal-burning small boilers in cities have been almost phased out, with over 200,000 boilers with capacity below 10 tons vapor eliminated. Renovation of a total of 700 million kilowatts of ultra-low emission of coal-fired power plants has been completed. National Class V standards for vehicle emission and oil have been implemented across the country. Over 20 million old vehicles have been phased out and a total of 1.8 million new-energy-driven cars have been promoted. A programme for ship

EN

emission control areas is being implemented. As an Action Plan for Water Pollution Control is implemented, the surface water quality throughout the country has been constantly going up. The percentage of water bodies that meet Classes I-III quality standards has reached 67.9%, and that lower than Class V has dropped to 8.3%. The water quality of the main stream of major rivers is being steadily improved. 97.7% sites for protection of drinking water sources for cities at prefecture and above levels have been identified. 93% of integrated industrial areas at provincial and above levels have established integrated wastewater treatment facilities. Additional wastewater treatment capacities of nearly 10 million m3/day have been established for industrial distribution areas. Brackish, stinky water bodies in 36 key cities have basically disappeared. Environmental law enforcement has been undertaken for urban drinking water sources in the Yangtze River Economic Belt. As a result, 490 environmental problems identified through law enforcement have been all resolved. Reuse of livestock wastes has been promoted throughout 96 counties of major livestock farming. Pesticide use has been going down for three consecutive years, and fertilizer use has achieved zero growth three years ahead of plan. Water conservation has been strengthened and double-control actions for both total water consumption and water use intensity are being implemented to a full scale. Prevention and control of pollution from ports and piers is being reinforced. A nation-wide survey of marine pollution from land-based sources has been undertaken and those illegal or improperly placed pollutant outlets have been closed. The Law on Soil Contamination Prevention and Control is promulgated. The Rule for Soil Environment Management of Agricultural Land Use has been issued. A national survey of soil contamination has been undertaken. A special examination has been undertaken of land reuse where key industrial factories or enterprises have been closed or relocated. Capacities of municipal waste treatment have reached 680,000 tons/day, with the non-hazard treatment rate coming up to 97.74%. The percentage of villages whose rural wastes have been treated has reached 74%.
In 2011, the central government allocated a specialized fund of 4 billion yuan for rural environment in support of efforts to improve the rural environment across the country. Over years thereafter the funding level has been increased year by year. In 2013, the central government allocated 6 billion yuan in support of rural environmental improvement in 46,000 villages, from which over 87 million villagers have directly benefited. In 2014, 6 billion yuan was invested into rural environmental improvements in 59,000 villages and the rural population that benefited from this has exceeded 110 million. In 2015, an investment of 6 billion was made to support the rural environmental improvement in 72,000 villages and more than 120 million villagers have directly benefited.

Aichi Biodiversity Target(s)

8. Pollution

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Conflicts between socio-economic development and conservation remain.

Land use for urbanization, industry, mines and transportation is increasing, occupying tremendous natural and ecological space and leading to reductions in areas of natural habitats such as shrubs and grasslands and damaging biodiversity. Some local governments have adjusted or even revoked many times protected areas to pursue their own economic interests. Some places undertook development activities in protected areas, even within their core areas and buffer zones, thus weakening the ecological functions and values of protected areas.
Scientific and technical needs: Sustainable use
Technologies for ecological spatial planning and use control;
Ecosystem service function balancing and upgrading technology;
Organic agriculture technology;
Technologies for soil testing and formula fertilization, precise and efficient application of pesticides. EN

Biosafety management capacities have been further enhanced.

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

As a result of multiple-year efforts, the prevention and control of invasive alien species have been further regulated. Various sector departments are making concerted efforts in this regard in accordance with relevant laws and regulations. The Ministry of Environmental Protection and the Chinese Academy of Sciences have issued a third list of IAS in China and a fourth list of IAS in China's natural ecosystems. MEP has developed technical guidelines for risk assessment of IAS and issued a notice on managing and supervising IAS prevention and control in natural ecosystems, which provides guidance to local environment departments for their efforts to prevent and control IAS. The Ministry of Agriculture issued the first list of IAS under key national control and requested all provinces (autonomous regions and province-level municipalities) to investigate 52 invasive species on the list. MOA also set up an emergency response office to address the EN

invasion of alien species and organized on-site elimination of invasive species and emergency responses. Satellite remote-sensing techniques are used to monitor the invasion of aquatic invasive species (such as water hyacinth and alligator weed) in key water areas of 11 provinces in south China. MOA also developed an inventory of technical guidelines for biological control of alligator weed in the middle and lower reaches of the Yangtze River. The State Customs Administration organized training workshops on the list of imported and exported genetic resources and knowledge related to protection of endangered species. The State General Administration of Quality Supervision, Inspection and Quarantine strengthened border prevention and control for biosafety. During the 12th five-year period, the annual increase rate of intercepting hazardous species at ports and border controls is 26.8%. A total of 8,945 IAS have been detected and intercepted over years. Solely in 2016, 6,305 invasive species and 1.22 million batches were intercepted at various ports across the country. In 2014, the State Council issued Recommendations on Further Strengthening the Prevention and Control of Forest Pests. The State Forestry Administration has been promoting the revision of some laws or regulations for forest pest control such as the Regulation on Prevention and Control of Forest Pests and the Regulation on Plant Quarantine. The Chinese Academy of Sciences initiated the Border Gate Biosafety Project through which a rapid identification system is established for IAS and common quarantine objects by using new technologies such as DNA barcoding and developing an IAS database, with a view to reducing the introduction of IAS and protecting China's biosecurity.

Importance has been attached to the supervision and management of the safety of GMOs. During the 12th five-year period, supported by the Special Key Program of New Varieties of GMOs, 183 major research projects and 130 research projects were initiated and implemented. Significant results have been achieved in many fields, such as promoting research and development on innovative products and their commercialization, key gene cloning technologies and core technological innovations. The Ministry of Environmental Protection together with other departments participated in the Meeting of the Parties to the Cartagena Protocol on Biosafety and other relevant meetings. MEP has also submitted three national reports to the Protocol and played an active role in the effective implementation of the Protocol. The Ministry of Agriculture has established the fifth Biosafety Committee on Agricultural GMOs. MOA has issued a Notice on Strengthening the Supervision and Management of Genetically Modified Agricultural Crops and developed related law enforcement plans to regulate the research, testing, production, marketing, import and export of agricultural GMOs and their products. The State General Administration of Quality Supervision, Inspection and Quarantine established a technical system for detecting GMOs. The biosafety management system of GM trees is being gradually established and the research, testing and other activities related to GM trees are proceeding in accordance with relevant regulations, with biosafety monitoring system having been initiated. The State Oceanic Administration has undertaken risk assessments and environmental

impact assessments of the marine environmental release of GMOs and developed relevant technical guidelines and standards.

Aichi Biodiversity Target(s)

9. Invasive Alien Species

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

Case Study 2.14.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles:
The technical level for genotypic identification at molecular level is low and techniques are still short for the prevention and control of invasive alien species and examining the imported and exported biological resources and species.

Scientific and technical needs: Biosafety assessment and monitoring
Invasive alien species risk assessment techniques;
Invasive alien species monitoring and early warning techniques;
Techniques for sustainable control and environmental management of invasive alien species;
Techniques for environmental safety assessment and monitoring of genetically modified organisms;
Technologies for environmental risk prevention and control of genetically modified organisms;
Construction of facilities and an early warming center for risk assessments of invasive alien species and genetically modified organisms.

EN

Capacity building for establishing systems of access to genetic resources and benefit-sharing has been strengthened.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

The Nagoya Protocol entered into force in October 2014. China has become a Party to the Nagoya Protocol on 6 September 2016. In recent years, China has issued and implemented a series of laws and regulations related to biological resources, such as Environmental Protection Law, Wild Animals Protection Law and Regulation on Wild Plants Protection. The revised Husbandry Law and Seed Law has incorporated provisions related to benefit-sharing from use of livestock genetic resources and agricultural germplasm resources, requiring foreign users of genetic resources in China to propose options for benefit-sharing. The Ministry of Environmental Protection issued a National Programme of Work on Strengthening the Management of Biological Genetic Resources (2014-2020). MEP has established the access to and benefit sharing (ABS) clearing-house. MEP together with other relevant departments jointly issued a Notice on Strengthening the Use of Genetic Resources and Benefit-sharing in International Cooperation and Exchanges, with a view to strengthening the management of genetic resources in international cooperation and exchange activities and promoting benefit-sharing from such use. Currently the Ministry of Ecology and Environment is drafting a regulation on access to genetic resources. The State Intellectual Property Administration (SIPA) took a leading role in the negotiation under the Intergovernmental Committee on Genetic Resources, Traditional Knowledge and Folklore of the World Intellectual Property Organization. SIPA and State Administration on Chinese Medicine have jointly issued a Guidance on Strengthening the Intellectual Property Rights related to Chinese Medicine, in an effort to establish a system of protection of genetic resources related to Chinese medicine and associated traditional knowledge. The Ministry of Commerce has actively participated in the meetings of TRIPS Council under the World Trade Organization in efforts to promote the alignment between the TRIPS Agreement and the CBD and reflect in the TRIPS Agreement the principles of national sovereignty, prior informed consent and benefit-sharing identified in the CBD.

EN

Aichi Biodiversity Target(s)

16. Nagoya Protocol on ABS

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been partially effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx

EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles:
The level of development and application of genetic resources is still low and systematic assessments of a large number of germplasms collected are lacking. The technical level for genotypic identification at molecular level is low.

EN

Scientific and technical needs:
Benefit-sharing mechanisms for biological genetic resources and associated traditional knowledge.

Supervision and examination of biodiversity conservation have been constantly reinforced.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

The Government of China has increased penalties against illegal activities of damaging biodiversity. Special investigations were undertaken of a number of cases of environmental/ecological damages, such as illegal building of resorts and villas at the bottom of Qinling, Shaanxi, vegetation destruction by overmining in Muli, Qinghai and coal mining in Kalamaili Protected Area, Xinjiang. Following investigations serious penalties were given to these illegal activities. The Ministry of Environmental Protection together with other ten departments issued a Notice on Further Strengthening the Supervision and Management of Development Activities Related to Protected Areas. MEP has completed satellite remote-sensing monitoring of more than 400 sites in national-level protected areas and penalized a group of illegal activities related to protected areas. To implement recommendations from a report circulated by the Administrative Offices of the Central Committee of CPC and the State Council on investigation of environmental problems in Qilianshan Protected Areas in Gansu Province and lessons learned, and to strengthen the supervision and management of protected areas at national level, from July to December 2017, MEP, MLR, MWR, MOA, SFA, CAS and SOA organized a special action called the Green Shield 2017 for supervising and examining national-level protected areas and penalized those illegal activities related to these areas. For the 6 cases related to national-level protected areas such as Qilianshan Protected Area, MEP together with other departments also arranged talks with local governments concerned, provincial sectoral departments and the PA management bodies, and stopped damages caused by illegal development activities in the protected areas. MOA and SOA arranged a special examination of marine protected areas and those for aquatic biodiversity. The Ministry of Agriculture organized a series of fishery law enforcement actions called "2017 Sword Action" to crack down the various behaviours of illegal havesting of aquatic biological resources and damaging the aquatic environment. The Ministry of Transportation and the Ministry of Environmental Protection found after the examination that there were 265 unlicensed piers in the protected areas along the Yangtze River and requested the local governments concerned to address the problems. The Ministry of Land Resources also examined and removed mineral resources exploration activities within protected areas. The State Forestry	EN

Administration launched "Green Sword Action", which focused on supervising 30 forestry protected areas in addressing their problems. Various regions undertook law enforcement examinations of protected areas within their administrative jurisdictions, focusing on mining and exploration activities and tourism development activities. Consequently, punitive measures were taken against illegal activities found in 140 sites of national-level protected areas (core areas and buffer zones).

The seven departments of forestry, public security, customs, quality supervision and justice, in collaboration with dozens of Asian and African countries and many international organizations, undertook an intercontinental and multi-country law enforcement action called the Rattle Snake No.3. The Ministry of Public Security (MPS) reinforced regional cooperation and multi-scale investigations of criminal activities against wild animals and plants. In collaboration with the forest police, MPS has cracked down a number of smuggling and illegal purchasing cases and criminal groups, such as major cases of smuggling, shipping, illegal purchases and sales of endangered animals in Xuzhou and Yancheng, Jiangsu Province and Huludao, Liaoning Province. The Ministry of Housing and Urban-Rural Development has established remote-sensing monitoring of all 225 national-level scenic spots across the country. The Ministry of Agriculture has investigated and penalized more than 720 cases of illegal collection of wild plants from grasslands as well as rampant harvesting or collection of herbal plants in grasslands. The State Customs Administration (SCA) has organized a number of activities named the Border Gate Shield to crack down on smuggling of endangered species and investigated and penalized a group of major smuggling cases. In collaboration with SFA, the SCA has organized the public burning of ivories confiscated from law enforcement activities and cracked down on smuggling of endangered animals and plants focusing on ivory smuggling. In collaboration with German Border Control, SCA has detected one major case of illegal smuggling of endangered plants, which related to over 1,500 individuals plants of Ariocarpus fissuratus. The State Industry and Commerce Administration (SICA) strengthened law enforcement activities against illegal businesses in endangered wild marine animals and their products and issued a Notice on Further Strengthening the Protection of Wild Marine Animals. SICA and its local administrations have investigated and penalized altogether 107 cases of violating laws or regulations on protection of wild animals and plants. The State General Administration of Quality Supervision, Inspection and Quarantine has issued a Guidance on Strengthening the Examination and Quarantine of Imported and Exported Biological Resources and developed technical standards for verification of imported and exported biological resources. This authority has organized specialized actions against illegal carrying and mailing of plant seeds and seedlings into China, having intercepted more than 80,000 kg of seeds and seedlings in 22,000 batches. In 2016, ports across the country have intercepted 6,305 harmful species in 1.22 million batches, effectively ensuring the biological safety from the border control.

Aichi Biodiversity Target(s)

9. Invasive Alien Species
12. Preventing extinctions
13. Agricultural biodiversity

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Inadequate conservation infrastructure construction.

Though some national-level protected areas in China have followed standardized development, however overall conservation capacities and infrastructure construction for protected areas are still weak. At present, the resources of wild medicinal plants in China continue to decline. The wild populations of important medicinal plants such as Panax notoginseng and Panax ginseng are very rare. It is urgent to establish a medicinal plant resource conservation facility to rescue precious wild medicinal plant resources. The Chinese botanical garden system and the wild animal breeding system are yet to be improved, and the capacity of collecting and preserving important crop germplasm resources is also insufficient. Scientific and technical support capacities are yet to be further enhanced. Techniques are still short for the prevention and control of invasive alien species and examining the imported and exported biological resources and specie. EN

Scientific and technical needs:
Technologies for development of alternatives for rare and endangered species;
Technology for artificial cultivation of wild Chinese medicinal herbs;
Technology for artificial breeding of wild economic animals;
Technologies for excavation, sorting, detection, cultivation and trait evaluation of biological genetic resources;
Construction of technical platform for gene function analysis and application.

Science, research, education and training on biodiversity have been strengthened.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

China has arranged the survey and collection of and sharing platform for animals, plants, micro-organisms and timber germplasm resources, while establishing sharing platforms for natural science resources. The Ministry of Science and Technology (MOST), together with MEP and SFA, organized a Key Research and Development Program on Conservation and Restoration of Typical Vulnerable Ecosystems, and established a platform for DNA barcoding of endangered plants. Through specialized fiscal transfers and relevant department budgets, the Ministry of Finance allocates funds on an annual basis for the national forestry protected areas and the protection of rare, endangered wild animals, with focus on establishment and management of protected areas, biodiversity survey, communication and education, international cooperation and the protection of rare, endangered wild animals. Funds are also provided to the species protection, mainly for supporting the protection of endangered aquatic animals and plants as well as wild agricultural crops. The Ministry of Land Resources undertook studies on the restoration of biodiversity in reclaiming open coalmines. The Ministry of Environmental Protection has implemented a number of research projects focusing on biodiversity conservation priority areas and management of national-level protected areas. The Ministry of Agriculture has initiated studies and demonstration projects on protection and use of wild agricultural plant resources and techniques for comprehensive prevention and control of invasive alien plants. The State Administration on Chinese Medicine has undertaken technical studies on the traditional knowledge related to Chinese medicine. The Chinese Academy of Sciences has initiated the development of strategic biological resources networks and completed the construction of four resources collection and preservation platforms for botanical gardens, specimens’ museums, gene resources banks and biodiversity monitoring and research. CAS has also completed the construction of three assessment and transformation platforms for plant germplasm, biological resources derivatives bank and natural active compounds. The comprehensive information network integrating resources such as animals, plants, microorganisms, and specimens is realized, which has played an important role in the collection, preservation, protection and utilization of biological resources in China, and supporting the sustainable development of the national economy. Meanwhile, through the youth talent development project, special training, academic conferences and other exchange activities played an important role in talent training. The Ministry of Education (MOE) also strengthens the development of biodiversity-related disciplines and supports the innovation and talent development in the field of biodiversity, by giving institutions of higher education more authority to establish their own majors and subjects in this regard. China now has a total of 396 institutions that can award PhD degrees and 497 institutions that can award master’s degrees related to biodiversity. Over 140 institutions of higher education have established more than 700 subjects related to biodiversity. The number of	EN

graduate students from biodiversity-related majors has been increasing year by year, and by 2013 the number has reached about 100,000.
In recent years, China has implemented a series of major plans to attract talents in the field of biodiversity, such as the Thousand Experts Plan and the Yangtze River Scholars Plan, with a view to attracting and fostering a group of head or leading scientists in the field of biodiversity research and advancing national key research areas up to the international level.

Aichi Biodiversity Target(s)

1. Awareness of biodiversity values
19. Biodiversity knowledge

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: Scientific and technical support capacities are yet to be further enhanced

With the national science and technology support plan, some initial results have been achieved in the studies on ecosystem function maintenance mechanisms, mechanics causing species endangerment and small populations maintenance mechanisms. Phase progress has been also made in biodiversity inventorying, however there are gaps and weaknesses. For example, baseline data for biodiversity are inadequate. The level of development and application of genetic resources is still low and systematic assessments of a large number of germplasms collected are lacking. The technical level for genotypic identification at molecular level is low and techniques are still short for the prevention and control of invasive alien species and examining the imported and exported biological resources and species. Fundamental research and technology development for biodiversity conservation need to be further strengthened.

Scientific and technical needs:

Assessment of biodiversity values and compensation mechanisms
Indicator system and method for assessing the values of ecosystem services and species diversity;
Indicators and methods for assessing biological genetic values;
Means and mechanisms for commercialization of biodiversity values;
Benefit-sharing mechanisms for biological genetic resources and associated EN

traditional knowledge;
Ecological compensation mechanisms and means of financing.
Decision-making for biodiversity conservation and management
Comprehensive analysis model of biodiversity changes;
Policy tools such as multi-objective decision analysis, optimal spatial planning and strategic environmental assessment;
Scenario design tools and methods based on land use and conservation objectives;
Development of biodiversity scenario analysis system;
Development of indicator systems and methods for assessing progress in biodiversity conservation objectives;
Development of decision-making support systems for target setting for biodiversity conservation and progress assessment.

Communication and education and public participation have been constantly upgraded.

Measures taken to contribute to the implementation of your country's national biodiversity strategy and action plan

China has been actively organizing the China Action for the United Nations Decade of Biodiversity. MEP together with MLR and MOA and a few other departments organized a meeting to celebrate the 60th anniversary of establishment of protected areas in China as well as the International Day of Biodiversity, awarding those groups and individuals that have contributed significantly to the work related to protected areas. Together with CAS, MEP has launched China Biodiversity Red List-Higher Plants Volume and Vertebrates Volume as well as Macrofungi Volume. The Ministry of Ecology and Environment (MEE) in collaboration with the Ministry of Natural Resources, the Ministry of Agriculture and Rural Affairs and the Ministry of Water Resources and other relevant ministries and departments undertook a specialized action called "Green Shield" for examining and supervising the management of protected areas, including through expanding channels and scopes of public participation in the action by setting up specialized phone lines and WeChat accounts. MOST together with other departments has issued an Overview of Scientific and Technological Innovations in Ecological Conservation in the Past Decade, launched many practical technological results and achieved "double harvests" in accelerating application of scientific and technological results and promoting environmental treatment. The Ministry of Education organized over 30 on-line courses or sharing of excellent educational resources related to biodiversity and ecology conservation such as "Biodiversity and Conservation", "Conservation Biology" and "Ecology and Sustainable Development". Biodiversity-related contents have been incorporated into curricula for middle and high schools. Biodiversity is one of ten topics covered in the biology subject for middle schools. Curriculum standards for	EN

science for primary schools have been revised to specify relevant teaching requirements and to increase the awareness of biodiversity conservation. The Ministry of Land Resources organized lectures on concepts and methods for biodiversity conservation in land remediation, using events held for the celebration of the Earth Day (April 22), Land Day (June 25) and National Day for Science Popularization. The Ministry of Housing and Urban-Rural Development (MHURD) compiled and issued a Report on the State of World Natural Heritages in China (1985-2015), which presents China's achievements in protecting the world's natural heritages in China. On International Day of Biodiversity (May 22), the Ministry of Agriculture organized communication activities on grassland biodiversity conservation for building ecological civilization and beautiful China. MOA also organized a monthly communication activity (Caring for Aquatic Animals in Common Efforts to Build Harmonious Homeland) for popularizing sciences related to protection of aquatic animals and a series of thematic communication activities on the World Turtle Day, as well aquatic life proliferation and release activities on the National Fish Release Day (6 June) in various parts of the country. The State General Administration of Quality Supervision, Inspection and Quarantine set up a Branch Museum on Biosafety Gate in National Zoological Museum and Shanghai Natural History Museum, respectively. 1.88 million biosafety knowledge cards have been put in flights of five major airlines. The State Administration on Journalism, Publishing, Television and Radio reports on key work and results related to biodiversity conservation across the country as well as relevant developments at international level, through TV and radio programmes such as News Live, Central Radio News and News and Newspapers Digest. Specialized programmes such as "Focus on Ecological Conservation in South China Sea", and "Initiating a Love Journey" as well as some public benefits ads are used to popularize biodiversity-related knowledge. A huge amount of biodiversity-related information is released through public WeChat accounts, weibo and websites. The State Forestry Administration organized a press conference to release the result of the fourth national survey on giant pandas, officially announcing the number of wild giant pandas. SFA also organized thematic communication activities on Day for Wild Animals and Plants, International Wetland Day and International Forest Day. The Chinese Academy of Sciences has held 14 sessions of the Public Science Day in the country, including opening to the public a series of venues such as the Plant Science Museum and the Seed Museum, as well as a large number of national key laboratories, botanical gardens, and large scientific devices related to biological protection and utilization. Meanwhile face-to-face communication with the public through lectures, reports, open classes, live lectures, etc., plays an important role in disseminating biodiversity conservation knowledge to the public, improving public awareness of environmental protection, and promoting harmony between man and nature. In addition, a special science popularization campaign on Vegetation and Environmental Protection was held. A series of high-quality and thought-provoking science popularization articles or books on biodiversity conservation

have been published, such as “Eulogy to Orchid” and “Seed Ark”. The State Administration on Chinese Medicine organized a photo exhibit on Chinese medicinal diversity on 22 May, with the theme on “Chinese medicine as source of health”. The eco-column in Guangming Daily has published columns related to biodiversity for many years, promoted activities such as “Forest China-Looking for China’s Ecological Heroes” as well as a series of activities celebrating the International Day of Biodiversity including publishing special issues on IDB. In “China’s Popular Science Channel”, micro-video programmes were produced to introduce China’s Species Red List.

Aichi Biodiversity Target(s)

1. Awareness of biodiversity values

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

Case Study 2.15.docx EN

Obstacles and scientific and technical needs related to the measure taken

Obstacles: The public awareness and participatory capacities are yet to be upgraded.
Some local governments and sectoral departments have not fully recognized the importance of biodiversity conservation. Their mindset of giving priority to economic development and less to ecological conservation still prevails. Some local governments have not implemented their responsibilities in this regard. They promote economic development at the cost of biodiversity once there is any conflict between economic development and biodiversity conservation. Some enterprises or companies are not enthusiastic about participating in biodiversity conservation. For some citizens, the biodiversity awareness and their motivation to participate are relatively low.

Scientific and technical needs:
Expanding platforms for public participation in biodiversity conservation.

EN

International exchanges and cooperation constantly deepened.

Measures taken to contribute to the implementation of your country’s national biodiversity strategy and action plan

The Government of China has been actively implementing international treaties such as the Convention on Biological Diversity, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable sharing of Benefits Arising from their Utilization and the Cartagena Protocol on Biosafety. China has participated in all meetings of the Conference of the Parties of the Convention and its Protocols. Chinese scientists have played key roles in the implementation of the Global Strategy for Plant Conservation. They delivered reports at the Global Plant Conservation Partnership Conference and China and three other countries have been awarded as leading countries in the GSPC implementation. China has participated in meetings on crackdown on crimes related to wild animals organized by INTERPOL in Singapore and Czechia. China actively participated in “Rattle Snake No.3 Action” and organized crackdown on crimes related to wild animals in key areas. China has established bilateral cooperative mechanisms such as those between China and Central and Eastern Europe, and between China and ASEAN. The Chinese Academy of Sciences has established a Science and Education Center for Southeast Asia to strengthen collaborative researches with some southeast Asian countries such as Myanmar, Thailand, Lao DPR, Cambodia and Vietnam in the field of biodiversity sciences, traditional medicine and ethnic botany, sustainable use of biological resources, changes in ecosystems and the environment as well as river basin management and transboundary water area management and aquatic biodiversity conservation. This has effectively enhanced local capacities for science and technology and education. China has indicated that ecological conservation projects should be part of its international aid where appropriate, and ecological conservation will be one priority area for China’s aid to countries of northeast Asia, eastern and southern Africa, and central and western Africa. Biodiversity conservation equipment will be provided to some African countries such as Botswana and Zimbabwe. China has signed 40 agreements on forestry cooperation with 33 countries and provided training on forestry for 3,000 participants from 106 developing countries. Cooperative researches on giant pandas with 7 countries have been initiated. China has signed project agreements with the Norwegian Embassy in China on cooperation in biodiversity and climate change and mainstreaming biodiversity and ecosystem services into decision-making processes in China. Initial research project has been undertaken in the ecological restoration and biodiversity conservation following the earthquake in Ya’an, Sichuan Province. China has organized a series of international academic meetings and workshops, such as training workshops on wild animal and plant protection in Africa and CITES implementation, a workshop on biodiversity data sharing for Asia, the fifth international workshop on synthetic zoology, the 13th international conference of microbe culture preservation, the fifth international meeting on life barcoding, and training workshops on biodiversity conservation and management for developing countries.	EN

Aichi Biodiversity Target(s)

19. Biodiversity knowledge

Assessment of the effectiveness of the implementation measure taken in achieving desired outcomes

Measure taken has been effective

tools or methodology used for the assessment of effectiveness above

Tools or methodology used for the assessment of effectiveness.docx EN

Other relevant information

Case Study 2.16.docx

Case Study 2.17.docx

Case Study 2.18.docx EN

Section III. Assessment of progress towards each national target

1. Awareness of biodiversity values

2018 - On track to achieve target

Targets

1. Awareness of biodiversity values

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Baidu Search, websites of MEP, MOA and other relevant ministries. EN

Indicators and Activities

Indicator(s)used in this assessment

Items related to biodiversity searched through Baidu in different years. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 1.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

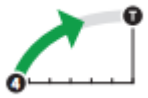
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Checking regular updates provided by Baidu?https://www.baidu.com?. EN

2. Integration of biodiversity values



2018 - On track to achieve target

Targets

2. Integration of biodiversity values

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Websites of MEP, MOA and other relevant ministries. EN

Indicators and Activities

Indicator(s)used in this assessment

Number of national and sectoral policies related to conservation and sustainable use of biodiversity. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 2.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

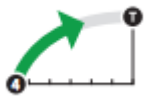
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Extracted from websites of relevant ministries and departments. EN

3. Incentives



2018 - On track to achieve target

Targets

3. Incentives

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Websites of MEP, MOA and other relevant ministries, China Agricultural Yearbook, China’s Report on the State of the Environment and Ecology. EN

Indicators and Activities

Indicator(s)used in this assessment

Number of ecological compensation and other relevant policies adopted at national and provincial levels;

Number of systems of liability for environmental/ecological damages adopted at national and provincial levels;
National investment into ecological conservation;
Number of counties in national key ecological function zones receiving fiscal transfers and investments.

EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx

EN

Relevant websites, links, and files

Target 3.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate.

EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Statistical data from MEP and MOA and other relevant ministries updated annually.

EN

4. Use of natural resources

2018 - On track to achieve target

Targets

4. Use of natural resources

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

China’s Report on the State of the Environment and Ecology, Statistical Bulletin of National Socio-economic Development, Global Footprint Network. EN

Indicators and Activities

Indicator(s)used in this assessment

Pollutant discharging amount per GDP unit,

Energy consumption per GDP unit;
Percentage of clean energy used;
Ecological footprints. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 4.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

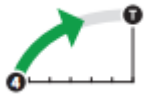
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Environmental monitoring data from MEP and statistical data from the State Statistics Bureau, updated annually. EN

5. Loss of habitats



2018 - On track to achieve target

Targets

5. Loss of habitats

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Remote-sensing survey and assessment of national ecological changes (2010-2015), national census on forest resources, national census on wetland resources, national census on grassland resources, China Forestry Statistical Yearbook, China’s Report on the State of Land Degradation and Desertification, and Wetland China website. EN

Indicators and Activities

Indicator(s)used in this assessment

Total timber standing stock; Natural forest area; Net primary productivity of forest ecosystems; Wetland ecosystem area; Ggrassland ecosystem area; Area of degraded and desertified land.	EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx	EN

Relevant websites, links, and files

Target 5.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate.	EN

6. Sustainable fisheries

2018 - Progress towards target but at an insufficient rate

Targets

6. Sustainable fisheries

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

UN FAO website, China’s Report on the State of the Marine Environment, and China Biodiversity Red List: Vertebrates Volume. EN

Indicators and Activities

Indicator(s)used in this assessment

Marine trophic index;

Fish Red List Index;
Marine biodiversity index;
Area covered by fishing bans out of the total inland waters and marine areas. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 6.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

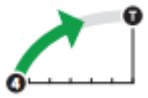
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Statistical data from MOA, data from scientific assessments. EN

7. Areas under sustainable management



2018 - On track to achieve target

Targets

7. Areas under sustainable management

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Websites of MOA, SFA and other relevant ministries and commissions, China Forestry Statistics Yearbook, National Grassland Monitoring Report, World Organic Farming Yearbook. EN

Indicators and Activities

Indicator(s)used in this assessment

Percentage of organic farming area out of agricultural land area; EN

Area of national public benefits forests;
Total fresh grass output from natural grasslands;
Livestock overload rate of natural grasslands.

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 7.docx

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Partially adequate (covering sustainable agriculture and forest management). EN

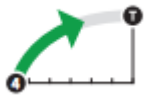
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Percentage of organic farming land area out of agricultural land area is obtained from the World Organic Agriculture Yearbook published by FiBL of Switzerland, updated every year; area of national public benefits forests from China Forestry Statistics Yearbook, updated annually; livestock overload rate of natural grasslands is from National Grassland Monitoring Report, updated annually. EN

8. Pollution



2018 - On track to achieve target

Targets

8. Pollution

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

China Environment Statistics Yearbook, China’s Report on the State of the Environment and Ecology, China Agriculture Yearbook, China Agricultural Statistics Data, China Research Report on Thermal Power Sector and Monthly Bulletin on Surface Water Quality.	EN

Indicators and Activities

Indicator(s)used in this assessment

Discharge of major pollutants, the assembly capacity of flue gas desulfurizer and its proportion of the capacity of all thermal power units, the comprehensive utilization rate of crop straw, the annual output and overall pool capacity of agricultural waste disposal, the total pool capacity of the village-level domestic sewage treatment using biogas tanks, rate of compliance with water quality standard for integrated drinking water sources for cities, percentage of water bodies with water quality meeting Classes I-III standards, and the nitrogen surplus.	EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx	EN

Relevant websites, links, and files

Target 8.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

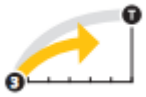
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Statistical data from relevant ministries and commissions, from relevant scientific assessments. EN

9. Invasive Alien Species



2018 - Progress towards target but at an insufficient rate

Targets

9. Invasive Alien Species

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Invasive Alien Species in China (revised), websites of MEP, MOA and other relevant ministries EN

Indicators and Activities

Indicator(s)used in this assessment

The number of newly discovered invasive alien species per decade;

The number and species of pests intercepted at the ports;
The number of published risk assessment standards for invasive alien species. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 9.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

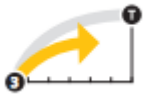
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Statistical data from relevant ministries and commissions, from relevant scientific assessments, updated regularly. EN

10. Vulnerable ecosystems



2018 - Progress towards target but at an insufficient rate

Targets

10. Vulnerable ecosystems

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Website of National Development and Reform Commission. EN

Indicators and Activities

Indicator(s)used in this assessment

Carbon emission per GDP unit. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 10.docx

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Partially adequate. EN

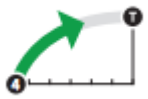
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Statistical data from the website of NDRC, updated annually. EN

11. Protected areas



2018 - On track to achieve target

Targets

11. Protected areas

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

China’s Report on the State of the Environment and Ecology, China Report on Forestry Development, China Forestry Statistics Yearbook, National Statistical Bulletin on Forestry Economic Development, China Agriculture Yearbook, China Communique on Scenic Spot Development, the State Council Notice on the Ninth List of National-level Scenic Spots, websites of MEP, MOA and BIP. EN

Indicators and Activities

Indicator(s)used in this assessment

Number and area of nature reserves, percentage of protected areas within terrestrial biodiversity priority conservation areas, number and area of scenic spots, number and area of forest parks, number of protected areas for aquatic germplasm resources, percentage of marine special protected areas out of the marine areas under China’s jurisdiction, ecological representativeness index of protected areas EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 11.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

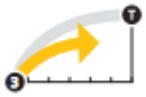
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Statistical data from the websites of MEP, MLR, MOA, SFA, SOA, MHRU and other relevant ministries, updated annually, shared data from BIP. EN

12. Preventing extinctions



2018 - Progress towards target but at an insufficient rate

Targets

12. Preventing extinctions

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

Progress towards target but at an insufficient rate

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

China Biodiversity Red List-Vertebrates Volume, China Species Red List, Living Planet Report-China 2015 and database from Birdlife International. EN

Indicators and Activities

Indicator(s)used in this assessment

Red List Index, Living Planet Index. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 12.docx

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Partially adequate (covering status of endangerment, changes in species abundance) EN

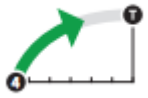
Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Based on reports of scientific assessments. EN

13. Agricultural biodiversity



2018 - On track to achieve target

Targets

13. Agricultural biodiversity

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

China Agriculture Yearbook, websites of MEP, MOA and other relevant ministries. EN

Indicators and Activities

Indicator(s)used in this assessment

Number of protected areas (points) for agricultural wild plant habitats;

Quantity of crop genetic resources;
Quantity of livestock genetic resources;
Quantity of forest genetic resources.

EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx

EN

Relevant websites, links, and files

Target 13.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate.

EN

Adequacy of monitoring information to support assessment

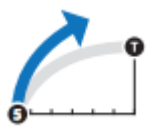
Monitoring related to this target is adequate

Monitoring system for the target

Statistical data from relevant ministries, updated regularly.

EN

14. Essential ecosystem services



2018 - On track to exceed target

Targets

14. Essential ecosystem services

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to exceed target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

China Statistics Yearbook, Monitoring Report on Social and Economic Benefits of National Key Forestry Projects, Remote-Sensing and Assessment Report of ten-year changes in the ecological environment (2000-2010) and five-year changes in the ecological environment (2010-2015), Global Biodiversity Indicators Partnership. EN

Indicators and Activities

Indicator(s)used in this assessment

Ecological regulating and goods provisioning services of terrestrial ecosystems;

Ocean Health Index;
Per capita net income of rural households;
Number of poor population in key ecological project areas. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 14.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate (also taking into account the balance of ecosystem services and the EN

fairness of target groups).

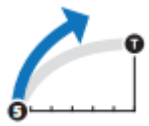
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Remote-sensing survey and assessment of ecosystem services, updated every five years; Ocean Health Index from BIP, per capita net income of rural households from the State Statistics Bureau; number of poor population in key ecological project areas from the Monitoring Report on Social and Economic Benefits of National Key Forestry Projects, updated every year. EN

15. Ecosystem resilience



2018 - On track to exceed target

Targets

15. Ecosystem resilience

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to exceed target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Monitoring Report on Social and Economic Benefits of National Key Forestry Projects, National Grassland Monitoring Report. EN

Indicators and Activities

Indicator(s)used in this assessment

Forest coverage rate, forest stocks, grassland vegetation coverage rate, and carbon sequestration of key ecological project areas. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 15.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate (also taking into account the status of restoration of forest, grassland and water ecosystems). EN

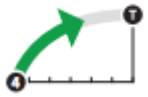
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Forest coverage rate and forest stocks of key ecological project areas from the Monitoring Report on Social and Economic Benefits of National Key Forestry Projects, updated every year. Grassland vegetation coverage rate of key ecological project areas from the Grassland Monitoring Report issued by MOA, updated annually. Carbon sequestration of terrestrial ecosystems from relevant scientific assessments. EN

16. Nagoya Protocol on ABS



2018 - On track to achieve target

Targets

16. Nagoya Protocol on ABS

Category of progress towards the implementation of the selected target

Date the assessment was done

30 Jun 2018

Level of confidence

Level of confidence of the above assessment

Based on expert opinion

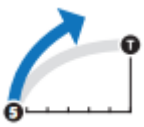
Level of confidence of the above assessment

Adequate. EN

Adequacy of monitoring information to support assessment

Monitoring is not needed

17. NBSAPs



2018 - On track to exceed target

Targets

17. NBSAPs

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to exceed target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Website of MEE. EN

Indicators and Activities

Indicator(s)used in this assessment

Number of provinces that have developed provincial biodiversity strategies and action plans. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 17.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

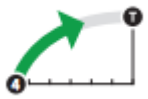
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Website of MEE, updated annually. EN

18. Traditional knowledge



2018 - On track to achieve target

Targets

18. Traditional knowledge

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Website of culture and tourism departments, 110 website-Chinese medicine-laws and regulations, website of China’s Geographical Indication. EN

Indicators and Activities

Indicator(s)used in this assessment

Number of applications for related non-tangible cultural heritages;

Number of laws and regulations related to Chinese medicine;
Number of products with recognized geographical indications. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 18.docx

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Partially adequate (covering non-tangible cultural heritages, laws and regulations related to Chinese medicine, traditional knowledge such as certified geographical indications. EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Number of applications for non-tangible cultural heritages from relevant bulletins issued by the State Council, number of recorded laws and regulations related to Chinese medicine from 110 website-Chinese medicine-laws and regulations, number of certified products of geographical indication from the website of China's Geographical Indication. EN

19. Biodiversity knowledge

2018 - On track to achieve target

Targets

19. Biodiversity knowledge

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

The Chinese Knowledge Network (www.cnki.net), ISI Web of Science, GBIF?https://www.gbif.org?, websites of MEP, MOA and other relevant ministries. EN

Indicators and Activities

Indicator(s)used in this assessment

Number of academic articles/papers published on biodiversity conservation; Items related to China's biodiversity searched through Baidu in different years;

Percentage of national R &D investment in GDP;
Number of patent applications related to biodiversity research;
Records of species occurrence. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 19.docx

Level of confidence

Level of confidence of the above assessment

Based on comprehensive indicator information

Level of confidence of the above assessment

Adequate. EN

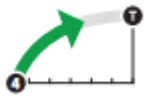
Adequacy of monitoring information to support assessment

Monitoring related to this target is adequate

Monitoring system for the target

Data from websites of relevant ministries, citations databases, patent databases, updated annually. EN

20. Resource mobilization



2018 - On track to achieve target

Targets

20. Resource mobilization

Category of progress towards the implementation of the selected target

Rate of progresses toward the implementation of the selected target

On track to achieve target

Date the assessment was done

30 Jun 2018

Summary of the assessment of progresses toward the implementation of the selected target

Relevant websites and documents. EN

Indicators and Activities

Indicator(s)used in this assessment

National and provincial investments in ecological conservation. EN

Any other tools or means used for assessing progress.

Tools or means used for assessing progress.docx EN

Relevant websites, links, and files

Target 20.docx

Level of confidence

Level of confidence of the above assessment

Based on partial indicator information and expert opinion

Level of confidence of the above assessment

Partially adequate (only covering subsidies and compensations for forest and grassland ecological conservation). EN

Adequacy of monitoring information to support assessment

Monitoring related to this target is partial (e.g. only covering part of the area or issue)

Monitoring system for the target

Statistical data from websites of relevant ministries. EN

Section IV. Description of national contribution to the achievement of each global Aichi Biodiversity Target

1. Awareness of biodiversity values

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has been actively organizing the China Action for the United Nations Decade of Biodiversity. MEP together with MLR and MOA and a few other departments organized a meeting to celebrate the 60th anniversary of establishment of protected areas in China as well as the International Day of Biodiversity, awarding those groups and individuals that have contributed significantly to the work related to protected areas. Together with CAS, MEP has launched China Biodiversity Red List-Higher Plants Volume and EN

Vertebrates Volume as well as Macrofungi Volume. The Ministry of Ecology and Environment (MEE) in collaboration with the Ministry of Natural Resources, the Ministry of Agriculture and Rural Affairs and the Ministry of Water Resources and other relevant ministries and departments undertook a specialized action called “Green Shield” for examining and supervising the management of protected areas, including through expanding channels and scopes of public participation in the action by setting up specialized phone lines and WeChat accounts. MOST together with other departments has issued an Overview of Scientific and Technological Innovations in Ecological Conservation in the Past Decade, launched many practical technological results and achieved “double harvests” in accelerating application of scientific and technological results and promoting environmental treatment. The Ministry of Education organized over 30 on-line courses or sharing of excellent educational resources related to biodiversity and ecology conservation such as “Biodiversity and Conservation”, “Conservation Biology” and “Ecology and Sustainable Development”. Biodiversity-related contents have been incorporated into curricula for middle and high schools. Biodiversity is one of ten topics covered in the biology subject for middle schools. Curriculum standards for science for primary schools have been revised to specify relevant teaching requirements and to increase the awareness of biodiversity conservation. The Ministry of Land Resources organized lectures on concepts and methods for biodiversity conservation in land remediation, using events held for the celebration of the Earth Day (April 22), Land Day (June 25) and National Day for Science Popularization. The Ministry of Housing and Urban-Rural Development (MHURD) compiled and issued a Report on the State of World Natural Heritages in China (1985-2015), which presents China’s achievements in protecting the world’s natural heritages in China. On International Day of Biodiversity (May 22), the Ministry of Agriculture organized communication activities on grassland biodiversity conservation for building ecological civilization and beautiful China. MOA also organized a monthly communication activity (Caring for Aquatic Animals in Common Efforts to Build Harmonious Homeland) for popularizing sciences related to protection of aquatic animals and a series of thematic communication activities on the World Turtle Day, as well aquatic life proliferation and release activities on the National Fish Release Day (6 June) in various parts of the country. The State General Administration of Quality Supervision, Inspection and Quarantine set up a Branch Museum on Biosafety Gate in National Zoological Museum and Shanghai Natural History Museum, respectively. 1.88 million biosafety knowledge cards have been put in flights of five major airlines. The State Administration on Journalism, Publishing, Television and Radio reports on key work and results related to biodiversity conservation across the country as well as relevant developments at international level, through TV and radio programmes such as News Live, Central Radio News and News and Newspapers Digest. Specialized programmes such as “Focus on Ecological Conservation in South China Sea”, and “Initiating a Love Journey” as well as some public benefits ads are used to popularize biodiversity-related knowledge. A huge amount of biodiversity-related information is released through public WeChat accounts, weibo and websites. The State Forestry Administration organized a press conference to release the result of the fourth national

survey on giant pandas, officially announcing the number of wild giant pandas. SFA also organized thematic communication activities on Day for Wild Animals and Plants, International Wetland Day and International Forest Day. The Chinese Academy of Sciences has held 14 sessions of the Public Science Day in the country, including opening to the public a series of venues such as the Plant Science Museum and the Seed Museum, as well as a large number of national key laboratories, botanical gardens, and large scientific devices related to biological protection and utilization. Meanwhile face-to-face communication with the public through lectures, reports, open classes, live lectures, etc., plays an important role in disseminating biodiversity conservation knowledge to the public, improving public awareness of environmental protection, and promoting harmony between man and nature. In addition, a special science popularization campaign on Vegetation and Environmental Protection was held. A series of high-quality and thought-provoking science popularization articles or books on biodiversity conservation have been published, such as “Eulogy to Orchid” and “Seed Ark”. The State Administration on Chinese Medicine organized a photo exhibit on Chinese medicinal diversity on 22 May, with the theme on “Chinese medicine as source of health”. The eco-column in Guangming Daily has published columns related to biodiversity for many years, promoted activities such as “Forest China-Looking for China’s Ecological Heroes” as well as a series of activities celebrating the International Day of Biodiversity including publishing special issues on IDB. In “China’s Popular Science Channel”, micro-video programmes were produced to introduce China’s Species Red List.

2. Integration of biodiversity values

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

Requiring governments of all levels to undertake ecological conservation and biodiversity conservation taking into account their local circumstances, and to incorporate biodiversity into their long-term and medium term development planning. The second session of the 12th National People’s Congress held in April 2013 reviewed the State Council Report on Development and Adoption of Ecological Compensation Mechanisms and required that recommendations would be developed for improving mechanisms for ecological compensation. The State Council Recommendations on Major Policy Measures to Support Revival of Northeast China require that establishment of important ecological function areas will be promoted, implementation of natural forest protection projects continued, key wetlands in Three-River Plain and Songliao Plain protected and the project of ecological water supply to wetlands in river basins be implemented. In 2015, the Central Committee of CPC and the State Council issued the Recommendations on Accelerating Development of Ecological Civilization and the Master Proposal for Institutional Reforms Related to Ecological Civilization, which provides a master plan and overall arrangements for institutional reforms related to

EN

ecological civilization development for a considerable time of period in the future. The Central Committee of the Chinese Communist Party and the State Council made a decision to win the fight against poverty and identified ecological poverty reduction as one of important measures to fight against poverty. To this end, the governments are required to implement a series of major ecological projects, give project and funding priorities to poverty-stricken areas and require these areas to enhance ecological restoration. Also issued in 2015 were the Rule for Accountability of Party and Government Officials for Environmental/ecological Damages, as well as a Proposal for Pilot Reforms in the Compensation System for Environmental/ecological Damages. The State Council Recommendations on Improving Ecological Compensation Mechanisms issued in 2016 was the first such specialized document issued by the State Council on ecological compensation. This is the top-level design for ecological compensation and a guidance document for ecological compensation in key sectors and regions and inter-region compensation. The State Council Notice on Proposals for Wetland Conservation and Restoration System requires that the use of wetlands must be strictly supervised and regulated to ensure that wetland areas will not be reduced, and wetland ecological functions will be increased for conservation of wetland biodiversity.

Since 2011, relevant departments have issued many sectoral policies and regulations concerning the conservation and sustainable use of biodiversity (Figure 3.4). For example, the National Development and Reform Commission together with relevant departments has developed the Guidance on Supervising and Managing Environmental/natural Resources Red Lines, as well as Recommendations for Promoting Green Consumption. The Ministry of Finance issued a Notice on Another Round of Reclaiming Farmlands for Forest Lands, and a Notice on Promoting Ecological Restoration of Mountain, Aquatic, Forest, Agricultural and Lake Ecosystems. The Ministry of Agriculture issued a Notice on Strengthening Grassland Ecological Improvement, and a Notice on Further Regulating the Release of Aquatic Species for Proliferation, as well as a Notice on Further Strengthening the Management of Protection of the Finless Porpoise. The Ministry of Housing and Urban-Rural Development has issued a Notice on Further Strengthening Development and Management of Parks and a Guidance on Strengthening Ex-situ Conservation of Plant Resources in Botanical Gardens. The Ministry of Environmental Protection promulgated Recommendations on Strengthening Environmental Protection and Management in Key National Ecological Function Zones, a Notice on Circulating the National Programme on Management of Genetic Resources and a Notice on Strengthening Supervision and Management of Development Activities Related to Protected Areas. The State General Administration of Quality Supervision, Inspection and Quarantine issued a Notice on Survey of Biological Resources in Trade and a Guidance on Strengthening Examination and Quarantine of Imported and Exported Biological Resources. The State Forestry Administration circulated a Notice on Pilot Management of Sustainable Business of Forest Resources and a Notice on Further Strengthening the Management of Protected Areas under Forestry Administration.

3. Incentives

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has developed relevant policies for ecological compensation, constantly reinforced fiscal transfers to important ecological function zones and increased investments into forest ecological compensation, grassland ecological conservation subsidies and wetland ecological compensation. The Government of China is actively developing a compensation system for environmental/ecological damages, and gradually establishing a system of compensation and restoration of environmental/ ecological damages by specifying the scope of compensation, who is responsible for compensation, who can claim compensation and means of compensation for damages. The State Council Recommendations on Improving Ecological Compensation Mechanisms issued in 2016 proposed that by 2020, ecological compensation will achieve full coverage, including forests, grasslands, wetlands, deserts, seas and oceans, rivers, farmlands as well as development-forbidden areas and important ecological function zones, and that the compensation level will be consistent with the level of social and economic development. Now obvious progress has been made in pilot work in compensation between regions and river basins concerned. Multiple-channel compensation mechanisms are being established. An ecological compensation system with the Chinese characteristics has been basically established to promote green production and consumption patterns. In 1998, Guangdong Province issued Provincial Rules for Public Benefits Forest Management and Benefits Compensation, which was the first among China’s provinces. Thereafter, other provinces (autonomous regions, province-level municipalities) also adopted their ecological compensation policies (Figure 3.6). Since the 11th five-year period, a total of 22 provinces have adopted policies for ecological compensation within the province and in trans-provincial river basins. The central government has been promoting ecological compensation among the provinces. In 2010, the first pilot work in ecological compensation among the provinces was initiated in Xin’anjiang River Basin, and the pilot policy has achieved good environmental and social benefits. In 2011, six cities and one region along the Wei River in Shaanxi and Gansu Provinces signed in Xi’an a framework agreement on city alliance for environmental protection of Wei River Basin. In March 2016, with the promotion of the Ministry of Environmental Protection and the Ministry of Finance, Guangdong Province, Fujian Province and Guangxi Autonomous Region signed a compensation agreement for maintaining good water environment between Ting River and Han River and between the upper and the lower reaches of Jiuzhou River. In October 2016, Jiangxi Province and Guangdong Province Governments signed an Ecological Compensation Agreement for the Upper and the Lower Reaches of Dongjiang River Basin. Beijing allocated specialized funds to support the project of changing rice fields to dry land use in Zhangjiakou and Chengde, Hebei Province, which are located at the upper reaches of Miyun Reservoir. In addition, water source forest of 66,700 hectares was fostered in neighboring counties and cities. Tianjin and Hebei Province have reached an Agreement on Environmental	EN

Compensation for Deviating Water from Luan River to Tianjin.

Various provinces have been exploring the water environmental compensation among river basins and adopted various compensation models. Among them, Hebei, Shanxi, Liaoning, Jiangsu, Fujian, Jiangxi and Guangdong are the first among provinces that have implemented ecological compensation in river basins within the province. In addition, Jilin, Anhui and Tibet Autonomous Region are considering their relevant policies. For example, Zhejiang Province has implemented pilot work in ecological compensation in all 8 water systems within the province, with fiscal transfers provided to those cities and counties located at water sources for their environmental efforts. Zhejiang became the first province in China to implement ecological compensation in all river basins within the province. Jiangxi Province allocated specialized funds for ecological compensation in five rivers and one lake (Gan River, Fu River, Xin River, Rao River, Xiu River and Poyang Lake) and the protected area for source of Dongjiang River. 20% of the funds for compensation are distributed according to the area of the protected areas and 80% according to the water quality. If the water quality is lower than Class II standard, compensation will be revoked. Jiangsu Province, Hubei Province and Fujian Province have undertaken ecological compensation respectively in Taihu Lake Basin, Hanjiang River Basin, Tingjiang River Basin and Minjiang River Basin. When the water quality of the surface water sections is lower than the required standard, the upper reaches will compensate the lower reaches and vice versa. The lower reaches will compensate the upper reaches when the water quality is better than the required standard. Tianjin allocated specialized funds for protecting the source of water deviated from Luan River to Tianjin.

In 2010, Shandong Province pioneered in undertaking ecological compensation/liability for marine ecological damages, by issuing Provisional Rules on Liability for Ecological Damages and Compensation for Losses in Marine Ecology. In 2015, the Administrative Offices of the CPC and the State Council issued Proposals for Pilot Reforms in Liability Systems for Ecological/environmental Damages. Such pilot reforms were undertaken in seven provinces and province-level municipalities (Jilin, Jiangsu, Shandong, Hunan, Chongqing, Guizhou and Yunnan). In 2018, the Administrative Offices of the CPC and the State Council issued the Plan for Reforms in Ecological/environmental Liability and Compensation. According to the plan, the pilot work in establishing such a liability and compensation system will be undertaken across the country. The launching of the plan symbolizes another phase in undertaking the pilot work in this regard which has been extended from a few provinces initially to the whole country now. Through pilot work at national level, the efficiency of liability for environmental damages and ecological restoration is expected to be constantly increased, so as to address the dilemma of “enterprises polluting, the public suffering and the government paying bills”, and to protect the environmental benefits of the public. According to the plan, the scope and means of compensation, who is responsible for compensation and who can claim compensation, will be further clarified through the pilot work. Based on that, a verification and assessment system, technical support, financial guarantee and operational mechanisms will be established, with a view to gradually establishing a system for environmental/ecological liability and restoration, and accelerating the

development of ecological civilization. Thereafter, Xinjiang Autonomous Region has developed a Plan for Implementing Reforms in Environmental/ecological Liability Systems, with a view to accelerating the establishment of such a system and protecting the public environmental rights. Hunan Province has established systems related to liability for environmental/ecological damages including through issuing provisional rules on investigating environmental/ecological damages, provisional rules on supervising and managing environmental/ecological restoration as well as provisional rules for fund management for compensation for environmental/ecological damages. In April 2018, Guangdong Province set up a leading group for reforms in the environmental/ecological liability systems.

In 2001, SFA together with the Ministry of Finance undertook pilot work in ecological compensation for forest ecological benefits, with a total investment of 1 billion yuan covering an area of 13.33 million hectares. In 2004 the work has been expanded to the whole country with the compensation fund coming up to 2 billion yuan and 26.67 million hectares covered. From the pilot work to nation-wide implementation, with the constant increase in compensation funds and the area covered by compensation, the system of compensation for public benefits forests has been gradually established. During 2013-2014, all national-level public benefits forests have been covered by compensation, with accumulated funds of 29.7 billion yuan allocated by the central government and the forest area covered by compensation reached 92.33 million hectares. During 2001-2016, the accumulated funds allocated by the Ministry of Finance for forest ecological benefits amounted to 112.1 billion yuan.

In 2011, the central government allocated 13.6 billion yuan to comprehensively establish grassland ecological protection subsidies in Inner Mongolia, Sichuan, Yunnan, Tibet, Gansu, Qinghai, Ningxia and Xinjiang (including Xinjiang Production and Construction Corps). The mechanism implements ban on grazing, grassland and livestock balance rewards, comprehensive subsidies for pastoral production materials, pasture and animal husbandry, and establishes performance measures and reward systems. In 2012, the central government allocated 15 billion yuan for grassland ecological protection subsidies, and added five provinces including Hebei, Shanxi, Liaoning, Jilin and Heilongjiang into the compensation range. In 2015, the central government further increased investment and arranged grassland ecological protection subsidy of 16.649 billion yuan, effectively promoting the coordinated development of the economy, society and ecological environment of the pastoral area, and played an important role in the restoration of the grassland ecological environment, the transformation of the grassland animal husbandry development mode, and the increase of the income of farmers and herdsmen. In 2016, the grassland ecological protection subsidy reached 18.76 billion yuan, an increase of 17.65% compared with 2013.

In 2010, China initiated pilot work in ecological compensation for wetland’s ecological benefits, providing compensation to more than 40 wetlands of international importance and wetland protected areas. In 2014, the Ministry of Finance together with SFA issued a Notice on Reclaiming Farmlands for Wetlands and Pilot Work in Compensation for Wetlands’ Ecological Benefits. Also, in the same year, the central government

expanded financial support policy for wetland protection and substantially increased investments in wetland protection, with a total of 1.6 billion allocated for wetland subsidies that supported 268 projects. In 2016, the central government transferred 1.6 billion yuan to local governments through forestry subsidies to support wetland protection. Among them, 500 million yuan was used for reclaiming farmlands for wetlands and compensation for wetland ecological benefits.
In 2009, the Ministry of Finance issued Provisional Rules on Fiscal Transfers to National Key Ecological Function Zones. By obviously increasing the co-efficient of fiscal transfers, more transfers were provided to sources of three major rivers in Qinghai, central part of the project of diverting water from south to north China and other important ecological function zones where development activities are banned, totaling 451 counties. By 2017, the total number of counties or cities receiving fiscal transfers has reached 819, with the total funds of 62.7 billion yuan transferred.

4. Use of natural resources

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has developed action plans for preventing and controlling water, air and soil pollution, and has been taking persistent actions in this regard. As a result, by 2017, the average concentration of PM10 in 338 cities has decreased by 22.7% compared with that in 2013. The average concentration of PM2.5 in Beijing-Hebei-Tianjin area, the Yangtze River Delta and the Pearl River Delta has dropped by 39.6%, 34.3% and 27.7% respectively, compared with that in 2013. The average concentration of PM2.5 in Beijing went down from 89.5μg /m3 in 2013 to 58 μg/m3. Key goals and tasks for air quality improvement identified in the Action Plan for Air Pollution Prevention and Control have been fully achieved. Coal-burning small boilers in cities have been almost phased out, with over 200,000 boilers with capacity below 10 tons vapor eliminated. Renovation of a total of 700 million kilowatts of ultra-low emission of coal-fired power plants has been completed. National Class V standards for vehicle emission and oil have been implemented across the country. Over 20 million old vehicles have been phased out and a total of 1.8 million new-energy-driven cars have been promoted. A programme for ship emission control areas is being implemented. As an Action Plan for Water Pollution Control is implemented, the surface water quality throughout the country has been constantly going up. The percentage of water bodies that meet Classes I-III quality standards has reached 67.9%, and that lower than Class V has dropped to 8.3%. The water quality of the main stream of major rivers is being steadily improved. 97.7% sites for protection of drinking water sources for cities at prefecture and above levels have been identified. 93% of integrated industrial areas at provincial and above levels have established integrated wastewater treatment facilities. Additional wastewater treatment capacities of nearly 10 million m3/day have been

EN

established for industrial distribution areas. Brackish, stinky water bodies in 36 key cities have basically disappeared. Environmental law enforcement has been undertaken for urban drinking water sources in the Yangtze River Economic Belt. As a result, 490 environmental problems identified through law enforcement have been all resolved. Reuse of livestock wastes has been promoted throughout 96 counties of major livestock farming. Pesticide use has been going down for three consecutive years, and fertilizer use has achieved zero growth three years ahead of plan. Water conservation has been strengthened and double-control actions for both total water consumption and water use intensity are being implemented to a full scale. Prevention and control of pollution from ports and piers is being reinforced. A nation-wide survey of marine pollution from land-based sources has been undertaken and those illegal or improperly placed pollutant outlets have been closed. The Law on Soil Contamination Prevention and Control is promulgated. The Rule for Soil Environment Management of Agricultural Land Use has been issued. A national survey of soil contamination has been undertaken. A special examination has been undertaken of land reuse where key industrial factories or enterprises have been closed or relocated. Capacities of municipal waste treatment have reached 680,000 tons/day, with the non-hazard treatment rate coming up to 97.74%. The percentage of villages whose rural wastes have been treated has reached 74%.
In 2011, the central government allocated a specialized fund of 4 billion yuan for rural environment in support of efforts to improve the rural environment across the country. Over years thereafter the funding level has been increased year by year. In 2013, the central government allocated 6 billion yuan in support of rural environmental improvement in 46,000 villages, from which over 87 million villagers have directly benefited. In 2014, 6 billion yuan was invested into rural environmental improvements in 59,000 villages and the rural population that benefited from this has exceeded 110 million. In 2015, an investment of 6 billion was made to support the rural environmental improvement in 72,000 villages and more than 120 million villagers have directly benefited.

5. Loss of habitats

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China’s afforestation is being accelerated and a number of major forest ecological conservation and restoration projects have been steadily implemented, including natural forests protection, reclaiming farmlands for forest lands, forest belt construction, wetland conservation and restoration, desertification prevention and control, control of rocky land, wild animal and plant protection and establishment of protected areas. Since these projects were initiated, national forest resources have been growing constantly. From 2013 to 2017, the afforestation of 34 million hectares	EN

and forest tending of 41 million hectares have been completed across the whole country, with the forest coverage area reaching 208 million hectares and the forest stock up to 15.137 billion m3, making China become the country with fastest growth in forest resources in the world during the same period. Control of degraded and rocky land is strengthened by fully implementing the national programme for desertification prevention and control. In 2017, the total area of degraded land controlled nationwide was 2.213 million hectares, basically controlling the overall trend of land degradation and desertification. In 2017, 274 projects of marine, island and coastal improvement and restoration were implemented, with over 6,500 hectares of coastal belts, over 1,200 hectares of beaches and more than 2,100 hectares of wetlands restored accumulatively. As a result, parts of the marine environment have been obviously improved, and the overall trend is going positive and turning for the better.

China has established a system of regular census of forest resources. A census is undertaken every five years to know the status of forest resources and their changes. China has completed eight censuses on forest resources. In 2014 the ninth census was initiated, and its results show that the forest area and natural forest area in China have been constantly growing. If the results of the eighth and the seventh censuses are compared, the forest area has increased by 12.23 million hectares and the natural forest area by 2.15 million hectares (Figure 3.15). According to the eighth national census on forest resources (2009-2013), the total timber standing stock in China was 16.433 billion m3, and the forest stock was 15.137 billion m3 (Figure 3.16). From 2000 to 2015, the net primary productivity of forest ecosystems in China was with the range of 2143 gC/m2-2274 gC/m2.

In accordance with the second national census on wetland resources (2009-2013), the total wetland area in China is 53.6026 million hectares, accounting for 5.5% of the country’s total land area. Among them, the area of natural wetlands is 46.6747 million hectares and the protected wetland area increased by 5.2594 million hectares, with the total wetland protected areas reaching 23.2432 million hectares. Compared with the first national census (1995-2003), the wetland area decreased by 3.3963 million hectares, with the reduction rate being 8.82%. This was mainly caused by environmental pollution, overfishing and harvesting, reclaiming wetlands for farmlands, invasive alien species and wetland occupation by infrastructure construction. To control the decrease in wetland area, China has undertaken tremendous, effective work. In 2016, the State Council has issued the Plan for Wetland Conservation and Restoration, which require that the total area controlled; by 2020, the national wetland area cannot be lower than 53 million hectares, among them the area of natural wetlands cannot be lower than 47 million hectares, and the area of additional wetlands will increase by 200,000 hectares, with the rate of wetland conservation exceeding 50%. During the 12th five-year period, the central government made a total investment of 8.15 billion yuan for the implementation of more than 1,500 projects for wetland conservation and restoration and subsidy support. As a result, 233,300 hectares of wetlands were restored, 16 more wetlands of international importance added, 25 more wetland protected areas established and 606 pilot national wetland parks established, with the wetland conservation rate increased from 43.51% to 49.03%, and the percentage of

wetland of international importance out of the total wetland area of the country increased from 4.46% to 6.27%.
Based on remote-sensing survey and assessment of national ecological changes in the decade from 2000 to 2010, another survey and assessment has been undertaken for 2010-2015. The results of the remote-sensing survey show that during 2000-2015, the area of grassland ecosystems in China has decreased by about 9.27 million hectares. Among them, during 2010-2015, the grassland area decreased by 7.9 million hectares, which means that the rate of grassland loss in the past five years has been increasing compared with that in the earlier decade (2000-2010).
By 2014, the area of degraded land in China has reached 172.12 million hectares, and the area of desertified land 261.16 million hectares, accounting for 17.93% and 27.20% respectively of the country's total land area. Compared with that in 2009, the net reduction of degraded land area within five years is 990, 200 hectares, with annual average reduction 198,000 hectares; the net reduction of desertified land area within five years is 1.2107 million hectares, with annual average reduction by 242,400 hectares. Since 1999, land degradation and desertification has been moving towards overall trend control, constant reduction, with increased achievements and efficiency. However, huge challenges still remain for prevention and control.

6. Sustainable fisheries

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

To protect the reproduction and growth of fishes in the marine areas of China, since 1995, China has implemented fishing bans during June-September in the East China Sea and Yellow Sea areas under China's jurisdiction. Since 1999, this ban has been extended to South China areas north of 12° N. Currently, the fishing ban period for the Bohai Sea and the Yellow Sea areas north of 35° N is from 1 May to 1 September. For the Yellow Sea and East China Sea areas between 35° N~26°30′ N, the ban period is from 1 May to 16 September. For the area between 26°30′ N and the marine border area in the East China Sea between Fujian and Guangdong Provinces, the ban period is from 1 May to 16 August. The same ban period applies to the area between 12°N and the marine border area in the South China Sea between Fujian and Guangdong Provinces including North Bay. During fishing ban period, all types of operations are banned except for fishing tackles. China has also implemented fishing bans in the Yangtze River, Yellow River, Pearl River and Huai River. This ban was introduced to the Yangtze River and the Pearl River in 2003 and 2010 respectively. In 2015 the main stream of Huai River was also included in the ban. Currently, fishing ban is implemented in the main stream of the Yangtze River, important rivers flowing into the Yangtze River, Poyang Lake, Dongting Lake and the main stream of Huai River from mid-night 1 March to mid-night 30 June annually. Such ban is also implemented in the main

EN

stream of the Pearl River, important branches and lakes connecting with the river from midnight 1 April to midnight 1 June every year. In 2018, the Ministry of Agriculture has extended such a ban to the main stream of the Yellow River, Zhaling Lake, Eling Lake and Dongping Lake as well as the main stream of 13 main branch rivers, from midnight 1 April to midnight 30 June annually. All fishing operations will be prohibited during the ban period and in the banned areas. The Ministry of Agriculture issued a Notice on the List of Aquatic Species Protected Areas for Comprehensive Fishing Ban in the Yangtze River Basin, and from January 2018, a comprehensive fishing ban was implemented in 332 aquatic species protected areas in the Yangtze River Basin. The implementation of fishing breaks and bans has relieved huge pressures on fishery resources caused by fishing overcapacity and excessive fishing intensity and played an important role in protecting aquatic biodiversity. Since marine fishing bans in the summer were implemented in 1995, the marine area covered by fishing bans/breaks accounts for 72.64% of the country’s total marine area. China has implemented fishing bans in four major inland waters system including the Yangtze River, Yellow River, Pearl River and Huai River. In 2018, 100% of the four river basins are covered by the fishing ban.
To protect endangered species such as the Chinese sturgeon, the Yangtze River dolphin, the Chinese white dolphin, spotted seal and river sturgeon, to facilitate their reproduction and to protect aquatic biodiversity, the Ministry of Agriculture has developed an Action Plan for Rescuing the Chinese Sturgeon (2015-2030), an Action Plan for Rescuing the Yangtze River dolphin (2016-2025), an Action Plan for Protecting the Chinese White Dolphin (2017-2026) , an Action Plan for Protecting the Spotted Seal (2017-2026) and an Action Plan for Rescuing the River Sturgeon (2018-2035). In these plans specific protection actions/measures have been proposed, providing guidance for the protection of endangered species in China in the next decade and beyond.
Following the monitoring of the marine biodiversity and ecological status of 15 typical marine ecosystems and key ecological regions along the coast of China in the summer, including the species composition and quantity of plankton, benthic organisms, seaweed, mangrove plants, corals and other organisms. The diversity indices of phytoplankton, zooplankton and macrobenthos in 2016 were 2.07, 1.98 and 2.46, respectively, which increased by 11.1%, 10.7% and 4.8% compared with 2013, indicating a trend towards improved biodiversity levels.

7. Areas under sustainable management

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

On 1 November 2002, China issued and implemented a Regulation on Certification and Recognition, and since then has been improving laws and regulations related to organic products. Currently organic agriculture in China is developing rapidly, with soybeans, vegetables, tea and variety food exported to USA, EU, Japan, Korea and other

EN

countries, which has been on the rise year by year. Area for organic farming in China increased from 4,000 hectares in 2000 to 2.2812 million hectares in 2016, with an increase of 2.2772 million hectares within sixteen years. Among them, during 2013-2016 the organic farming land increased by 187,200 hectares, with the increase rate being 8.94%, however the percentage of organic farming land area out of the agricultural land area is relatively low.

The State Forestry Administration attaches great importance to the protection and construction of ecological public benefits forests. In 2009, the State Forestry Administration and the Ministry of Finance revised the Rules for the Definition of Key Public Benefits Forest Areas to form the Rules for Defining National-level Public Benefits Forest Areas. In 2013, the State Forestry Administration and the Ministry of Finance formulated the Rules for the Administration of State-Level Public Benefits Forests. In 2017, in response to the new situation and new problems in the definition and protection management of national-level public benefits forests in the new era, the State Forestry Administration and the Ministry of Finance further revised the Rules for the Administration of National-level Public Benefits Forests and the Rules for Defining National-level Public Benefits Forest Areas. The revision was made to further standardize and strengthen the definition and protection management of national public benefits forest zones. During 2011-2016, the area of national-level public benefits forests showed an overall increase trend, increasing from 19.5044 million hectares in 2011 to 20.6289 million hectares in 2016, with an increase of 1.1245 million hectares in five years. Among them, the area of national-level public benefits forests increased by 169,200 hectares during 2013-2016, with a growth rate of 0.83%.

China has been strengthening conservation and restoration of grassland ecosystems. In 2017, the national comprehensive vegetation coverage of grasslands has reached 55.3% and the total fresh grass output from natural grasslands amounted to 1.07 billion tons, being stabilized at this level for seven consecutive years. The grassland vegetation coverage in major project areas is 15% higher than that in non-project areas, and the fresh grass output per unit area is 85% higher. During 2005-2017, the total fresh grass output has been basically on the rise and the grassland vegetation situation is obviously improvin. In 2016, the livestock carrying capacity increased by 0.93% over the previous year. The average livestock overload rate of national key natural grasslands is 12.4%, and the average overload rate of livestock in 268 pastoral areas and semi-pastoral areas across the country is 15.5%, 1.1% and 1.5% respectively lower than that in the previous year. The use of grasslands is getting more reasonable.

Since the 12th five-year period, the central government has made a series of major arrangements for grassland-related work and issued a number of major policies for promoting grassland and pastoral development. In 2011, the State Council issued Recommendations for Rapid and Good Quality Development of Pastoral Areas, which proposed that a system of grazing ban or recess or alternating grazing will be implemented step by step to reduce the number of livestock raised beyond grassland carrying capacity and to achieve balance between grassland and livestock. In 2015, recommendations issued by the Central Committee of CPC and the State Council proposed that “by 2020, the national comprehensive grassland vegetation coverage

will reach 56%”. In 2016, the guidance issued by the Ministry of Agriculture and the Ministry of Finance for a new round of grassland ecological subsidies and rewards (2016-2020) required grasslands outside grazing ban areas to determine their livestock amount on a sound basis and in accordance with the carrying capacity of grasslands to achieve balance between grassland and livestock. The Ministry of Agriculture issued the 13th Five-year Plan for Grassland Conservation and Use. As reforms in grassland-related work are being enhanced on a full scale, various policies and measures for strengthening grassland conservation and benefiting herdsmen are being constantly improved, resulting in constant strengthening of grassland ecological functions. The livestock overload rate of six major pastoral areas and across the country has been constantly going down. Among them, the national overload rate of natural grasslands in 2010 was 30.00% while the rate in 2016 was 12.4%, 2.5% reduction annually. Compared with that in 2013, the national rate in 2016 was 4.4% less.

8. Pollution

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has developed action plans for preventing and controlling water, air and soil pollution, and has been taking persistent actions in this regard.
Since 2000, the discharge of wastewater has shown an upward trend. Since 2010, the chemical oxygen demand and ammonia nitrogen emissions have been declining year by year. In 2015, the chemical oxygen demand in industrial wastewater was 2.935 million tons, down 8.13% from 2013. In 2016, the total discharge of wastewater reached 71.11 billion tons, up 2.3% from 2013; the total discharge of chemical oxygen demand was 10.4653 million tons, down 55.52% from 2013; the total amount of ammonia nitrogen emissions was 1.4187 million tons, with a decrease by 42.29% compared with 2013.
From 2011 to 2016, exhaust smoke (powder) dust emissions, sulfur dioxide emissions and nitrogen oxide emissions showed a significant downward trend. In 2016, the emission of exhaust smoke (powder) dust reached 10.1066 million tons, down 20.93% from 2013; the emissions of sulfur dioxide and nitrogen oxides were 11.0286 million tons and 13.9431 million tons, respectively, down 46.04% and 37.4% compared with 2013.
From 2011 to 2016, industrial solid waste emissions showed a downward trend. In 2016, the national industrial solid waste discharge was 3.0921 billion tons, a decrease of 5.64% compared with 2013; the comprehensive utilization (including the utilization of previous years) was 1.84096 billion tons, a decrease of 10.6% compared with 2013; the comprehensive utilization rate was 59.54%, a decrease of 5.3% compared to 2013.
Thermal power plants are the largest emitter of nitrogen oxides in China, accounting for 30%-40% of the country's total nitrogen oxide emissions. At the end of 2005, the

EN

flue gas desulfurization unit put into operation nationwide was about 50 million kilowatts, accounting for only 14.30% of the capacity of coal-fired power plants. As of the end of 2016, the capacity of flue gas desulfurization units that have been put into operation in the country is about 880 million kilowatts, accounting for 83.81% of the national thermal power unit capacity, accounting for 93.6% of the national coal-fired power unit capacity, an increase of 2.2% compared with 2013.

China is a large agricultural country with large amount of crop straw, wide distribution and various types of crop straw. Accelerating the comprehensive utilization of straw is of great significance for stabilizing the agricultural ecological balance and reducing environmental pressure. With the joint efforts of relevant departments and regions, the comprehensive utilization of straw has been developing rapidly. In 2016, the comprehensive utilization rate of straw increased from 68.7% in 2008 to 81.6%, a rise by 12.9 per cent compared with 2013.

The project of comprehensive utilization of agricultural waste is based on the concept of circular agriculture and undertaken through the construction of biogas projects for livestock and poultry manure and improving the efficiency of the use of fertilizers and livestock manure, with a view to promoting rural energy development and environmental protection. From 2000 to 2016, the annual output of agricultural waste treatment projects increased rapidly. The annual output of agricultural waste treatment projects increased from 39.4706 million m3 in 2000 to 2427.5566 million m3, up 32.17% compared with 2013. The total pool capacity of agricultural waste disposal projects grew rapidly, and the total pool capacity increased from 208,300 m3 to 19.46 million m3, an increase of 29.22% compared with 2013.

Rural domestic sewage is one of the main sources of pollution in rivers and lakes. It is extremely urgent to construct a village-level treatment system for domestic sewage in biogas tanks. The total pool capacity of the village-level treatment system of domestic sewage using biogas tanks has increased rapidly, from 923,400 m3 in 2009 to 2.7541 million m3 in 2016, an increase of 16.02% compared with 2013.

Drinking water sources are related to the drinking water safety of the people. Within many water sources there are industrial enterprises, transportation terminals/ports or sewage outlets. Even some enterprises, ports and water intakes coexist with water sources for many years, so the risks are prominent. From 2016 to 2017, the Ministry of Environmental Protection organized the investigation and rectification of the environmental problems of drinking water sources in prefecture-level and above cities in the Yangtze River Economic Belt. As of the end of 2017, 490 problems found in the investigation were all rectified. In 2018, the Ministry of Ecology and Environment and the Ministry of Water Resources jointly deployed a special campaign for environmental protection of centralized drinking water sources throughout the country, involving a total of 2,466 surface water sources. During 2003-2016, the rate of compliance with water quality standard for integrated drinking water sources for cities increased from 46.81% to 90.4%.

During the period of 2011-2015, the central government investment for the comprehensive management of large river basins exceeded 280 billion yuan. The rivers under comprehensive management in the country are 11,000 kilometers long, and the

water supply capacity is increased by 38 billion m3. 172 major water conservancy projects for water saving and water supply have been progressing well. The intensity of water pollution control is increased. National surface water quality monitoring data show that the proportion of water bodies meeting water quality standards (I-III) increased from 71% in 2013 to 82.14% (as of April 2018), a rise of 11.14 per cent, and the proportion of water bodies with standards lower than Class V fell to 8.3%. The water quality of the main streams of the major rivers was improved steadily, and the water environment restoration and water quality improvement had good results.

9. Invasive Alien Species

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

In 2003, China completed the first national survey of invasive alien species, which identified 283 invasive alien species. The second survey was undertaken from 2008 to 2010, which identified 488 invasive alien species in China. In 2017 more than 560 invasive alien species were identified.
In 2011, the Ministry of Environmental Protection promulgated the Technical Guidelines for Environmental Risk Assessment of Invasive Alien Species (HJ 624-2011) to regulate the environmental risk assessment of IAS. To strengthen the supervision and management of IAS, MEP issued a Notice on Strengthening the Supervision and Management of Invasive Alien Species in Natural Ecosystems. MEP has also issued four lists of IASs that provide guidance for IAS prevention and control at local levels to ensure biosafety.
China has continuously made breakthroughs in the prevention and control technology of typical invasive alien species and achieved successful achievements in the areas. The Chinese Academy of Sciences and other research institutions have proposed comprehensive management measures such as “catching, attracting, poisoning, starving and treating strategies”, effectively controlling the world-famous pest Colorado potato beetle, ensuring that the epidemic has been controlled in parts of Xinjiang, Heilongjiang and Jilin for more than 20 years. CAS has discovered in time the epidemic of new invasive cotton pest solenopsis mealybug, and proposed monitoring, prevention and control and early warning technologies for the pest, and realized eradication in Xinjiang- the largest cotton growing area in China. CAS has also studied and developed the pheromone-based technical system for monitoring, quarantine, prevention and control of red turpentine bark beetle. CAS has formulated two production technology standards and established a large-scale workshop in Shanxi, having produced a total of 630,000 slow-release carriers and more than 180,000 traps, which are promoted and applied in areas affected by red turpentine bark beetle.
The South China Red Fire Ant Research Center developed 33 red fire ant prevention and control pharmaceutical products, and successfully eliminated red fire ants in Tianhe

EN

District of Guangzhou and Xinluo District of Fujian. Researchers from Fudan University and East China Normal University developed the comprehensive physical prevention and control technology “clipping plus flooding” of smooth cordgrass Spartina alterniflora, successfully curbed its spread in the Chongming Dongtan Nature Reserve in Shanghai and restored the habitat of migratory birds. Sun Yat-Sen University developed the replacement of S. alterniflora by Sonneratia apetala, and gradually inhibited the growth of S. alterniflora in Qi'ao Island, Guangdong Province. Guangxi Institute of Botany researches and develops native species to replace and repair Chromolaena odorata and Ageratina adenophora to promote vegetation restoration in Longlin, Guangxi. At the same time, China attaches great importance to collaboration with other countries in IAS prevention and control, such as joint prevention and control of red fire ant and has undertaken many exchanges with Japan and South Korea to introduce China's successful experience.

The analysis of the invasion years of 557 alien species with clear records shows that there were only 42 invasive alien species before 1890. From 1890, the number of new invasive species increased gradually. During the 1980’s, there were the largest number of new invasive alien species, as many as 81. During the six decades after 1950, 311 invasive alien species were identified, accounting for 46.63% of the total number of invasive alien species identified.

The number and batches of pests intercepted at various ports across the country increased year by year, from 229 species in 1999 to 6,305 species in 2016, from 2,500 batches in 1999 to 1.22 million in 2016, with the number of species increased by 33.50% and the batches increased by 100.79%, compared with 2013.

From 2008 to 2017, a total of 65 sectoral standards for invasive alien species control were promulgated, of which the Ministry of Agriculture was the main lead department, with 37 standards issued, accounting for 56.92%. In addition, the Ministry of Agriculture has also issued 40 guidelines for emergency prevention and control of major invasive alien species in agriculture, further improved the regulatory system for agricultural biodiversity conservation, and initially established a technical system for risk assessment of agricultural alien species.

10. Vulnerable ecosystems

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Paris Agreement reached under the United Nations Framework Convention on Climate Change entered into force in November 2016. China has set nationally determined action targets for tackling climate change: by 2030, carbon emissions will peak or earlier than that; the intensity of carbon emissions per unit of GDP will fall by 60% to 65% compared with 2005; non-fossil energy account for about 20% of primary energy; the forest stock volume will increase by about 4.5 billion m3 compared with	EN

2005. China has made a solemn commitment to the international community in addressing global climate change.
The Chinese government has earnestly implemented the South-South cooperation policy commitments in the field of climate change. In September 2015, China Climate Change South-South Cooperation Fund was established to promote clean energy, disaster prevention and mitigation, ecological conservation, climate-adapted agriculture, and low-carbon intelligence cities. China has been also helping developing countries improve their financing capabilities.
China has been actively encouraging investment in renewable energy and energy conservation measures. As the world's largest carbon emitter, China has invested heavily in the development of clean energy such as solar, wind and hydropower, while continuing to reduce its dependence on coal.
China's carbon emissions fell in 2014, the first year-on-year decline since 2001. Carbon emission per GDP unit in China has been going down year by year, from 2.60 tons per 10,000 yuan in 2007 to 1.30 tons per 10,000 yuan in 2017, with an average annual decline of 0.13 tons per 10,000 yuan. Compared with 2013, the carbon emissions per unit of GDP in 2017 decreased by 24.42%.

11. Protected areas

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has established a system of protected areas with nature reserves as the main component (about 83% of all protected areas) and composed of scenic spots, forest parks, agricultural wild plant in situ conservation sites, wetland parks, geological parks, marine special protected areas, and protected area of aquatic germplasm resources. In September 2017, the Administrative Offices of the CPC Central Committee and of the State Council issued the Overall Plan for Establishing a National Park System to actively promote the pilot projects of 10 national parks such as the Giant Panda National Park, the Northeast Tiger and Leopard National Park and the Qilian Mountain National Park, bringing new development opportunities for biodiversity in-situ conservation.
By the end of 2017, 2,750 nature reserves have been established nationwide, with a total area of 147.17 million hectares, accounting for 14.86% of the country’s total land area. It has exceeded the world average for the same period. Among them there are 463 national-level nature reserves with an area of 97.4516 million hectares, accounting for 16.84% and 66.22% of the total number and area of national nature reserves. More than 90% of the terrestrial natural ecosystem types and 89% of the national key protected wildlife species are protected in nature reserves. A nature reserve system with relatively complete types, basically rational layouts, and relatively complete functions has been established. During the period of 2010-2017, national-level nature reserves grew rapidly, from 319 in 2010 to 463 in 2017.

EN

In 2010, the standing meeting of the State Council approved the release of the National Biodiversity Strategy and Action Plan. Based on factors such as ecosystem representation, endemism, special ecological functions, species richness, endangerment, threatened factors, regional representation and economic use, scientific values and availability of distribution data, 35 biodiversity conservation priority areas have been delineated nationwide, including 32 priority areas for terrestrial and inland water biodiversity conservation and 3 priority areas for marine and coastal biodiversity conservation. Among them, the priority areas of terrestrial and inland waters biodiversity conservation involve 904 county-level administrative regions in 27 provinces (autonomous regions and province-level municipalities), with a total area of 276.26 million hectares, accounting for about 28.78% of China's land area. The percentage of nature reserves in the priority areas of terrestrial and inland water biodiversity continued to increase, from 37.07% in 2000 to 43.69% in 2016.

The scenic spots in China are divided into two levels, national and provincial. By the end of 2017, the State Council has approved the establishment of 244 national-level scenic spots in 9 batches with an area of 10.66 million hectares. The provincial people's governments have approved the establishment of 807 provincial-level scenic spots with an area of 10.74 million hectares. The total area of the two is about 21.4 million hectares. These scenic spots basically cover all kinds of geographical regions in China, covering all provinces except Hong Kong, Macau, Taiwan and Shanghai. The proportion of these scenic spots out of China's total land area has increased from 0.2% in 1982 to 2.23% currently. There are 42 national scenic spots and 10 provincial scenic spots listed by UNESCO on the World Heritage List.

As early as the 1980s, China began to protect and utilize the forest landscape. In 1982, Zhangjiajie National Forest Park became China's first national forest park. Up to now, 3,505 forest parks have been established nationwide, including 881 national forest parks with a planned area of 12.782 million hectares.

In order to protect aquatic germplasm resources and spawning grounds, feeding grounds, wintering farms, and migratory passages, by 2016, the Ministry of Agriculture has successively announced national-level conservation areas for aquatic germplasm resources in ten batches, totaling 523 and covering an area of 156,000 km2.

Since China established the first national-level marine special protected area in 2005, the marine special protected area has experienced a leap-forward development. By the end of 2017, China had established 67 national-level marine special protected area, with a total area of more than 6.9 million hectares, initially forming a network of marine special protected areas of various types including protected areas with special geographical conditions, marine ecological reserves, marine resource reserves and marine parks.

From 1970 to 2016, the ecological representativeness index of protected areas increased from 0.02 in 1970 to 0.09, and the annual average rate of change of ecological representativeness index of protected areas was close to 0.08%, indicating that China's protected areas showed a rapid growth trend during that period. In 2016, the annual average rate of change of the ecological representativeness index of protected areas was 0.005%, indicating that the growth of China's protected areas has

slowed since 2000.

12. Preventing extinctions

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Ministry of Environmental Protection and the Chinese Academy of Sciences carried out an assessment of the threatened status of biodiversity, and successively released the Red List of Biodiversity in China - Higher Plant Volumes, th Red List of Biodiversity in China - Vertebrate Volume, the Red List of Biodiversity in China - Macrofungi Volume and the Chinese Biological Species List 2018. The Ministry of Agriculture organized and implemented protection action plans for some rare and endangered species such as spotted seal and Chinese white dolphins and initiated the implementation of a number of rare and endangered species rescue projects; actively guided fishermen to withdraw from production and promote the implementation of comprehensive bans in the whole river basin. The State Forestry Administration carried out the rescue and protection of very small populations of wild animals and plants and implemented the reintroduction to nature of more than 20 kinds of wild animal breeding populations such as giant panda, crested ibis, wild horse and elk. The number of endangered wild animals and plants such as giant panda, Asian elephant, the Amur tiger and leopard, crested ibis and the Chinese yew, has grown steadily, and the protection and management capacity has gradually been strengthened. China has been actively implementing relevant international conventions and established an inter-departmental CITES law enforcement coordination group composed of forestry, agriculture, public security, customs, industry and commerce, quality inspection, marine police, postal services, tourism and other departments to participate in the fight against wildlife crime and protection. China has participated in a number of international conferences on protection of elephants, snow leopards, rhinos, saigas, pangolins, drumfish and stone head fish of California Bay. A temporary ban is implemented on the importation of ivory and the commercial processing and sales of ivory and products have been completely stopped. An inter-ministerial joint meeting system has been established to combat illegal wildlife trade. The Supreme Law, the Supreme Prosecution and other five departments jointly issued the law enforcement cases involving the appraisal of the value of the species contained in appendices of the CITES. The Ministry of Justice has granted a group of institutions the qualification for judicial appraisal of wild animals and plants. A series of special crackdowns and joint law enforcement inspections were launched, such as “National Swords”, “Guards”, “Thunder Actions” and “Clearnet Actions”, to crack down on illegal trade in wild animals and plants and effectively deter crimes.	EN

13. Agricultural biodiversity

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

The Government of China has taken numerous policy measures for preserving and maintaining genetic diversity. The status of conservation of genetic resources of cultivated plants, farmed and domesticated animals and other important species has been improved. Since 2001, the Ministry of Agriculture has established protected areas (points) of original habitats of wild agricultural plants, including wild rice, wild soybeans, wild relatives of wheat, and wild vegetables. By 2015, the number of protected areas of original habitats of wild agricultural plants has increased to 190, having effectively curbed the rapid extinction of agricultural wild plant genetic resources. The Chinese government has strengthened the construction of preservation facilities for crop germplasm resources. In 2015, the Ministry of Agriculture and the National Development and Reform Commission and the Ministry of Science and Technology jointly issued the National Medium and Long-term Development Plan for the Protection and Utilization of Crop Germplasm Resources (2015-2030), which provides a full deployment for collecting, discovering, creating and protecting the germplasm resources of crops. The salvage collection of germplasm resources has been initiated and the Third National Crop Germplasm Resources Survey carried out. During the twelfth five-year period, the special investment in seed projects was 210 million yuan, and 38 crop germplasm resources projects were implemented. The National Crop Germplasm Resources Platform consists of 74 banks and gardens, including 10 national medium-term banks, 1 national germplasm bank, 23 provincial-level medium-term banks, 39 national germplasm gardens, and one national duplicate bank in Qinghai. By the end of 2015, China had preserved 470,295 possessions of various crop germplasm resources, ranking the second in the world in terms of total reserves. The long-term national germplasm bank has preserved over 400,000 possessions. Wild species, such as wild rice, wild soybeans, wild relatives of wheat, and wild fruit trees, which are endangered in China, are properly protected. The protection of tropical crop germplasm resources is strengthened. As of 2014, the Ministry of Agriculture has approved the establishment of 22 germplasm resources gardens for tropical crops, and the total amount of tropical crop germplasm resources has reached 19,889 possessions. China is the country with the richest livestock and poultry genetic resources in the world. It has discovered 545 local varieties, accounting for about one-sixth of the world's total livestock genetic resources. In 2014, the Ministry of Agriculture revised the National Catalogue for the Protection of Livestock and Poultry Genetic Resources, focusing on the protection of rare and endangered livestock and poultry breeds, and initially establishing a network of livestock and poultry genetic resources preservation composed of primarily conservation farms, supplemented with protected areas and gene banks. During the twelfth five-year period, the number of national-level livestock and poultry genetic resources conservation farms, protected areas, and gene banks increased from 119 to 187, and more than 90% of national-level livestock and poultry	EN

genetic resources varieties have national-level conservation bodies. National-level protected varieties increased from 138 to 159. Twenty-seven provinces (autonomous regions and municipalities directly under the Central Government) issued provincial-level livestock and poultry genetic resources protection lists, and 260 local varieties were included in the provincial-level protection list. By the end of 2015, through the exchange of genetic materials and the establishment of conservation farms, China has rescued 39 endangered local livestock and poultry species, including Dapulian pig, Xiaoshan chicken and Wenling peak cattle, and protected 249 local poultry varieties. Forest seedling management stations have been established in 31 provinces (autonomous regions and municipalities directly under the Central Government), forest seedling management institutions established in 295 cities and 1569 counties, all of which assume the management functions of forest germplasm resources and form a relatively complete forest germplasm resource management system. A number of special banks and comprehensive banks for the preservation of forest germplasm resources have been established, and more than 2,000 tree species have been preserved, including more than 120 key tree species. By the end of 2015, the national forestry system had listed 2.853 million old and famous trees for protection. More than 200 botanical gardens have been established.

14. Essential ecosystem services

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has carried out national strategies and actions to strengthen in situ conservation of biodiversity, scientifically carry out ex situ conservation of biodiversity, and implement important ecosystem conservation and restoration projects. At present, China has established an ex-situ conservation system for wildlife and germplasm resources and a system of protected areas and has steadily implemented a large number of major ecological conservation and restoration projects such as natural forest resource protection, returning farmlands to forests and grasslands, returning grazing to grassland, forest belt construction, rivers and lakes and wetland protection, desertification prevention and control, soil and water conservation, rock desertification control, wildlife protection and nature reserve construction.
The food provisioning capacity of China's terrestrial ecosystem increased from 1614.59 trillion kcal in 2006 to 2001.75 trillion kcal in 2016, an increase of 23.98% in 10 years. During 2013-2016, food provisioning capacity in China's terrestrial ecosystem increased by 1.93%. The ecological regulating services of China's terrestrial ecosystems have improved significantly. During 2000-2015, the water conservation services of China's terrestrial ecosystems increased from 1,220 billion m3 in 2000 to 1,230 billion m3 in 2015, an increase of 0.82% in 15 years. The wind and sand fixation services increased from 12.146 billion tons in 2000 to 13.83 billion tons in 2015, an

EN

increase of 13.86% in 15 years. The soil maintenance services increased from 207.225 billion tons in 2000 to 209.427 billion tons in 2015, an increase of 1.06% in 15 years. During 2010-2015, the services of wind and sand fixation and soil conservation in China's terrestrial ecosystems increased by 0.59% and 0.46%, respectively.
The Ocean Health Index comprehensively assesses the ability of the oceans to provide human well-being in terms of food supply, natural products, carbon sinks, livelihoods, tourism and vacation, clean water, biodiversity, regional identity, and safe coastline. With the full score being 100, the total score of China Ocean Health Index is between 62.44 and 64.52 during 2012-2017, indicating that there is still much room for improvement in China's marine fisheries and ecology. However, the scores in the nine aspects of marine aquaculture, economy, livelihood, species status, biodiversity, handicrafts, food supply, habitat and safe coastline have all remained above 70, indicating that China’s Ocean Health Index in these nine aspects is relatively high.
The per capita net income of rural households in China increased rapidly. It was only 133.60 yuan in 1978, and increased to 10,772.00 yuan in 2015, an increase of 79.63 times. If calculated at the constant price of 1978, the actual growth rate is 14.10 times. From 2013 to 2015, the per capita net income of rural households in China increased from 8,895.91 yuan to 10,772.00 yuan, an increase of 21.09%. After deducting the price factor, it actually increased by 17.39% compared with 2013. This is partly due to the increased ability of ecosystems to provide goods.
The natural forest resource protection project, the returning farmlands to forest project and the Beijing-Tianjin-Hebei wind-sand treatment project not only produce huge ecological benefits, but also play an important role in poverty alleviation. The number of poor people in the sample counties of the three major project areas showed a downward trend. Among them, the sample counties of the Natural Forest Resources Protection project area lifted 1.6083 million persons out of poverty from 1997 to 2015. The number of people out of poverty in the sample counties in the project area of returning farmlands to forests reached 4.2389 million from 1998 to 2015. The number of people who have been out of poverty in the sample counties of the Beijing-Tianjin-Hebei Wind Control Project area from 2000 to 2015 reached 697,000. Compared with 2013, the number of poor people in the sample counties of the Natural Forest Resources Protection Project area and the Beijing-Tianjin-Hebei Wind Control Project area decreased by 33.95% and 2.67%, respectively.

15. Ecosystem resilience

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

A group of major ecological conservation and restoration projects have been implemented, such as natural forests protection, reclaiming farmlands for forestry and grasslands, reclaiming grazing lands for grasslands, forest belt construction, restoration

EN

of river, lake and wetland ecosystems, water and soil conservation, control of rocky lands, wild animal and plant protection and establishment of protected areas.
Since the launch of the key ecological projects in forestry, the national forest resources have increased rapidly. During 2013-2017, the country completed a total of 34 million hectares of afforestation and forest conservation of 41 million hectares, with the forest area reaching 208 million hectares, and forest reserves up to 15.137 billion m3, making China become the country with the largest increase in global forest resources during the same period. During 2011-2015, China launched a new round of returning farmlands to forests, completing 1 million hectares of land for returning farmlands to forests and grassland; the North, Northwest and North East China Forest Belt Project carried out the construction of 6 shelterbelt forest bases with 66667 hectares and the transformation of degraded forests, completing afforestation of 3.316 million hectares. The Yangtze River, the Pearl River, the coastal shelter forest project and the Taihang Mountain greening project completed 2.032 million hectares of afforestation, and the forest coverage rate of the project area grew by 1.2 per cent. The rock desertification control and the Beijing-Tianjin sand source control project completed 1.4087 million hectares and 2.133 million hectares of afforestation respectively. 1.9933 million hectares of the national reserve forests have been built. The results of the fifth national desertification and land degradation monitoring (2009-2014) showed that the net reduction of desertified land area was 1.21 million hectares in the past five years, with an average annual reduction of 242,400 hectares; the net reduction of degraded land area was 990,200 hectares, with an average annual reduction of 198,000 hectares. Compared with the results of the fourth monitoring (2004-2009), desertification and land degradation showed a good trend of overall containment, continuous reduction and functional enhancement. The forest coverage rate of the sample counties in the natural forest resource conservation project, the returning farmlands to forest project and the Beijing-Tianjin-Hebei wind-blown sand control project is on the rise. The forest coverage rate of the Natural Forest Resources Protection Project area increased from 31.65% in 1997 to 37.32% in 2015; the forest coverage rate in the returning farmlands to forest project increased from 20.41% in 1998 to 30.58% in 2015; the forest coverage rate of the Beijing-Tianjin-Hebei sand control project area increased from 19.96% in 2000 to 35.02% in 2015. Compared with 2013, the forest coverage rate of the sample counties in key ecological project areas of the project of returning farmlands to forests and the Beijing-Tianjin-Hebei sand control project increased by 5.27% and 2.93%, respectively, while the forest coverage rate of the sample counties of natural forest resources protection project was decreased slightly, which is 0.56% lower than that of 2013. the forest stocks in the sample counties of the Natural Forest Resources Conservation Project, the Returning Farmlands to Forest Project and the Beijing-Tianjin-Hebei Sandstorm Control Project have shown an upward trend. The forest stocks in the Natural Forest Resources Protection Project increased from 427.459 million m3 in 1997 to 674.3015 million m3 in 2015, an increase of 57.75%. The forest stocks in the returning farmlands to forest project area increased from 473.3919 million m3 in 1998 to 698.5595 million m3 in 2015, increased by 47.56%. The forest stock volume of the Beijing-Tianjin-Hebei Sand Control Project area increased from 53.0055 million m3 in

2000 to 89.8324 million m3 in 2015, an increase of 69.48% (Figure 3.68). Compared with 2013, the forest stocks in the sample counties of natural forest resource conservation projects, returning farmlands to forest projects, and Beijing-Tianjin-Hebei sand control projects increased by 2.98%, 7.27%, and 13.46%, respectively.

China has continuously increased the protection of grassland ecosystems, and the ecological environment in some areas has improved markedly. The momentum of continuous deterioration of grassland ecological environment has been initially curbed. According to monitoring, in 2017, the national grassland comprehensive vegetation coverage reached 55.3%, and the natural grassland fresh grass total output was 1.07 billion tons, which remained above 1 billion tons for 7 consecutive years. The comprehensive vegetation cover of Inner Mongolia Autonomous Region reached 44%, and the grassland ecology has recovered to that near the level of the mid-1980s. The comprehensive vegetation coverage of grassland in Xinjiang Uygur Autonomous Region reached 41.3%, the highest historical value since the monitoring record was created (2011). The water conservation capacity of grassland ecosystems in the Three Major River source region of Qinghai increased by 2.84 billion m3. The grassland ecological restoration in key project areas is improving. In 2016, the average vegetation coverage in the Beijing-Tianjin Sandstorm Source Grassland Treatment Project area was 72%, a rise of 32 per cent than that of the non-engineering area; the average vegetation coverage in the project area of returning grazing and grassland was 66%, a rise of 10 per cent than that of non-engineering areas. According to the remote sensing monitoring of the sample counties in the project area, the average vegetation coverage of the Beijing-Tianjin Sandstorm Source Grassland Treatment Project and the returning grazing to grassland project area in 2016 grew by 22 per cent and 2 per cent, respectively, compared with 2009, however, compared with 2013, in contrast, the grassland vegetation coverage of the Beijing-Tianjin Sandstorm Source Grassland Treatment Project areas grew by 6 per cent, while the grassland vegetation coverage of the returning grazing to grassland project area decreased by 6 per cent.

In response to the degraded wetland ecosystem, China has revised the Regulations on Wetland Protection Management in recent years. Twenty provinces have formulated provincial wetland protection regulations and established a sound wetland subsidy policy. The annual investment of funds increased from 300 million yuan during the eleventh five-year period to about 2 billion yuan in 2014, having achieved remarkable results in China's wetland protection. China's wetland area reached 53.6026 million hectares, accounting for 5.58% of the country's land area. Among them, the natural wetland is 46.67 million hectares, accounting for 87.08% of the total wetlands in the country. There are 46 internationally important wetlands, 577 wetland nature reserves and 723 wetland parks nationwide, and the national wetland protection rate has reached 49.03%.

According to the research results of the Ecosystem Carbon Sequestration Project of the Programme on the Certification of Carbon Budget for Climate Change Adaptation and Related Issues (referred to as “Carbon Special Project”) of the Class A Strategic Pilot Science and Technology Initiatives of the Chinese Academy of Sciences, (published in the Proceedings of the National Academy of Sciences in 2018), China's terrestrial

ecosystems have played an important carbon sink role in the past few decades. During the period 2001-2010, the average annual carbon sequestration of terrestrial ecosystems was 201 million tons, equivalent to offsetting 14.1% of the carbon emissions of fossil fuels in China during the same period. Among them, China's forest ecosystem is the main body of carbon sequestration, contributing about 80% of carbon sequestration, while farmland and shrub ecosystems contribute 12% and 8% of carbon sequestration respectively, and the carbon budget of grassland ecosystem is basically in balance. At the same time, based on the Forest Carbon Sequestration model, the carbon sequestration potential of China's forest vegetation from 2010 to 2050 is 14.95 Pg C, and the average carbon sequestration rate is 0.37 Pg C yr–1. Based on this calculation, the fastest carbon sequestration rate of China's forest vegetation will occur around 2020, if the existing forests are maintained (He et al., 2016).

16. Nagoya Protocol on ABS

Interim national report on the implementation of the Nagoya Protocol

ABSCH-NR-CN-238748-1 CHINA’S INTERIM NATIONAL REPORT ON THE IMPLEMENTATION OF THE NAGOYA PROTOCOL

Additional relevant information that has not been included in the interim national report

China attaches great importance to the protection and management of biological genetic resources and associated traditional knowledge. It has successively promulgated and implemented a series of laws and regulations related to biological resources, such as the Animal Husbandry Law, the Seed Law, the Chinese Medicine Law, the Environmental Protection Law, and the Wild Animals Protection Law, the Intangible Cultural Heritage Law, the Imported and Exported Animal and Plant Quarantine Law, the Patent Law, the Wild Plant Protection Regulation, the Examination and Approval Rules for Import, Export and Utilization of Livestock and Poultry Genetic Resources in International Collaborative Researches, etc.. Some provisions in these laws and regulations provide principles for the acquisition of resources, traditional knowledge or benefit-sharing. The State Council has successively issued the Notice on Strengthening the Protection and Management of Biological Species Resources, the National Planning for the Conservation and Utilization of Biological Species Resources, the National Intellectual Property Strategy, and China Biodiversity Conservation Strategy and Action Plan (2011–2030) as well as the Chinese Herbal Medicine Protection and Development Plan (2015-2020), etc., which have identified the protection of biological genetic resources and establishment of access and benefit-sharing system and regulations as a strategic task and priority action. In 2014, the National Committee for Biodiversity Conservation of China reviewed and approved the National Work Program for Strengthening the Management of Biological Genetic Resources (2014-2020), which requires the establishment of specialized laws and

EN

regulations on access to and benefit-sharing of biological genetic resources as soon as possible. The Ministry of Environmental Protection together with the Ministry of Science and Technology, Ministry of Agriculture, State Forestry Administration, and Chinese Academy of Sciences, issued the Notice on Strengthening the Management of Utilization and Benefit-sharing of Genetic Resources in Foreign Cooperation and Exchange. At present, the Regulation on the Management of Access to and Benefit-sharing of Biological Genetic Resources has been included in the national legislative work plan.

17. NBSAPs

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

In 2010, the Chinese government issued and implemented the National Biodiversity Strategy and Action Plan and issued a series of national strategies and plans for ecological civilization, which constitute the national biodiversity conservation target system and road map. In 2011, the State Council approved the change of the China National Committee for the International Year of Biodiversity (2010) to the China National Committee for Biodiversity Conservation. The National Committee consists of 25 departments that promote and coordinate national biodiversity conservation efforts and guide the China Action for the United Nations Decade of Biodiversity. All provinces (autonomous regions and municipalities directly under the Central Government) have strengthened the construction of institutions related to biodiversity conservation such as environmental protection, agriculture, forestry, and oceanic administration. Since 2011, six provinces including Shanxi and Tibet have established biodiversity conservation work committees, and three provinces including Jilin, Guangdong and Yunnan have established a cross-sector liaison mechanism for biodiversity conservation. Three provinces such as Hunan and Ningxia and the Liaohe River Administration established a biodiversity conservation leading group. Guangxi established a preparatory group for the development of a strategy and action plan. Other provinces (autonomous regions and municipalities directly under the Central Government) established a cross-sector liaison mechanism for the protection of biological species resources. As of the end of May 2016, 18 provinces have completed and released the province's biodiversity conservation strategy and action plan, including Tianjin, Heilongjiang, Jilin, Shanghai, Jiangsu, Zhejiang, Fujian, Jiangxi, Shandong, Hubei, Guangxi, Hainan, Chongqing, Sichuan, Yunnan, Tibet, Ningxia. Hebei, Shanxi, Liaoning, Henan, Hunan, Guangdong, Shaanxi, Gansu, Qinghai and Xinjiang have submitted their PBSAPs for approval by their provincial (autonomous region) government. Beijing, Inner Mongolia, Anhui and Guizhou have completed their PBSAPs and are undertaking public consultations.	EN

18. Traditional knowledge

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China's genetic resources and traditional knowledge are abundant. Although the benefit-sharing system has not yet been systematically established, the State Administration of Traditional Chinese Medicine, the competent cultural authorities, the Ministry of Agriculture and other relevant departments carried out the management of genetic resources and related traditional knowledge, focusing on traditional Chinese medicine, intangible cultural heritage, and local breed resources as well as management of genetic resources and their associated traditional knowledge. The Chinese Medicine Law, implemented in 2017, stipulates that traditional Chinese medicine holders have the right to inherit and use, the right to prior informed consent and the right to share benefits of their traditional knowledge. At the same time, Article 42 of the Law stipulates that for the theoretical and technical methods of Chinese medicine with important academic value, the competent department of Chinese medicine at the provincial level or above shall organize the selection of Chinese medicine academic inheritance projects and heirs within the administrative region and provide conditions for inheritance activities. When the Intangible Cultural Heritage Law requires the investigation of intangible cultural heritage, the consent of the respondent should be obtained in advance, and its customs and habits should be respected, and its legitimate rights and interests should not be harmed. As of May 2018, the State Council announced four batches of 1,836 national intangible cultural heritage projects (including 1,372 national-level representative projects and 464 expansion projects) and five batches of representatives of 3,068 inheritors of representative projects of national-level intangible cultural heritage. Among them, traditional techniques and traditional medicine are closely related to biological genetic resources, involving traditional knowledge related to biological genetic resources, a total of 370 national intangible cultural heritages and 400 inheritors. Local people's governments at all levels are also actively carrying out the identification of intangible cultural heritage and representative inheritors at the provincial, city and county levels. Through the advanced search of relevant websites and portals, relevant intangible cultural heritage applications, recorded laws and regulations of Chinese medicine, and the number of certified products of geographical indication are searched. The results show that the three indicators are increasing, indicating traditional knowledge and practices related to conservation and sustainable use of biodiversity and their customary use of biological resources are increasingly respected.	EN

19. Biodiversity knowledge

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has arranged the survey and collection of and sharing platform for animals, plants, micro-organisms and timber germplasm resources, while establishing sharing platforms for natural science resources. The Ministry of Science and Technology (MOST), together with MEP and SFA, organized a Key Research and Development Program on Conservation and Restoration of Typical Vulnerable Ecosystems, and established a platform for DNA barcoding of endangered plants. Through specialized fiscal transfers and relevant department budgets, the Ministry of Finance allocates funds on an annual basis for the national forestry protected areas and the protection of rare, endangered wild animals, with focus on establishment and management of protected areas, biodiversity survey, communication and education, international cooperation and the protection of rare, endangered wild animals. Funds are also provided to the species protection, mainly for supporting the protection of endangered aquatic animals and plants as well as wild agricultural crops. The Ministry of Land Resources undertook studies on the restoration of biodiversity in reclaiming open coalmines. The Ministry of Environmental Protection has implemented a number of research projects focusing on biodiversity conservation priority areas and management of national-level protected areas. The Ministry of Agriculture has initiated studies and demonstration projects on protection and use of wild agricultural plant resources and techniques for comprehensive prevention and control of invasive alien plants. The State Administration on Chinese Medicine has undertaken technical studies on the traditional knowledge related to Chinese medicine. The Chinese Academy of Sciences has initiated the development of strategic biological resources networks and completed the construction of four resources collection and preservation platforms for botanical gardens, specimens' museums, gene resources banks and biodiversity monitoring and research. CAS has also completed the construction of three assessment and transformation platforms for plant germplasm, biological resources derivatives bank and natural active compounds. The comprehensive information network integrating resources such as animals, plants, microorganisms, and specimens is realized, which has played an important role in the collection, preservation, protection and utilization of biological resources in China, and supporting the sustainable development of the national economy. Meanwhile, through the youth talent development project, special training, academic conferences and other exchange activities played an important role in talent training.

The Ministry of Education (MOE) also strengthens the development of biodiversity-related disciplines and supports the innovation and talent development in the field of biodiversity, by giving institutions of higher education more authority to establish their own majors and subjects in this regard. China now has a total of 396 institutions that can award PhD degrees and 497 institutions that can award master's degrees related to biodiversity. Over 140 institutions of higher education have established more than 700 subjects related to biodiversity. The number of graduate students from biodiversity-related majors has been increasing year by year, and by 2013 the number has reached about 100,000.

In recent years, China has implemented a series of major plans to attract talents in the field of biodiversity, such as the Thousand Experts Plan and the Yangtze River Scholars

EN

Plan, with a view to attracting and fostering a group of head or leading scientists in the field of biodiversity research and advancing national key research areas up to the international level.
By searching the relevant papers published during 1993-2017 with the keyword "biodiversity" through the Chinese Knowledge Network (www.cnki.net), and the published papers included in Science Citation Index during 1993-2017 with the keyword "Biodiversity" through the foreign language database (ISI Web of Science), the results show that overall the academic papers on biodiversity conservation are increasing year by year.
China's national R&D investment has continued to increase. Since 2014, national R&D investment has accounted for more than 2% of GDP, and in 2017 it reached 2.12%. As national R&D investment increases, so does the investment related to biodiversity conservation and sustainable use.
On the website of the State Intellectual Property Office, the number of patent applications in the field of biodiversity research for 2009-2017 was searched with the keyword “biodiversity”. The progress was slow before 2009, and the total number of applications was only 108. During 2014 - 2017, the number of patent applications in the field of biodiversity research was growing gradually, with biodiversity-related patent applications reaching over 120 per year.
The “records of species occurrence” in China searched on the Global Biodiversity Information Network (GBIF) (https://www.gbif.org/occurrence/search?country=CN) since 2011show that during 2013-2017, this indicator continued to increase, from 1.959 million records in 2013 to 2.149 million records in 2017.

20. Resource mobilization

Financial Reporting Framework

https://chm.cbd.int/database/record/207684 2015 National Financing Report for the Convention of Biological Diversity

Description how and to what extent the country has contributed to the achievement of this Aichi Biodiversity Target

China has increased its funds for the implementation of NBSAP substantially and through multiple channels and has enhanced the capacity of governments at all levels to conserve and sustainably use biodiversity. In recent years, all regions and relevant departments have promoted the development of ecological conservation compensation mechanisms in an orderly manner and achieved progress. Since 2000, China's ecological conservation funds have shown an upward trend. The compensation for forest ecological benefits increased from 1 billion yuan in 2001 to 15.6 billion yuan in 2015, an increase of nearly 15 times. The grassland ecological conservation subsidy increased from 13.6 billion yuan in 2011 to 18.76 billion yuan in 2016, an increase of

EN

37.94%.

Description of country’s contributions to the achievement of the Aichi Biodiversity Targets, please describe how and to what extent these contributions support the implementation of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals:

China gives high importance to the 2030 Agenda for Sustainable Development. The 13th five-year plan adopted at the fourth session of the 12th National People's Congress in March 2016 integrates sustainable development well into China's long and medium term national development plan. By now, all the work related to the implementation of the Agenda is put in place and being fully implemented in China. China has also done tremendous work in the field of biodiversity conservation to achieve 2030 Sustainable Development Goals and made important contributions (see Table 4.1). Among them, China is making good progress in implementing Goals 1 (poverty reduction), 2 (hunger eliminated), 3 (healthy lifestyles), 4 (equal education), 6 (water and sanitation), 8 (economic growth), 10 (reducing regional inequalities), 12 (sustainable production and consumption), 13 (response to climate change) and 15 (protecting terrestrial ecosystems). However, as the biggest developing country in the world, China is still facing huge challenges in the implementation of SDGs, such as poverty reduction, improving livelihoods, addressing social problems, achieving common prosperity, improving national governance structure, enhancing governance capacities and coordinating developments at different regions, levels and sectors.Table 4.1.docx	EN

Section V. Description of the national contribution to the achievement of the targets of the Global Strategy for Plant Conservation

China does not have national targets related to the GSPC Targets

1. An online flora of all known plants

2. An assessment of the conservation status of all known plant species, as far as possible, to guide conservation action

3. Information, research and associated outputs, and methods necessary to implement the Strategy developed and shared

4. At least 15 per cent of each ecological region or vegetation type secured through effective management and/or restoration

5. At least 75 per cent of the most important areas for plant diversity of each ecological region protected with effective management in place for conserving plants and their genetic diversity

6. At least 75 per cent of production lands in each sector managed sustainably, consistent with the conservation of plant diversity

7. At least 75 per cent of known threatened plant species conserved in situ

8. At least 75 per cent of threatened plant species in ex situ collections, preferably in the country of origin, and at least 20 per cent available for recovery and restoration programmes

9. 70 per cent of the genetic diversity of crops including their wild relatives and other socio-economically valuable plant species conserved, while respecting, preserving and maintaining associated indigenous and local knowledge

10. Effective management plans in place to prevent new biological invasions and to manage important areas for plant diversity that are invaded

11. No species of wild flora endangered by international trade

12. All wild harvested plant-based products sourced sustainably

13. Indigenous and local knowledge innovations and practices associated with plant resources

maintained or increased, as appropriate, to support customary use, sustainable livelihoods, local food security and health care

14. The importance of plant diversity and the need for its conservation incorporated into communication, education and public awareness programmes

15. The number of trained people working with appropriate facilities sufficient according to national needs, to achieve the targets of this Strategy

16. Institutions, networks and partnerships for plant conservation established or strengthened at national, regional and international levels to achieve the targets of this Strategy

Section VI. Description of the national contribution to the achievement of the targets of indigenous peoples and local communities

There are 56 ethnic groups in China that have created rich traditional knowledge, innovations and practices for the conservation and sustainable use of biodiversity in their practices over thousands of years. During 7,000 years of agricultural practice, the Chinese people cultivated and domesticated a large number of excellent varieties of crops, livestock, poultry and fish. Among the 600 crops cultivated in China, nearly 300 species originated directly from China, or imported species that have been cultivated for more than 1,000 years. Traditional Chinese medicine is a medical system with unique theories that have been gradually developed by the Chinese people in the long-term medical and life practices. Traditional Chinese medicine is a general term for Chinese medicine of various ethnic groups, including Han (Chinese) medicine, Tibetan medicine, Mongolian medicine, Uyghur medicine, Zhuang medicine and other ethnic medicines. In traditional Chinese medicine, because the Han Chinese population is the most populous, the language characters were created the earliest, the history and culture are relatively long, therefore Han Chinese medicine has formed its own unique and complete theoretical and clinical systems. Traditional Chinese medicine is currently the most completely preserved traditional medicine system and probably has the longest history of spreading in the world. Over a long history of thousands of years, the Chinese people have created a theoretical system of traditional Chinese medicine characterized by "harmony between man and nature", as well as a medical treatment model characterized by balanced treatment, simplicity, convenience, rechecking and	EN

low cost. Only the number of private prescriptions has reached 300,000, and there are 60,000 records in the pharmacopoeia. In addition to traditional Chinese medicine, traditional medicines of ethnic minorities are also very rich and varied, and the famous ones include Tibetan medicine, Mongolian medicine, Miao medicine, and Dong medicine. China has a vast territory and a large number of ethnic groups. Due to the complex natural conditions, geographical, resource and cultural differences, various regions and ethnic groups have also created a wide variety of traditional technologies applicable for sustainable use of biological resources, including traditional technologies, innovations and practices for agricultural production and other industries related to biological resources, as well as folklore and traditional religious culture related to biodiversity conservation and sustainable use, such as ethnic totems, mountain worship, forest gods, and feng shui. Studies have shown that cultural diversity has a role for biodiversity conservation and promotion, such as the Pattra-leaf culture of the Dai people and the Buddhist culture, which plays an important role in the conservation and sustainable use of plant diversity. According to statistics, there are more than 100 kinds of plants closely related to Buddhist activities in Xishuangbanna. 91 plants have been preserved and restored in Buddhist temples, effectively protecting plant resources and species diversity. The Totem culture of the Yi people plays an important role in the protection of forest ecosystems, biological species and genetic resources in Zixi Mountain, Yunnan. The traditional knowledge of the Yao and Li ethnic groups in production, religion, customary law and culture and art promoted the conservation and sustainable use of biodiversity.

In terms of public participation, local communities in China actively participate in biodiversity-related conservation actions such as construction of nature reserves, implementation of major ecological projects, and pollution prevention and control. Through the community co-management approach, the nature reserve management bodies manage the natural resources of the nature reserves together with the local and surrounding communities, thus solving the contradiction between the residents and the land in the protected area and playing a key role in the healthy development of the nature reserves. For example, in 2014, with the support of Global Environment Facility/ International Fund for Agricultural Development (GEF/IFAD), as well as the pilot project funds for wetland ecological compensation provided by the Ministry of Finance and the State Forestry Administration, community co-management projects with farmers and herdsmen involved were implemented in the Haba Lake Nature Reserve. The projects gradually brought alternative livelihoods to local communities, changed the production and management structure of the local communities and reduced the dependence of farmers and herdsmen on the resources of the protected area. In the implementation of a number of major ecological protection and restoration projects in China, community residents are widely involved in the protection of natural forest resources, ecological public benefits forest management, returning farmlands to forests and grasslands, and clean energy transformation, so that resources and biodiversity in the project area are effectively protected. In the battle against pollution, local communities actively participated in environmental remediation activities. The community residents made suggestions for pollution control through various methods such as Weibo, WeChat, and

e-mail, and fully exerted the power and advantages of public participation in eco-environment governance.
In short, traditional knowledge, concepts, technological innovations, cultural practices and customary practices created by the people of all ethnic groups in China in the long-term production and life process and in the process of protecting and using biological resources, played very important roles in the implementation of Aichi Targets 4 (sustainable production and consumption), 5 (habitat loss halved or reduced), 7 (sustainable agriculture, aquaculture and forestry), 8 (environmental pollution controlled), 11 (enhanced protected area systems and effective management), 14 (critical ecosystem services restored and secured) and 15 (ecosystem restoration and resilience).

Section VII. Updated biodiversity country profile

Biodiversity facts : Status and trends of biodiversity, including benefits from biodiversity and ecosystem services and functions:

1. China’s Rich and Unique Biodiversity and its Threatened Condition.

China’s rich and unique biodiversity is formed due to its vast land area, complicated topographical conditions and coverage of several climate zones. China is one of the twelve biodiversity-richest countries in the world (MEP, 2011). For terrestrial ecosystems, China has 212 types of forests, 113 types of shrubs, 77 types of meadows, 55 types of grasslands and 52 types of deserts. China has four major types of natural wetlands, including marshlands, offshore and coastal wetlands, riverine coastal wetlands and lake wetlands. There are four major marine ecosystems in China, namely the Yellow Sea, East China Sea, South China Sea and Kuroshio waters, where typical marine ecosystems are located, such as coastal wetlands, mangroves, coral reefs, estuaries, bays, lagoons, islands, up flow currents, and seagrass beds (MEE, 2018).

In terms of species diversity, the number of known species and sub-species is 92,301. Among them, there are 38,631 species in Animalia, 44,041 species in Plantae, 469 species in Bacteria, 2,239 species in Chromista, 4,273 species in Fungi, 1,843 species in Protozoa, and 805 species in Viruses (MEE, 2018). The number of higher plant species in China ranks third in the world, second only to Brazil and Colombia. China is the country with the largest number of gymnosperms in the world. There are more than 7,300 species of vertebrates in China, accounting for 11% of the world's total species, including 673 mammals, ranking first in the world (MEP and Chinese Academy of Sciences (CAS), 2015). China’s marine areas have rich species and the marine species recorded exceed 28,000, accounting for 11% of the world’s total known marine species.

EN

China’s genetic diversity is rich, as country of origin of important crops such as rice and soybean as well as main centers of origin of wild and cultivated fruit trees. China has 1,339 species of cultivated crops and up to 1,930 wild relatives. China has more than 1,000 economic tree species, ranking top in the world. There are up to 7,000 ornamental plant species originated from China. China is also one of the richest countries in the world in terms of domesticated animals, with 576 domesticated animal species (MEP, 2011).

In the spatial distribution, controlled by natural conditions such as climate, zonal vegetation types are distributed from north to south China, including cold-temperate coniferous forests, temperate mixed coniferous and broad-leaved forests, warm temperate broad-leaved deciduous forests, subtropical broad-leaved evergreen forests, tropical monsoon forests and rainforests. From east to west, with the decrease of precipitation, in north China, mixed coniferous and broad-leaved forests and broad-leaved deciduous forests are replaced by meadow grasslands, typical grasslands, desertified grasslands, grassland deserts, typical deserts and extreme droughts. In the south, among the evergreen broad-leaved forest in the eastern subtropical humid zone and the western hard-leaved evergreen broad-leaved forest, there are many species replacements of the different species but the same genus. In the local distribution, in the alpine valleys of southwestern China, due to the dramatic changes in topography and climate, a variety of ecosystems are distributed within a short distance, bringing together a large number of species. The Hengduan Mountains are the biodiversity-richest areas in China. According to the survey results of the National Assessment of Changes in Ecological Conditions (2010-2015), in 2015, China has four main types of ecosystems: grasslands, forests, farmlands and deserts, accounting for 82.6% of the country’s total land area. Natural ecological space accounts for about 78.0% of the country’s total land area, mainly composed of forest, shrub, grassland, wetland and desert ecosystems (Figure 1.1). Agricultural space accounts for about 18.9% of the country’s land area, mainly farmland ecosystems. Urban space accounts for about 3.1% of the land area of the country, mainly for urban construction land use.

Hotspots where China’s vascular plants are mainly distributed include the Min Mt, Qionglai Mt, Hengduan Mt, southwestern sections of Himalaya Mt, Qinling Mt, Funiu Mt, Daba Mt, Wuling Mt, Wuyi Mt, Nanling, Xishuangbana, mountaineous areas of southeast Yunnan-west Guangxi-south Guizhou, mountaineous areas of southwest Guangxi, mountaineous areas of central and southern Hainan and mountaineous areas of Taiwan (Figure 1.2a). The richness of fish species in inland waters is most abundant in the Yangtze River Basin and the Pearl River Basin. The Huaihe River Basin and Heilongjiang River Basin are the second. The hotspots are mainly located in the upper reaches of the Yangtze River and its tributaries Jialing River, Wujiang River, Pearl River, Minjiang River, Poyang Lake and Dongting Lake (Figure 1.2b). The amphibians and reptiles are generally distributed in the south of the Qinling-Huaihe River. The hotspots are mainly located in Wuyi Mt, Xishuangbanna, mountaineous areas of southwestern Guangxi, Nanling and mountainous areas of central and southern Hainan (Fig. 1.2c, d). Most of the birds are migratory, moving north to the breeding grounds in the spring, and

moving south to the wintering areas in the autumn, so the bird distribution has obvious migratory characteristics. The hotspots are mainly distributed in the Bohai Rim, Taiwan, and the coastal areas of Guangdong and Guangxi, Poyang Lake area, southeastern Tibet, Hengduan Mt and Gaoligong Mt in the northwest of Yunnan and Xishuangbanna area (Figure 1.2e). The species richness of mammals is similar to the distribution of plants. The hotspots are mainly located in the southeastern part of the Himalayas, Hengduan Mt, Min Mt, Qionglai Mt, Qinling Mt, Daba Mt, Wuyi Mt, Xishuangbanna Area, southwestern Guangxi border area and mountainous areas of south-central Hainan (Fig. 1.2f) (Xu et al., 2013).

China's complex and diverse natural and geographical conditions have enriched endemic species. 56.05% of vascular plants in China are endemic, such as ginkgo, silver fir, metasequoia, hemlock, Baishanzu fir and the Chinese dove tree. The endemic genera of Chinese plants forms three unique centers in the space, namely the East Sichuan-West Hubei Endemic Center, the West Sichuan-Northwest Yunnan Endemic Center and the Southeastern Yunnan-West Guangxi Endemic Center (Ying and Chen, 2011). There are 150 species of endemic mammals in China, accounting for 22.29% of the total number of mammals in the country; 77 species of endemic birds in China, accounting for 5.61% of the total number of birds in the country; 142 species of endemic reptiles in China, accounting for 30.80% of the total reptiles of the country. There are also 272 species of endemic amphibians in China, accounting for 66.67% of the total number of amphibians in the country; and 957 species of endemic fish in the inland waters, accounting for 66.32% of the total number of inland fish in the country (MEP & CAS, 2015).

China is also one of the countries in the world where biodiversity is more threatened. The China Biodiversity Red List - Higher Plant Volume assessed the endangered status of 34,450 higher plants. There are 3,767 species of threatened species in China's higher plants, accounting for 10.9% of the total number of species assessed. There are 10,102 higher plants that need to be given more attention and protected, accounting for 29.3% of the total number of species assessed (MEP & CAS, 2013). Regarding the proportion of threatened species, gymnosperms were 51.0% and angiosperms were 11.4%.

The China Biodiversity Red List - Vertebrate Volume assessed the endangered status of 4,357 species of vertebrates. The number of threatened species of vertebrates in China is 932, accounting for 21.4% of the total number of species assessed. Among them, mammals are threatened with a total of 178 species, accounting for 26.4% of the total number of mammalian species. There are 146 species of threatened birds, and the threat ratio is 10.6%. A total of 137 species of reptiles were threatened with the threat ratio being 29.7%, which is higher than the percentage of threatened reptiles in the world (21.2%).

There are 176 species of threatened amphibians, with a threat ratio of 43.1%, which is much higher than the global percentage of threatened amphibians (30.6%). There are 295 species of inland waters fishes threatened, with a threat ratio of 20.3% (MEP and

CAS, 2015).

While developing China Biodiversity Red List-Macrofungi Volume, the status and threat level of 9,302 known macrofungi were assessed. It was found that 97 species of macrofungi are endangered, including one species close to extinction, 9 extremely endangered, 25 endangered and 62 vulnerable. The endangered species account for 1.04% of the total species assessed. There are 57 endemic macrofungi endangered, accounting for 4.20% of the total endemic species assessed. There are up to 6,538 species that need to be given more attention and protected, accounting for 70.29% of the total species assessed (MEE & CAS, 2018).

The loss of genetic resources in China has not been effectively curbed. According to the results of the Second National Livestock and Poultry Genetic Resources Survey, there are 15 local livestock and poultry germplasm resources not found in the country, and the number of more than half of local varieties is declining. The endangered and close-to-extinction germplasm resources account for about 18% of the total local livestock and poultry breeds (MOA, 2016). The phase results of the Third National Census of Crop Germplasm Resources show that the situation of China's germplasm conservation was not optimistic, and the loss rate of endemic germplasm resources such as some local varieties and wild relatives of major crops was significantly accelerated. Guangxi Zhuang Autonomous Region had 1,342 wild rice distribution points in 1981, and only 325 points were left in 2015 (MOA et al, 2015)

2. China’s Biodiversity and Human Well-being

Biodiversity has very high and even incalculable values and very close relationships with human well-being. Biodiversity provides the most important material foundation on which human societies depend for their survival and development. Human production and life depends on biodiversity. This is particularly the case for people living in socially and economically underdeveloped areas, as their life necessities such as basic food and energy depends to great extent on biodiversity.

Biodiversity provides various ecosystem services and goods for human beings. For example, forests provide timber and non-timber products for human being. A large number of people depend on these products for livelihood. The results of China’s forest resources accounting jointly launched by the State Forestry Administration (SFA) and the State Statistics Bureau (SSB) show that the total value of national forest land and forest assets is 21.29 trillion yuan, with the per capita forest wealth being 15,700 yuan. The results of national forest ecosystem services accounting indicate that the total annual value of ecosystem services provided by forests is 12.68 trillion yuan, equal to 22.3% of China’s GDP in 2013. It means that forests provide every citizen with ecosystem services valuing at 9,400 yuan (SFA & SSB, 2014).

Wetlands provide important ecosystem services for human beings. Wetlands are commended as “the earth’s kidney”, “cradle of life”, “species gene bank” and “paradise of birds” and have huge ecological functions, thus providing important life-support systems. Wetland area in China accounts for 5.58% of the country’s total land

area. As important freshwater ecological guarantee, wetlands preserve about 2.7 trillion tons of fresh water and 96% of the country’s usable fresh water resources. Wetlands have strong water purification functions. Wetlands per hectare can remove more than 1000 kg of nitrogen and more than 130 kg of phosphorus, thus playing a huge ecological function in reducing pollution.

Pollination is a basic ecosystem service, not only essential for reproduction of wild plants, but also important for maintaining agricultural production. Nearly 90% of the wild flowering plants in the world at least partially depend on pollination. Animal pollination also directly affects the output of agricultural products, which account for 5-8% of the world’s total agricultural outputs (IPBES, 2016). China is a major agricultural country, so insect pollination plays a very crucial role in agricultural production. The added value for agricultural crops by bee pollination exceeds 50 billion yuan every year. If bee pollination for fruits and vegetables can be increased by 30%, the additional economic benefits across the country can exceed 16 billion yuan (MOA, 2010).

According to the statistics provided by the World Health Organization, about 3 billion people from 80% of developing countries depend on herbal medicine for their medical treatment. Extracts from some plants have become important medicines, such as paclitaxel, ginkgo flavonoids and artemisinin. China has more than 12,000 varieties of traditional medicines and about 80% of the Chinese population depends on traditional medicines and treatment methods. These traditional medicines have special effects in fighting cancers, killing pains, connecting joints, contraception, treating rheumatism and psychiastrical treatment as well as repelling and killing pests (Pei, 2000; Xue and Guo, 2009).

Biodiversity and cultural diversity are mutually influencing and interacting (Jiang and Ma, 2014). Cultural diversity has increased human resilience and chances of survival when faced with unexpected disasters and changing environment. In ancient China, many poems were written on harmony with nature and biodiversity. “Ode to Spring” by Meng Haoran, “Farewell to Lin Zifang at Jingzi Temple at Sunrise" by Yang Wanli (for praising the summer), “Fall Songs in Mountain House” by Wang Wei and “Second Day of Winter Coming” by Du Fu (for amazing winter) have fully reflected ancient Chinese artistic interest in all four seasons when they enjoyed bird songs in spring, cicada singing in summer, insects singing in autumn and snow falling in winter. Elunchun ethnic group living in the forests in the northern part of Heilongjiang had very close relationships with reindeer while they were adapting to nature over a long period of time. Reindeer is not only used as their food, medicine and transportation tool, but also merged into their language, religion, architecture and customs. China is the earliest country in the world conducting fish farming in the rice paddy fields. This traditional ecological farming method not only makes full use of land and water resources, but also increases outputs of food and aquatic products, generating remarkable economic, social and ecological benefits. Therefore, this tradition is passed on from generation to generation and widely applied in the rice production areas of China, thus becoming a very robust agricultural cultural heritage. South China has rich bamboo resources and

bamboos become main production and life materials for various ethnic groups living in south China. Bamboo culture has become an important part of traditional cultures in western and southwestern Yunnan, Bamboo worship even developed among local people.

Biodiversity provides inspirations for scientific discoveries and inventions. In the 1970’s, Academician Yuan Longping, a well-known Chinese expert on hybrid rice as well as Chinese Academy of Engineering academician, successfully developed hybrid rice, by using infertile wild rice found in Hainan to hybrid with cultivated rice. His work in this regard contributed outstandingly to food security in the world. Inspired by the Chinese classic "Elbow Reserve", Chinese female pharmacist Tu Youyou successfully extracted artemisinin from the plant Artemisia annua. The discovery of artemisinin has saved the lives of millions of people around the world, especially in developing countries.

Main pressures on and drivers of change to biodiversity (direct and indirect)

Threats faced by China’s biodiversity are multi-fold, mainly including loss of and damage to natural habitats, overexploitation of natural resources, environmental pollution, invasive alien species and climate change.

(1) Loss of and damage to natural habitats

Reclaiming wetlands from the 1950’s to 1990’s has caused significant reductions in wetland areas. Despite some increases in inland water areas in recent years, area claimed for farmlands from tidal flats and marshlands is still increasing. According to a second national wetland survey (2009-2013), compared with the first national wetland survey, wetland areas were reduced by 3.3962 million hectares, with reduction rate being 8.82%. Among them, coastal wetland areas were reduced by 1.3612 million hectares and the reduction rate was 22.91%. Occupation by human activities and changing use of wetlands are main causes.

Claiming grasslands for farmlands and insect and rat disasters happen at times. A statistical report on illegal cases related to grasslands issued by the Ministry of Agriculture in 2017 showed that over 13, 000 such cases of various kinds led to destruction of grasslands of 7,500 hectares. In 2017, the area of grasslands affected by rats was 28.447 million hectares, accounting for 7.2% of the country’s total grassland area. The area of grasslands affected by pests was 12.961 million hectares, accounting for about 3.3% of the total grassland area.

Loss of important habitats such as spawning grounds, feeding sites, wintering sites and returning channels is one of main causes of reductions in aquatic biodiversity. Due to long-standing reclamation of lakes for farmlands, stone and sand mining, and river transportation, the Yangtze river dolphin (Lipotes vexillifer), the Chinese paddlefish (Psephurus gladius) and reeves’ shad (Macrura reevesi) have become extinct functionally. The narrow-ridged finless porpoise (Neophocaena asiaeorientalis) and the Chinese sturgeon (Acipenser sinensis) have become extremely endangered (MEE et al.,

EN

2018).

(2) Overexploitation of natural resources

Wild animals and plants usually become targets of illegal trade, due to their multiple economic values such as herbal, food and recreational values. Despite a series of law enforcement actions taken by China, illegal trade still occurs. Over a hundred species of wild animals and plants are illegally hunted, collected and put on market in China, posing serious threats to the safety of endangered animal and plant populations. Some orchid plants have been destructively collected for nearly 20 years, leading to serious damage to wild orchids and almost extinction of some orchid plant species in China.

Overharvesting of fishery resources and illegal fishing are very serious problems, leading to drastic reductions in the number of aquatic species and populations. Main economic fishes tend to be young and small-sized. In recent years, on the annual average, the number of young babies of four major fishes in the Yangtze River is less than 3% of those found in the 1960’s. The northern bronze gudgeon (Coreius septentrionalis) which used to be widely distributed in the Yellow River Basin was not harvested for many years. Common or dominant fishes of over 100 species in the Pearl River have been gradually reduced to rare or endangered species (MEE at al., 2018).

(3) Environmental pollution

Water environment in key river basins is being constantly degraded due to the discharging of large amounts of industrial and municipal wastewater and the use of agricultural chemicals and fertilizers, posing a huge threat to aquatic biodiversity. In 2017, among 1,940 surface water sections or points (for water quality monitoring) across the country, the percentage of sections with water quality of the Classes IV and V standards accounts for 23.8% and those lower than Class V standards for 8.3%. The main pollutants are COD, BOD5, ammonia nitrogen and potassium permanganate (MEE, 2018). The monitoring results of 20 sampling regions in typical marine ecosystems such as estuaries, bays, marshland wetlands, coral reefs, mangroves and seagrass beds show that four marine ecosystems are in favorable conditions, fourteen in less favorable conditions and two in unfavorable conditions. So the environmental pollution has brought considerable pressures on marine biodiversity (MEE, 2018).

(4) Invasion of alien species

As a major trading nation, China has become one of the countries in the world mostly affected by invasive alien species (IAS). From 2011 to 2015, a total of 8,945 harmful pests were detected or intercepted from imported agricultural products by the import and export quarantine authorities across the country. The number of invasive alien species brought into China and damages/harms caused by IAS are increasing. According to relevant statistics, the number of invasive alien species in China has exceeded 560. Among the global list of 100 harmful IAS announced by IUCN, China has 51.

(5) Climate change

Climate change has imposed significant impacts on natural ecosystems and biodiversity in China, including habitat degradation or loss, increasing rate of species extinction, shifts in species distribution, changes in biological phenology and reproduction time, and changes in inter-species relationships. All this brings new issues and challenges to biodiversity conservation in China (Wu et al., 2011; Yu et al., 2014). For example, glacial melting in Qing-Tibet Plateau has changed high mountain vegetation, and moved up forest lines. The spring phenology for some plants in north and northeast China and the lower reaches of the Yangtze River has come earlier than usual, while that for some plants in areas south of Qinling, the eastern part of southwest China and the middle reaches of the Yangtze River has postponed (Yuan and Ni, 2007). From the 1950's to the early 21st century, the sea level of the coastal areas of China was taking an upward trend, which has caused impacts on marine and coastal biodiversity.

Implementation of the NBSAP

The Government of China attaches high importance to biodiversity conservation. China has established a National Committee on Biodiversity Conservation, which was chaired by Premier Li Keqiang and subsequently by Vice Premier Zhang Gaoli. In 2010, the State Council approved and launched China’s National Biodiversity Conservation Strategy and Action Plan (2010-2030) (hereafter “NBSAP”), which proposed mid-term and long-term goals, namely by 2020, efforts will be made to basically control loss and erosion of biodiversity, and by 2030, practical measures will have been implemented to protect biodiversity. To this end, NBSAP has identified 35 priority regions, 10 priority areas and 30 priority actions for biodiversity conservation (see Table 1).
The eighteenth meeting of the National Congress of the Communist Party of China (CPC) held in November 2012 proposed a grand vision of “Building Beautiful China” and incorporated ecological civilization development into the overall strategy for building socialism with the Chinese characteristics, with ecological civilization being established as the governing concept and will of the Party and the Nation. The nineteenth meeting of the National Congress of the Communist Party of China held in October 2017, based on summarizing historical achievements made over the past five years, has proposed further priorities for ecological civilization development. The 19th CPC National Congress required that the concept of “green hills and clear waters are mountains of gold and silver” be adopted and implemented, and the national policy of natural resources conservation and environmental protection continue to be implemented, the environment to be treated in the same way as life is, including through the integrated management of mountain, water, forest, agricultural and grassland ecosystems. It also required that the most stringent system of environmental protection would be implemented, and green development and consumption patterns be established.
In recent years, the Government of China has been taking active policy measures to implement its NBSAP. These measures include gradual improvement of systems or mechanisms for biodiversity conservation, strengthening in-situ and ex-situ conservation, restoring degraded ecosystems, reinforcing law enforcement and implementation of accountability rules, strengthening science, research and talent

EN

development, promoting public participation and deepening international cooperation. These measures have significantly helped achieve goals and tasks identified in China's NBSAP.

Overall actions taken to contribute to the implementation of the Strategic Plan for Biodiversity 2011-2020

China's NBSAP (2011-2030) has a total of 10 priority areas and 30 priority actions. Out of 30 priority actions, major progress has been made in implementing 20 actions, some progress in 9 actions and slow progress in one action (Table 2.2). The results of these priority actions are four-fold:

(1) System of biodiversity conservation and management with the Chinese characteristics has been basically established.
(a) The laws and regulations for conservation and sustainable use of biodiversity have been increasingly improved.
(b) Mechanisms for biodiversity conservation have been basically established and government management capacities have been further enhanced.
(c) Terrestrial protected areas of various types account for about 18% of the country's land area, and over 90% of terrestrial ecosystem types and 89% of national key protected wild animals and plant species have been protected in these areas, thus forming a network of protected areas of almost all types, reasonable distribution and relatively effective functions.
(d) The platforms for public participation in biodiversity conservation have been gradually expanded. The public enthusiasm and participation capacities have been considerably increased.
(e) Mechanisms for investment in biodiversity science and research have been gradually improved. Innovation capacities of institutions of higher education and scientific and research institutions have been significantly upgraded.
(f) New progress has been made in international cooperation and exchanges.
(2) The state of environment/ecology has been obviously improved.
(a) In 2017, the average concentration of PM10 in 338 cities has decreased by 22.7% compared with that in 2013. The average concentration of PM2.5 in Beijing-Hebei-Tianjin area, the Yangtze River Delta and the Pearl River Delta has dropped by 39.6%, 34.3% and 27.7% respectively, compared with that in 2013. The average concentration of PM2.5 in Beijing went down from 89.5μg/m3 in 2013 to 58 μg/m3. The percentage of surface water sections with good water quality has been steadily rising, with the percentage of water bodies that have met the quality standards of Classes I-III reaching 67.9%, and the percentage of water bodies lower than Class V standard dropping to 8.3%. The water quality of main streams of major rivers has been steadily improved (MEE, 2018).
(b) The forest area has reached 208 million hectares, with the forest coverage rate having reached 21.66%. The forest stock has reached 15.137 billion m3. The increase of natural forest stock accounts for 63%, with an increase in area from the original 120 million hectares to 122 million hectares. China has become a country with fastest growth in forest resources while globally the forest resources are declining.
(c) In 2017 the vegetation coverage of grasslands in China has reached 55.3% and the

EN

total output of fresh grass from natural grasslands reached 1.07 billion tons, with output higher than 1 billion tons achieved for seven consecutive years. The grassland vegetation coverage in key grassland protection project areas is 15% higher than that in non-project areas, and the fresh grass output per area unit 85% higher.
(d) 233,300 hectares of wetlands have been restored and 51,000 hectares of wetlands have been reclaimed from farmlands. The total wetland area across the country is 53.6026 million hectares, with the wetland protection rate having reached 49.03%.
(e) The area of degraded or desertified land in China continues to drop and the overall trend of land desertification has been basically controlled.

(3) The population of some national key protected wild animals and plants are rising while being stabilized, their range of distribution gradually expanding and their habitat quality constantly improving.

The number of giant pandas has increased from over 1,000 in the 1980's to 1,864 currently. The habitat area for wild giant panda is 2.58 million hectares and 910,000 hectares identified as potential habitats. The total number of crested ibis increased from 7 when it was found in 1981 to 2,600 now. The area for wild crested ibis expanded from less than 500 hectares in 1981 to over 1.4 million hectares now. The population of Przewalski's gazelle has gone up from less than 200 in 2003 to 2,010 now, with over ten times increase in the past fourteen years. The population of some protected plants such as yew, cycad and orchid plants has been growing.

(4) Local social and economic development achieved while biodiversity is being conserved.

Well-beings of local communities are being improved while biodiversity is conserved and restored. The net income per capita for rural households has increased by 53.03% in 2015, compared with that in 2000. More than 6.54 million people in key ecological project areas have been lifted out of poverty. Compared with 2013, the poverty-stricken population in sample counties in natural forest protection areas has decreased by 33.95%.

Table 2.2.docx

Support mechanisms for national implementation (legislation, funding, capacity-building, coordination, mainstreaming, etc.)

(1) Adopting a strategy of green development and conservation first

The Government of China attaches high importance to biodiversity conservation. President Xi of China stressed many times that " green hills and clean waters are mountains of gold and silver ", and "the environment should be protected as we protect our eyes and the environment should be treated as we treat our own life". He required that restoring the ecological environment of the Yangtze River Basin should be given an overwhelming priority, with major, concerted efforts into protection, instead of major development activities." Since the 18th National Congress of the Communist Party of China, the Central Committee of CPC and the State Council have placed ecological civilization construction in a more important strategic position, incorporated into the overall layout of the economic, political, cultural, social and ecological civilization developments, made a series of major decision-making arrangements, and

EN

issued a series of major ecological environmental protection policies, such as the the Overall Plan for the Institutional Reform of Ecological Civilization, the Recommendations for Defining and Strictly Adhering to the Ecological Red Line and the Master Plan for Building a National Parks System. China uses environmental protection as leverage to optimize economic development, guide industrial layout, and drive structural transition. China is determined to abandon environmentally harmful or damaging economic development pattern and foster green development and consumption patterns and follow a development path to ecological civilization, with sustainable development, rich well-being and good environmental quality combined.

(2) Improving biodiversity conservation systems and mechanisms

China has established a National Committee on Biodiversity Conservation to strengthen top-level design for and leadership over biodiversity conservation and to coordinate biodiversity conservation at national level. Party and government officials are held accountable for their overall responsibility for building an ecological civilization within their administrative regions. The Party committees and governments at local levels have to take political responsibilities for ecological civilization and environmental/ ecological protection, taking full responsibilities for the environmental protection and the environmental quality of areas under their administration. Efforts are being made to implement China's NBSAP and to promote the integration of biodiversity into national and local economic and social development plans. A system of landscape protection is being established, with a view to developing a unified spatial planning system and a coordinated and orderly pattern of land use and protection.

(3) Enhancing ecosystem conservation and restoration

Ecological conservation and restoration is coordinated nationwide. The projects for the ecological conservation and restoration of mountains, waters, forests, farmlands, lakes and grasslands have been initiated. A group of major ecological conservation and restoration projects have been steadily implemented, including the protection of natural forest resources, returning farmlands to forests and grasslands, returning grazing to grasslands, forest belt construction, rivers and lakes and wetlands protection and restoration, desertification prevention and control, soil and water conservation, rock desertification control, wildlife protection and nature reserve construction. The ecological protection red lines are drawn and strictly followed, and a biodiversity conservation network is established. The percentage of terrestrial protected areas has reached 18%, preventing the irrational development and construction activities from destroying biodiversity. The fishing ban system was implemented in China's major sea areas and the major river basins. A ban on fishing was implemented for aquatic protected areas along the Yangtze River. The ecological compensation mechanisms have been improved to enhance conservation of forests, grasslands and wetlands. The central government's fiscal transfer payments to key national ecological function zones have been gradually increased and the ecological compensation funds and levels constantly increased. The forest coverage rate has continued to increase, the ecological environment management has been significantly strengthened, and the ecological environment has been improved.

(4) Scientific innovations supporting and leading ecological conservation and

restoration

Scientific innovations have been systematically promoted in the ecosystem restoration and the prevention and control of rockization and desertification and guidance provided to the people living in ecologically vulnerable areas to practice the theory of “clean water and green mountains being gold and silver mountains”. A three-river-source model for the treatment of degraded grasslands in high plateaus and cold areas has been developed and promoted in regions such as three river source areas in Qinghai, areas surrounding Qinghai Lake and Qilianshan Mountain area. A Hua-River model for the comprehensive control of rockization has been developed and promoted, resulting in a reduction of local rocky areas by 35% and contribution to increase in local farmers’ income by 50%. The Kubuqi model for deserfication control has controlled the Kubuqi desert and the northern rim of the Taklamakan Desert of Xinjiang by about 6,000 km2 and 40 km2 respectively. This model is based on the application of advanced technologies for desertification control and the successful development of desert-based industries. The model can be emulated for desertification control at global level through technology transfer.

(5) Reinforcing law enforcement examination and implementation of accountability rules

The most stringent rules and strictest rule of law are used for ecological conservation. A life-time accountability and liability system for environmental/ ecological damages has been established based on the result of off-job natural resources assets auditing and the environmental/ecological damages. Officials responsible for serious environmental/ecological damages cannot be promoted or appointed to important positions. Those not having implemented or evaded their environmental responsibilities or not having completed their work will be held accountable throughout their life time in accordance with relevant disciplinary rules and laws. Law enforcement on biodiversity conservation is strengthened and crackdown on illegal activities or crimes against wild animals and plants is organized. Actions such as the Green Shield Action are undertaken to strengthen supervision and law enforcement on development activities in protected areas and to crack down various illegal activities in protected areas. Mechanisms for biosafety management at border control should be improved to prevent the species loss and the invasion of alien species.

(6) Government leading role and public participation

Biodiversity conservation is a cause for common public benefits to the present and future generations. Governments of various levels are main subjects responsible for biodiversity conservation. Only through the leading roles of governments and strengthening coordination among levels of governments and sectoral departments can biodiversity conservation and management be well promoted and undertaken. The public and the private sector are important forces for biodiversity conservation, so it is important to mobilize their participation through increasing the public awareness of biodiversity conservation, exploring mechanisms and policies for social supervision of biodiversity conservation, as well as creating an atmosphere where the whole society is making concerted efforts to promote the conservation and sustainable use of biodiversity.

(7) Promoting international cooperation and exchanges
Biological diversity in every country is a node in the overall global ecosystem chain so they are closely interlinked. Biodiversity conservation is an international challenge and requires for common efforts by all countries. So, we must work together towards establishing ecosystems respecting nature and green development, promoting global environmental governance and building a clean and beautiful world. Multilateral, bilateral and South-South cooperation will be extensively promoted through establishment of cooperation platforms, introduction and promotion of international advanced technologies, exchange and sharing of advanced experiences. The scope of mutual cooperation will be constantly expanded, and the cooperation level will be upgraded through establishing diverse partnerships for biodiversity conservation so as to advance the global cause of biodiversity conservation.

Mechanisms for monitoring and reviewing implementation

The strategic goals and concepts for ecological civilization and “building beautiful China” proposed by the Government of China, together with those identified in the NBSAP, have provided a relatively comprehensive suite of national goals and action programmes for biodiversity conservation in China. In 2011 a National Committee on Biodiversity Conservation was established, which is headed by a Vice Premier responsible for environmental affairs and composed of 25 ministries or departments. This Committee coordinates biodiversity conservation across the country. The ministries or departments responsible for the environment, forestry, agriculture, construction, seas and Chinese medicine have also established their own bodies for biodiversity management. For example, the State Forestry Administration set up a National Committee for Forest Biodiversity Conservation in June 2014. Some provincial governments have also strengthened their coordination mechanisms for biodiversity conservation. Since 2014, Yunnan Province has established a Biodiversity Conservation Committee. Guangxi Autonomous Region has set up a working group for developing PBSAP. Hebei Province has established an inter-departmental liaison group for protection of wild plants and animals. The strengthening of mechanisms and systems for biodiversity conservation has provided robust support for biodiversity conservation on the ground.

EN