# Supporting China's Environmental Conservation Efforts That Could Impact the Globe and Neighboring Japan

## --Fiscal 2007 Japanese ODA Loan Package to China--

1. Japan Bank for International Cooperation (JBIC; Governor: Koji Tanami) signed today December 21 six Japanese ODA loan agreements of an aggregate total of up to 46,302 million yen with the Government of the People's Republic of China. They constitute the fiscal 2007 Japanese ODA loan Package for China, which focuses on environmental conservation.
2. All the projects supported by the fiscal 2007 Japanese ODA loan package for China are environmental conservation projects. These projects are expected to reduce pollutants addressed with priority in China's 11th 5-Year National Environment Protection Plan and greenhouse gas (GHG) emissions, and also to contribute to achieving environmental goals set in each project-site area. Estimated specific environmental impacts include: reduction in SO2 emissions by 30-40 thousand tons per year, which is equivalent to 6 times the annual emissions of Tokyo Metropolitan City, and reduction in chemical oxygen demand (COD)[1] by 30 thousand tons per year which is equivalent to 10% of the effluents flowing into Japan's Inland Sea. Reduction in GHG emission resulting from installing centralized heat supply facilities, establishing bio-gas production facilities and developing landfill sites will be examined carefully, including consideration for possible application to the Clean Development Mechanism (CDM) under the Kyoto Protocol. The projects can be broadly grouped into the following four categories:

   [Conservation of Air Quality]
   Centralized heat supply systems will be constructed in the Gansu Province Lanzhou City Atmospheric Environmental Improvement Project to reduce small coal-fired boilers which is a source of current air pollution.
   [Comprehensive Environmental Measures]
   Water supply and sewerage systems, centralized heat supply systems and gas supply facilities will be constructed in the Xinjiang Environmental Improvement Project II, while sewerage systems and gas supply facilities will be constructed in the Henan Province Nanyang City Environmental Improvement Project.
   [Solid Waste Treatment]
   Solid waste treatment facilities will be developed in the Hunan Municipal Solid Waste Treatment Project and the Anhui Municipal Solid Waste Treatment Project.
   [Afforestation]
   Forest degradation and desertification will be addressed through foresting activities in the Qinghai Ecological Environmental Improvement Project to restore barren grassland.

   These projects address "environmental conservation and global issues," one of the priority areas designated in the Economic Cooperation Program for China prepared by the Government of Japan as well as in the Medium-Term Strategy for Overseas Economic Cooperation Operations of JBIC.
3. As the ODA Charter approved in the cabinet decision of August 2003 calls for broader public participation in ODA activities, JBIC has been seeking increased civil society participation in these projects. JBIC collaborates with Japanese local governments and universities from the project formation stage to draw on Japanese experience and knowledge and thereby provides assistance with a distinctly Japanese profile in China. In these projects, domestic prefectural and municipal governments and universities will share their knowledge and experience as well as accept trainees from China based on friendship city agreements and previous cooperation records.

   (Click here for details.)

[1] Chemical oxygen demand (COD) is the amount of oxygen consumed to oxidize organic matter in water. This is used as one indicator of the quality of water. The larger the COD, the more polluted the water is by organic matter.

## Reference

### 1. Loan Amount and Terms

| Project Name | Amount (Mil. Yen) | Interest Rate (% per annum) | Repayment Period/ Grace Period(Years) | Procurement |
|---|---|---|---|---|
| Gansu Province Lanzhou City Atmospheric Environmental Improvement Project | 7,400 | 0.65* | 40/10 | General Untied |
| Qinghai Ecological Environmental Improvement Project | 6,300 | 0.65* | 40/10 | General Untied |
| Xinjiang Environmental Improvement Project II | 3,802 | 1.4<br>(Water Supply)<br>0.65*<br>(Sewerage, Heat Supply, Municipal Gas, Training) | 25/7<br>(Water Supply)<br>40/10<br>(Sewerage, Heat Supply, Municipal Gas, Training) | General Untied |
| Henan Province Nanyang City Environmental Improvement Project | 11,500 | 0.65* | 40/10 | General Untied |
| Hunan Municipal Solid Waste Treatment Project | 10,500 | 0.65* | 40/10 | General Untied |
| Anhui Municipal Solid Waste Treatment Project | 6,800 | 0.65* | 40/10 | General Untied |
| Total | 46,302 | | | |

For some components of the projects (ex. Environmental component), a lower interest rate is applied compared with ordinary ODA loans to help developing countries address environmental issues etc.

(1) Gansu Province Lanzhou City Atmospheric Environmental Improvement Project

(a) Background and Necessity
In Lanzhou City (population in the urban districts: 3.12 million; land area: 13 thousand km2) of Gansu Province, where this Project is implemented, small coal-burning boilers are used to produce and supply heat in each district during the winter. However, since these boilers do not have dust collectors or desulfurizers, they have become a main source of air pollution. Furthermore, as the city is located along the Yellow River in the valley surrounded by mountains, it is difficult for polluted air to disperse and this is aggravating air pollution. As the city is rapidly expanding, there are concerns over more extensive air pollution caused by additional installation of small coal-burning boilers.

(b) Project Objective and Description
The Project aims to decrease air pollution by constructing centralized heat supply facilities in Lanzhou City, Gansu Province, which will decrease small coal-burning boilers as a pollution source. It will thereby help improve the living conditions of its population. When completed, SO2 and NO2 are estimated to decrease respectively by 9,000 tons and 7,800 tons per year.
Specifically, the Project consists of construction of centralized heat supply facilities in the urban districts of Lanzhou City (beneficiary population: 780,000; area covered: 18.2 km2) and a training program for the staff of the executing agency and relevant authorities for sustainable project effects. The training will be conducted in Japan by partnership with Japanese municipal/prefectural governments and universities.
The proceeds of the loan will be applied to procurement of materials and equipment necessary for constructing the above facilities and the training program in Japan.

Project executing agency:
Gansu Provincial People's Government
Address: No. 696 Donggang West Road, Chengguan District, Lanzhou City,
Gansu Province, P.O. Code 730000, The People's Republic of China
Tel: 86-931-8891037, Fax: 86-931-8891039

(2) Qinghai Ecological Environmental Improvement Project

(a) Background and Necessity
Qinghai Province (population: 5.43 million; land area: 717.5 thousand km2, twice the size of Japan), where this Project is implemented, is located in the northwestern China, mainly consisting of highlands with an elevation of 2,000 meters or higher. Thus it has a harsh natural environment with relatively cold and dry climate. From the 1970s to 90s, excessive logging of forests took place to meet the demand for food and timber. As a result, there was a marked reduction in the water retention capacity of soil. Of the land area of 9,870 thousand ha covered by the Project, 2,350 thousand ha has been affected by soil erosion. Flooding damage also occurs every year. In 2005, 40 thousand people were affected and the total damage reached 4.5 billion yen. In the western and southern areas targeted by the Project, desertification is going on. Of the total area of 7.82 million ha, deserts expanded from 1.32 million ha in 1999 to 1.66 million ha in 2004, posing a threat to the lives of local populations. Furthermore, grasslands are receding throughout the targeted areas. Of 4.67 million ha of grassland that can be utilized, 220 thousand ha has bare ground surface, 1.8 million ha has its soil degraded by holes and nests burrowed by rats and moles and 500 thousand ha has suffered pest damage. Such phenomena could further accelerate desertification. There is thus an urgent need to improve the natural environment in these areas.

(b) Project Objective and Description
The Project aims to improve the natural environment and prevent flooding and other disasters in Qinghai Province by afforestation and other vegetation activities in 10 prefectures around Qinghai Lake.
Specifically, the project consists of afforestation for increasing the water retention capacity of land and for wind shelter, sand control works to prevent sand dunes from moving, grass planting to improve grasslands, preventative works for soil erosion, including construction of erosion control dams and works for fortifying river banks, and a training program. In addition to technical training conducted in Qinghai Province, the training will be conducted in Japan by partnership with Japanese universities and municipal/prefectural governments, for the staff of the executing agency.
The proceeds of the loan will be applied to procurement of materials and equipment necessary for constructing the above facilities and the training program.

Project executing agency:
Qinghai Provincial People's Government
Address: 30 Huanghe Road, Xining, Qinghai, P.O. Code 810001,
The People's Republic of China
Tel: 86-971-6154016, Fax: 86-971-613056

(3) Xinjiang Environmental Improvement Project II

(a) Background and Necessity
The Xinjiang Uygur Autonomous Region (population: 20.1 million (of which ethnic minority groups, including Uygur (46%), account for 60%); land area: 1.65 million km2 (about 17% of the total land area of China)) is located in western China and borders eight countries, including Mongolia and Kazakhstan.
Altay city and Atushi city, two regional cities in Xinjiang where the Project is implemented, once prospered as bustling trading posts along the Silk Road. Today, these regional cities, relatively developed in the Autonomous Region with populations of about 200,000, hold a special position for its development. In their urban areas, however, rapid industrialization and urbanization, as well as population growth, have brought surging demand for water and heating. At the same time, environmental problems such as water and air pollution are getting increasingly serious. There is thus an urgent need to address these issues.

(b) Project Objective and Description
The Project aims to increase sewage treatment and water supply capacities and reduce water and air pollutants by developing sewerage and water supply systems and installing centralized heat supply facilities in these two regional cities. It will thereby help improve their environment as well as the living conditions of the populations. Upon completion of

the Project, sewage treatment rate and piped water supply rate is estimated to increase to 90% and 100% respectively in their urban areas. At the same time, the areas served by the centralized heat supply systems in Altay city and Atushi city are expected to achieve 100% and 80% respectively of the targets set by the 5-Year Plan of respective cities.
Specifically, the Project consists of: the construction and renovation of sewerage and water supply facilities, centralized heat supply facilities, municipal gas supply facilities (beneficiary population: 90,000 with sewerage facilities; 40,000 with water supply facilities; 90,000 with centralized heat supply facilities; and 60,000 with municipal gas supply) and a training program for the staff of the executing agency and its relevant authorities for sustainable project effects. The training will be conducted in Japan by partnership with Japanese municipal/prefectural governments.
The proceeds of the loan will be applied to the procurement of materials and equipment necessary for constructing the above facilities and the training program in Japan.

Project executing agency:
Xinjiang Uygur Autonomous Regional People's Government
Address: Lian He Tower A, Renmin Square, No.462 Zhongshan Road,
Urumqi City, Xinjiang Autonomous Region, P.O.Code 830002, The People's Republic of China
Tel: 86-991-2817684, Fax:86-991-2818291

(4) Henan Province Nanyang City Environmental Improvement Project

(a) Background and Necessity
Nanyan City (population in urban area: 800 thousand; land area: 75 km2), Henan Province, where this Project is implemented, is located in the middle stream of the Yangtze River, one of the seven largest rivers in China. In Nanyan City, the construction of sewage treatment facilities is lagging (sewage treatment rate was 34% at the end of 2005), untreated domestic sewage is directly discharged into the natural environment, causing serious water pollution. In addition, while the city relies on coal for 86% of energy demand, most of the coal-burning facilities do not have dust collectors or desulfurizers, they have become a main source of air pollution. In particular, apart from sulfur dioxide and dust produced in the coal gasification, there are concerns that carbon monoxide contained in the coal gas could lead to accidents caused by its leakage from aging gas pipes. In this way, while rapid industrialization and urbanization, as well as population growth, have brought surging demand for water and heating in its urban areas, environmental problems such as water and air pollution are getting increasingly serious. There is thus an urgent need to address these issues.

(b) Project Objective and Description
The Project aims to reduce polluted effluents discharged into the rivers in Nanyan City and mitigate air pollution by developing sewerage systems and improving municipal gas supply facilities that will reduce emissions of air pollutants. It will thereby help improve the living conditions of the population in the city. The biochemical oxygen demand (BOD)[1] and COD[2] of effluents is estimated to decrease to one-ninth and one-fifth respectively, while the proportion of the population covered by gas supply service will increase by threefold.
Specifically, the Project consists of construction and renovation of sewerage and municipal gas supply facilities (beneficiary population: 260,000 with sewerage system development; and 530,000 with improvements in the municipal gas facilities) and a training program for the staff of the executing agency and relevant authorities for sustainable project effects. The training will be conducted in Japan by partnership with Japanese municipal/prefectural governments.
The proceeds of the loan will be applied to procurement of materials and equipment necessary for constructing the above facilities and the training program in Japan.

Project executing agency:
Henan Provincial People's Government
Address: No.25 Jingsan Road, Zhengzhou, Henan Province, Henan Province, P.O. CODE 450008, The People's Republic of China
Tel: 86-371-65808068, Fax: 86-371-65808723

(5) Hunan Municipal Solid Waste Treatment Project

(a) Background and Necessity
Hunan Province (population: 67 million or roughly one half of Japan's population; land area: 210 thousand km2), where this Project is implemented, is located in the middle to lower stream of the Yangtze River, one of the seven large rivers in China. In its regional cities of the Province, while increasing domestic solid waste is foreseen due to population growth associated with advances in urbanization, there is substantial lag in infrastructure development for harmless treatment of municipal solid waste.[3] (In Hunan Province, harmless treatment rate of municipal solid waste was only 40% in 2005.) Therefore, in most areas in the Province, solid waste disposal is done through simple landfills, piling up or burning in open space. As rapid economic development has increased the volume of domestic waste, there are concerns over the effect of leaching waste liquids polluting the soil, rivers and groundwater or air on the natural environment and health. There is thus an urgent need to secure sanitary landfill sites.

(b) Project Objective and Description
The Project aims to promote appropriate treatment of municipal solid waste produced in the urban area of the regional cities of Hunan Province by developing solid waste treatment systems. It will thereby contribute to improving the lives, public health and environmental conservation for the population in these cities. The volume of solid waste treatment in sanitary landfills is expected to double from the present level.
Specifically, the Project consists of construction and renovation of sanitary landfills, sorting stations for recovering resources, transfer stations in the urban areas of 16 regional cities in Hunan Province (beneficiary population: 6.1 million), and a training program for the staff of the executing agency and its relevant authorities for sustainable project effects. The training will be conducted in Japan by partnership with Japanese municipal/prefectural governments.
The proceeds of the loan will be applied to the procurement of materials and equipment necessary for constructing the above facilities and the training program.

Project executing agency:
Hunan Provincial People's Government
Address: No.8 West Xiangfu Road Changsha, Hunan Province, P.O. CODE 410004, The People's Republic of China
Tel: 86-731-5990806, Fax: 86-731-5990804

(6) Anhui Municipal Solid Waste Treatment Project

(a) Background and Necessity
Anhui Province (population: 61.2 million (about one half of Japan's population); land area: 140 thousand km2), where this Project is implemented, is located in the middle eastern part of China, with the Huaihe River flowing in the northern part and the Yangtze River flowing in the southern part of the Province. In its regional cities, while increasing domestic solid waste is foreseen due to population growth associated with advances in urbanization, there is substantial lag in infrastructure development for harmless treatment of municipal solid waste. (In Anhui Province, harmless treatment rate of municipal solid waste was only 18% in 2005.) Therefore, in most areas in the Province, solid waste disposal is done through simple landfills, piling up or burning in the open space. As rapid economic development has increased the volume of domestic waste, there are concerns over the effect of leaching waste liquids polluting the soil, rivers and groundwater or air on the natural environment and health. There is thus an urgent need to secure sanitary landfill sites.

(b) Project Objective and Description
The Project aims to promote appropriate treatment of municipal solid waste produced in the urban area of the regional cities of Anhui Province by developing solid waste treatment system. It will thereby contribute to improving the lives, public health and environmental conservation for the population in these cities. The volume of solid waste disposal in sanitary landfills is expected to reach 800 thousand tons per year in 2014 after the completion of the Project.
Specifically, the Project consists of construction and renovation of sanitary landfills, sorting stations for incineration in the cement plant, transfer stations in the urban areas of 9 regional cities in Anhui Province (beneficiary population: 2.9 million), and a training program for the staff of the executing agency and its relevant authorities for sustainable project effects. The training will be conducted in Japan by partnership with Japanese municipal/prefectural governments.
The proceeds of the loan will be applied to the procurement of materials and equipment necessary for constructing the above facilities and the training program in Japan.

Project executing agency:
Anhui Provincial People's Government
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[1] Biochemical oxygen demand (BOD) is a measure of the quality of water, indicating the amount of water required by microorganisms to decompose the organic matter in a given quantity of water. The more polluted the water, the higher this value.
[2] Chemical oxygen demand (COD) is a measure of the quality of water, indicating the amount of oxygen required for oxidizing the organic matter and other substances in a given quantity of water.
[3] In China, harmless treatment of municipal solid waste refers to sanitary landfill, composting and incineration.