The Asian Development Bank
and the People's Republic of China
Partnership in Protecting Environment

Introduction

Protecting the environment and promoting sustainable development is one of the ADB's major means to achieve its overarching objective of poverty reduction. Since PRC became a member in 1986 ADB has provided substantial assistance in addressing its environmental problems. By end of 2002, ADB has provided about $2.7 billion loans to support environmental improvement in PRC Of this, about $2.1 billion is helping to address the "brown side" of the pollution problem and $0.6 billion will help to address "green issues". Total lending for environmental related projects represents slightly less than one quarter of the total ADB lending to PRC. ADB's lending has been complemented by the provision of 119 technical assistance grants totaling about $77 million.

PRC Environment: Challenges and Responses

PRC faces major environmental challenges related to the management of the land degradation, water conservation, and control of air and water pollution. Almost 28% (260 million hectares) of the land area is affected by desertification. The trend of desertification has not been arrested and every year PRC loses more than 2,000 square kilometers to desertification. Most desertification occurs in the Western Region. Soil erosion has worsened over the last 30 years and 90% of grasslands are moderately to severely eroded. Land degradation is closely correlated to rural poverty.

Access to water resources varies greatly across regions and seasons. There is a serious water shortage in Northern PRC. In the northern region, per capita water availability ranges from 360 to 750 M^3 (lower than the international definition of water scarcity of 1,000 M^3/person). Low urban wastewater treatment and increasing urbanization will result in added pressure on the demand for water. Water quality is also a problem. More than 40% of the water in seven major river basins does not meet the Grade III national quality standard. Three major lakes have serious eutrophication problems.

The emission of major air pollutants peaked in 1995. According to official data, emission have declined since then: SO_2 by 16%; dust by 33%; industrial TSP by 37%; CO_2 by 17%. Energy efficiency has improved and coal consumption has declined. Because of this, CO_2 emissions are less than were projected in the early 1990s. Despite the improvement, air pollution remains a serious problem, which affects the environment and people's health. Over 63% of major cities do not meet the Grade II national quality standard. While coal burning remains the main contributor of air pollution, motor vehicle emissions are growing as vehicle ownership increases with growing economic prosperity.

The industrial sector is a major contributor to pollution. This reflects the legacy of an inappropriate pricing system that treated the environment as a free good and did not provide market-based incentives for environmentally friendly behavior. This was compounded by the use of obsolete technology and inadequate regulation and enforcement of environmental standards. The market now largely determines prices; major investments are being made in clean production technologies and environmental enforcement, including the closure of some of the worst sources of pollution.

PRC relies on coal for about 70 percent of its energy needs. Power generation is a major contributor to air pollution. Efforts underway to address this problem include: (i) developing cleaner forms of energy (e. g., hydro power; natural gas); (ii) promoting cogeneration and district heating; (iii) encouraging investment in energy conservation technologies; (iv) increasing electricity prices to provide a market based incentive to conserve energy; (v) closing small, inefficient, polluting thermal generation stations and boilers; (vi) encouraging the use of low sulphur, low ash coal; and (vii) developing mine mouth power generation rather than new plants in cities.

Rapid economic growth has had environmental costs but economic development also provides PRC with an opportunity to better address environmental issues, both financially and socially. Economic development and environmental protection do not have to be in conflict. They can and should complement each other. The key is to incorporate environmental factors in economic decision-making. Both public awareness and Government recognition of the importance of environmental management are increasing. The Government is committed to addressing the environmental problems and has increased investment in the environment -- from 0.73% of GDP in 1990-95 to 0.93% of GDP in 1996-2000. Environmental investments are targeted to reach 1.3% of GDP during the Tenth Five-Year Plan (2001-05).

Over the past decade the Government has improved the environmental legal framework. Key environment laws have been enacted or amended, including recent amendments to the Air Pollution Prevention and Control Act and the passage of the Anti-desertification Law in 2001. The National People's Congress is scheduled to consider a Clean Production Law and amendments to the Water Law in 2002.

The Government is also improving environmental policies and accords equal importance to ecological protection and pollution control. In pollution control, the Government is increasingly emphasizing prevention at source, greater use of market-based instruments and control over the total amount of pollution rather than end of pipe monitoring. More systematic approaches such as water basin management are now being developed and efforts are starting to address non-point pollution. Pricing of natural resources is beginning to reflect the underlying cost of the resources.

Enhanced public awareness and informed public debate can be a powerful tool to promote environmentally friendly behavior. Active and informed public participation on issues with environmental implications promotes greater cohesion around the choices made, and very often improves the final result. ADB has followed this approach systematically in all of our work in Asia, and with good effect. In PRC, public awareness about environmental issues is increasing, in part due to increased disclosure of environmental information through the print media and on television. Increasing public sensitivity to environmental issues will complement and reinforce the Government's efforts to clean up the environment. For example, "green" labeling of products helps consumers make more informed choices and sends powerful signals to producers. Independent assessments of environmental issues and performance have much the same result.

ADB's Environmental Assistance to PRC: Strategy and Operations

ADB's support for environmental activities in PRC is closely aligned with the government long-term plan in environmental management and development, and focuses on six aspects: (i) improving the policy, legal, and regulatory framework to strengthen environmental management; (ii) introducing or developing market-based instruments for environmental management; (iii)

building capacity in key agencies, including the State Environmental Protection Administration and local environmental protection bureaus; (iv) addressing environmental problems in selected urban centers; (v) promoting the efficient use and conservation of soil, water, and marine resources; and (vi) promoting the use of cleaner process and clean coal technologies for industrial production and power generation.

1. Improving the Policy, Legal and Regulatory Framework

The Government has enacted several environmental laws, including those on the prevention and control of air, water, and solid waste pollution. These laws and ancillary regulations emphasize prevention first, the polluter pays principle, and environment management. Two key legal requirements are now well established: (i) prior evaluation of the environmental impact of projects; and (ii) the principle that the design, construction, and operation of a project should be carried out simultaneously with the design, construction, and operation of the associated environmental protection measures. The Government has issued a series of laws on the use of natural resources and has instituted a system of monitoring, recording, and reporting the discharge of pollutants. The laws stipulate administrative, civil, and criminal responsibilities for environmental violations.

Developing an appropriate legal and regulatory framework for good environmental management is a comparatively recent concern in PRC. To help build the necessary capacity, ADB has provided assistance to train the staff of the Environmental Protection Committee (EPC) of the National People's Congress. ADB has also helped to develop a Legal Information System to support EPC's law drafting and other activities. In the area of legislation, assistance was provided to help draft the amendments to the Water Pollution Prevention and Control Law which were passed in May 1996, anti-desertification law passed in 2001 and a clean production law which is under consideration by the National People's Congress. Under ADB assistance, the general environment law was also reviewed. The ADB has provided assistance to improve PRC's legal framework for resettlement, which culminated in the enactment of the new Land Administration Law that became effective on 1 January 1999. The new Law provides new requirements for the management, monitoring and evaluation of projects for which land acquisition and resettlement are necessary.

Ongoing work related to helping to strengthen the legal/ regulatory framework includes support for drafting: (i) the Clean Production Law that is expected to be considered by the National People's Congress in 2002. The law will encourage clean production and control pollution caused by fast economic development; (ii) the regulations associated with the Anti-Desertification Law that was enacted in 2001; and (iii) revisions to the 1988 Water Law mainly in four areas: (a) water allocation, rights and permits; (b) water resource management systems, covering the roles of the river basin management institutions, provincial and local governments, trans-jurisdiction issues and water user/supplier organizations; (c) efficiency of use and conservation of water; and (d) water quality control, covering surface and groundwater, and standards for pollution. The revised law is expected to be considered by the National People's Congress in 2002.

In the past ADB has provided assistance to strengthen environmental standards, update effluent and emission standards, establish pollutant control standards based on total loads and build institutional capacity to enforce environmental policies.

2. Development of Market-Based Instruments

Currently the Pollution Levy System (PLS) is the only market-based instrument (MBI) in use throughout PRC. The PLS imposes a fee only on releases of pollution in excess of what is permitted. Releases within permitted amounts are free, providing sources no incentive to seek cost effective reductions below permitted amounts. To accomplish the very large reductions in emissions environment under the Transportation Association of Canada (TAC) Program, both reductions below permitted amounts as well as a wholesale revision of the PLS that charged much higher rates for all emissions would be needed. Even then, it is doubtful that the emissions reduction required with TAC could only be met by the PLS. To help address this problem, ADB has extended assistance for two studies: (i) Promotion of Market-Based Instruments for Environmental Management in PRC; and (ii) Potential for Emission Trading in the Energy Sector. These two studies reviewed the rationale for MBIs and emission trading schemes (ETSs), identified requirements for MBI and ETS programs, reviewed and analyzed institutional and economic aspects of MBI and ETS applications and, in the case of ETS study, recommended projects related to ADB operations for future action. Case studies for SO_2 emissions, vehicle emissions and water effluents are being studied under the MBI study.

ADB approved a TA[1] in 2002 to promote reduction of greenhouse gases (GHGs) through examining the opportunities for Clean Development Mechanism (CDM) in the PRC's energy sector and develop a strategy to promote these opportunities. The TA scope will cover four main aspects: (i) review the CDM process and its potential as a source of financing, (ii) develop a set of guidelines to elaborate simplified small-scale CDM methodologies, modalities, rules, and procedures as specified in COP-7 to ensure environmental integrity and lower transaction cost; (iii) propose a strategy to promote such small-scale CDM opportunities; and (iv) develop a set of alternative CDM designs as good practice examples, including project design, evaluation, financing, and impact assessment.

ADB financed a TA[2] to assist the Shanxi Environmental Protection Bureau to improve the air quality. The objectives of the TA are to: (i) formulate and implement strategically important market-based instruments (MBIs) for air quality improvement consistent with overall economic reforms, and (ii) strengthen the capacity of relevant institutions for the successful introduction and implementation of MBIs in the Shanxi province. And the pilot emission-trading program supported by ADB's TA will begin to be operation in 2003 in Taiyuan.

With ADB's support, PRC has adopted a national urban water tariff guideline built on a full cost recovery basis with due consideration given to water saving and affordability of the vulnerable. ADB has also provided assistance in implementing the national water tariff guideline in the selected cities that set up a model city for the implementation of the guidelines. ADB has provided assistance in development of a national solid waste management strategy and is assisting the Government in formulating the national wastewater tariff guidelines.

3. Building Capacity in Key Agencies

A key element of ADB's ongoing policy dialogue in the environment sector has been better integration of environmental concerns with the planning of new investments. ADB supported the

[1] TA3840-PRC: *Opportunities the Clean Development Mechanism in the Energy Sector*, $775,000, approved on 20 March 2002.
[2] TA3325-PRC: *Shanxi Air Quality Improvement*, $700,000, approved on 7 December 1999.

introduction of EIAs to ensure that new investments are designed and developed in an environmentally sensitive way. ADB has had a major influence on building EIA capacity in PRC, both in SEPA and the local EPBs. As a result of this work, ADB has positively influenced the preparation of the following policy documents: (i) technical rules for the formulation of the environmental impact on ecology of development and construction projects (1992); (ii) a circular on strengthening EIA management of construction projects financed by international financial organizations (1993); (iii) design of a framework for an EIA legislative system for development projects (1993); (iv) licensing EIA practitioners (1995); (v) rules and regulations on environmental protection in Shanghai Municipality (1995); (vi) revision of the administrative regulations on construction projects (draft 1996); (vii) development of EIA curriculum in PRC universities (1997); and strengthen capacity for Appraisal Center for Environmental and Engineering (1997).

Examples of recent ADB supported work with SEPA include: (i) preparing strategic environmental assessment guidelines and case studies; (ii) developing technology evaluation guidelines and case studies; (iii) preparing guidelines for environmental policy appraisal and evaluation and case studies; (iv) developing a website for environmental laws and regulations; (v) undertaking a comparative analysis of the integrated versus level-by-level approaches to urban environmental management; (vi) undertaking case studies on ecological management in headwaters of the Yellow River; and, drafting guidelines for the environmental impact assessment of reforestation projects. The next issue to be covered with ADB assistance will be non-point pollution.

A major element of ADB's agenda for policy dialogue is to build the capacity necessary for improved environmental management. To support this, ADB has provided technical assistance to strengthen the capacity of SEPA and EPBs in eleven municipalities (Shanghai, Dalian, Nantong, Qingdao, Tangshan, Chengde, Xi'an, Xianyang, Tongchuan, Beijing, Taiyuan and Anhui Province). This assistance was provided support to formulate environmental plans and to build the capacity necessary to monitor the environment and to improve compliance with environmental regulations.

4. Addressing Urban Environmental Problems

The Government is undertaking projects to improve the environment in 52 key cities, a number of which have been assisted under ADB's operational program. $1.3 billion[3] for projects to address environmental problems in 16 cities – Shanghai (Suzhou Creek), Taiyuan, Qingdao; Tangshan; Chengde; Xi'an; Xianyang; Tongchuan; Dalian; Beijing, Fuzhou, Hefei, Huangshan, Baoding, Zhangjiakou and Xuanhua. These projects have improved numerous municipal services such as water supply, wastewater treatment, industrial relocation, and pollution abatement. They have also helped to reduce air pollution by substituting coal for cleaner fuels like natural gas, and by replacing small-scale and inefficient boilers by large-scale district heating and cleaner technologies. Institutional strengthening of concerned local environmental protection bureaus and cost recovery are key features of ADB's support for urban environmental improvement projects.

5. Promoting Natural Resource Conservation

Sound and sustainable resource management is an element in all ADB-financed agriculture projects. Under four loans totaling $265 million, ADB is helping to address sustainable resource

[3] Including $15.8 million for environment component in Huanghshan city under loan No. 1890: Acid Rain Control and Environment.

use in the forests, on land and in the oceans. ADB's lending to support such projects has been limited because of the difficulty of designing these projects in a way that they generate the financial returns that are necessary to repay the loan. Building the capacity to improve natural resource management has been a key feature of ADB's assistance in this area.

ADB has helped to create economic buffer zones to establish sustainable farming systems, discourage shifting agricultural practices, improve farm incomes and reduce dependence on the rainforest on Hainan Island and protect its environmental integrity.

ADB support for soil conservation and agricultural and aquaculture development should result in the integrated development of sloping lands and soil conservation by establishing new orchards; establishing catchment protection forest on upper hill slopes and windbreaks; and strengthening the extension services and training, research and monitoring facilities. ADB is also helping to introduce a range of coastal management activities from functional zonation and integrated planning to institutional reforms.

The Government has asked ADB to play a leading role in developing a strategic partnership with GEF in the areas of desertification and biodiversity. Work in this area is intensifying. The PRC/GEF Partnership Program seeks to (i) combat land degradation and reduce poverty in selected ecoregions of national and global significance; (ii) achieve global environmental benefits through conservation of biodiversity and carbon sequestration; and (iii) generate lessons on policies, institutional arrangements, and approaches for integrated ecosystem management for widespread replication.

6. Promoting Cleaner Technologies

ADB has helped the State Science and Technology Commission to establish a national in Beijing and two regional centers in Tianjin and Chengdu to promote the transfer of environmentally sound technology. These centers will help to increase the ability of enterprises to select, evaluate, import and use environmentally sound technology. ADB approved a $3.5 million TA cluster in 1998 to help improve national-level policies, institutional capacity, and financing mechanisms for the promotion and application of clean technologies to achieve sustainable environmental development. The six-component cluster will be implemented over several years.

In the industrial sector, ADB has provided five loans totaling $778 million[4] to support energy conservation and environment improvement. These projects help improve energy efficiencies and reduce waste by introducing advanced process technologies and improving management practices. To complement these loans ADB has promoted price and enterprise reforms to ensure sustainable resource use.

ADB's efforts to introduce cleaner technologies in the industrial sector has been complemented by its lending for energy projects. ADB has financed: (i) cleaner forms of energy (e.g., hydropower; natural gas); (ii) modern technology to reduce emissions from thermal stations to internationally acceptable standards; (iii) cogeneration projects which have allowed inefficient, polluting boiler and coal stoves to be replaced; (iv) the planting of trees to absorb the emissions of thermal stations; and (v) the preparation of a long term strategy and investment plan to improve the efficiency and reduce the emissions of existing thermal stations.

[4] Including $131.2 million for industrial components under loan No. 1890: Acid Rain Control and Environmental Improvement.

How does ADB Tackles Poverty through Environmental Sector Projects?

There is air and water pollution in most cities. The poor are most vulnerable to environment-induced diseases and are least capable of paying for adequate medical attention for the respiratory illnesses associated with breathing polluted air and digestive track ailments associated with drinking polluted water. Land degradation is closely correlated with rural poverty. About 90% of the rural poor live on moderately to severely degraded land. Improving the environment would be part of any pro-poor development strategy. The Government is aware that addressing environmental problems is critical for sustainable development and poverty reduction. Much remains to be done to reduce the adverse impact of the environment on the poor.

What Important Environmental Sector Projects and TAs has ADB supported in PRC?

Loan	Project Name (as of 31 December 2002)	Date Approved	Amount ($ million)
1178	Industry Energy Conservation and Environmental management	24-Sep-92	107.0
1205	Qingdao Environment Project	10-Dec-92	103.0
1248	Fertilizer Industry Restructuring	24-Aug-93	250.0
1270	Tangshan and Chengde Environmental Improvement	25-Nov-93	140.0
1304	Yunnan-Simao Forestation and Sustainable Wood Utilization	30-Jun-94	77.0
1336	Beijing Environmental Improvement	29-Nov-94	157.0
1372	Hainan Agriculture and Natural Resources	7-Sep-95	53.0
1386	Fujian soil Conservation and Rural Development	28-Sep-95	65.0
1436	Second Industrial Energy Efficiency and Environmental Improvement	9-May-96	178.0
1490	Anhui Environment Improvement Project - Industrial	26-Nov-96	112.0
1491	Anhui Environment Improvement Project - Water	26-Nov-96	28.0
1543	Xian-Xianyang-Tongchuan Environment Improvement	24-Sep-97	156.0
1636	Fuzhou Water Supply and Wastewater Treatment	30-Sep-98	102.0
1692	Suzhou Creek Rehabilitation	29-Jun-99	300.0
1715	Shanxi Environment Improvement	7-Dec-99	102.0
1797	Tianjin Wastewater Treatment and Water Resources	11-Dec-00	130.0
1818	Wind Power Development	20-Dec-00	58.0
1835	Yellow River Flood Management Sector Project	28-Aug-01	150.0
1890	Acid Rain Control and Environmental Imrovement	20-Dec-01	147.0
1919	Songhua River Flood Control Management Sector Project		150.0
1924	Efficient Utilization of Agricultural Wastes Project		33.1
1985	Hebei Wastewater Management		82.4

No.	Technical Assistance	Date Approved	Amount ($'000)
987	Institutional Strengthening of NEPA	10-Jun-98	340.0
1436	Environmental Impact Assessment and Training	10-Dec-90	600.0
1464	Management of Environment and Natural Resources in Hainan	11-Jan-91	600.0
1602	Strengthening MIS of Environmental Protection Bureaus of Selected Municipalities	18-Nov-91	600.0
1615	Monitoring and Management of Fragile Ecosystem in Shanxi-Shaanxi-Inner Mongolia	27-Nov-91	600.0
1690	Nat'l Response Strategy for Global Climate Change	10-Apr-92	600.0
1772	Support to Qingdao Environmental Protection Bureau	30-Oct-92	600.0
1785	Comprehensive Toxic & Hazardous Chemicals Management Plan in Huangpu River Basin	11-Nov-92	600.0

No.	Technical Assistance	Date Approved	Amount ($'000)
1916	Institutional Strengthening of Environmental Bureaus at Tangshan and Chengde	28-Jul-93	450.0
1988	Environmental Impact Assessment II	18-Nov-93	900.0
2090	Legislation Planning and Procedures for the Protection of the Environment & Resources	18-May-94	500.0
2210	Capacity Building of Beijing MEPB and its Affiliated Agencies	29-Nov-94	600.0
2211	Capacity Building of the BIHWMC	29-Nov-94	425.0
2398	Improving Environmental Monitoring and enforcement in Henan Province	15-Sep-95	90.0
2434	Establishing a Center for the Transfer of Environmentally Sound Technology	31-Oct-95	550.0
2436	Strengthening EPH Power System Planning Capability Incorporating Integrated Resource Planning	7-Nov-95	422.0
2456	Pilot Environmental Plans for selected Medium size Cities	4-Dec-95	537.0
2494	Sound Safety and Environmental practices for Offshore Oil and Gas Production	21-Dec-95	600.0
2505	Strengthening the Environmental Standards and Enforcement Policies	22-Dec-95	600.0
2693	Formulation of an Integrated Environmental Management Plan for Chao Lake Basin	26-Nov-96	800.0
2729	Industrial Pollution Investigation and Assessment in TVEs	24-Dec-96	600.0
2751	Capacity Building of the Wastewater Treatment Companies (Anhui)	27-Jan-97	400.0
2873	Improvement of Environmental Management in Shaanxi Province	24-Sep-97	935.0
2901	Shanxi Environment Improvement	21-Oct-97	590.0
2906	Leadership Training on Urban Environmental Management in Key Cities	3-Nov-97	600.0
2951	Promotion of Market-Based Instruments for Environmental Management	16-Dec-97	697.0
2975	Environmental Impact Assessment Training and Curriculum Development (Phase III)	31-Dec-97	600.0
3039	Yunnan Road Environmental and Social Analysis	7-Jul-98	150.0
3079	TA Cluster to the PRC for the Promotion of Clean Technology	29-Sep-98	3,500.0
3123	Provincial Legislation on Environmental Protection and Natural Resources Conservation	15-Dec-98	300.0
3250	Water Tariff Study II	3-Sep-99	950.0
3290	Capacity Building in Ministerial Status Responsibilities in SEPA	8-Nov-99	810.0
3497	Global Environmental Facility partnership on Land degradation in Dryland Ecosystems	5-Sep-00	100.0
3548	Preparing National Strategies for Soil and Water Conservation	20-Nov-00	800.0
3588	Transjurisdiction Environment Management (TA Cluster)	11-Dec-00	2,100.0
3657	PRC-GEF Partnership on Land Degradation in Dryland Ecosystems	5-May-01	800.0
3663	Optimizing Initiatives to Combat Desertification in Gansu Province	5-Jun-01	610.0
3708	The Planning Study for the Preparation of Yellow River Law	28-Aug-01	970.0
3891	Study on Control and Management of Non-Point Source Pollution	26-Jun-02	600.0
1549	Qingdao Environmental Improvement	18-Jul-91	100.0
1831	Tangshan Industrial/Environmental Pollution Control	31-Dec-92	100.0
1917	Beijing Environment	28-Jul-93	600.0
2188	Anhui Industrial Pollution Abatement	21-Oct-94	450.0
2445	Xian-Xianyang-Tongchuan Environment Improvement	16-Nov-95	500.0
2901	Shanxi Environment Improvement	21-Oct-97	590.0
3025	Suzhou Creek Environmental Rehabilitation	4-Jun-98	965.0
3036	Power Rehabilitation and Environmental Improvement	30-Jun-98	1,000.0
3370	Efficient Utilization of Agricultural Wastes	26-Dec-99	703.0
3372	Yunnan Comprehensive Agricultural Development and Biodiversity Conservation	23-Dec-99	1,332.0
3376	Songhua River Flood, Wetland, and Biodiversity Management	27-Dec-99	1,545.0
	Songhua River Flood, Wetland, and Biodiversity Management (supplymentary)	30-Jul-01	250.0
3462	Acid Rain Control and Environmental Improvement	27-Jun-00	964.0
3919	Liaoning Environmental Improvement	4-Sep-02	500.0
1021	Industry Energy Conservation Program	2-Aug-88	412.0
1490	Industry Energy Efficiency & Environmental Management	1-Mar-91	100.0
1628	Energy cum Electricity Demand and Supply Analysis	16-Dec-91	600.0
1754	Management of Energy Conservation Program	24-Sep-92	600.0
1867	Power Subsector Energy Conservation Study in Jiangsu Province	14-Jul-93	479.5

No.	Technical Assistance	Date Approved	Amount ($'000)
1919	Heilongjiang-Qitaihe Thermal Power	2-Aug-93	438.0
1920	Electricity Efficiency for Guangdong General Power Company	3-Aug-93	340.0
1940	Efficiency Improvement in the Road Transport Sector	25-Sep-93	550.0
2087	Industrial Energy Conservation and Environmental Improvement II	26-Apr-94	393.0
2100	Rural Energy Development	16-Jun-94	500.0
2192	Energy Efficiency and Environmental Improvement in the Power Sector	27-Oct-94	150.0
2298	Improving Coal Efficiency and Reducing Environmental Pollution	7-Feb-95	570.0
2675	Market-based Energy Conservation and Environmental Improvement	30-Oct-96	597.0
	Market-based Energy Conservation (supplementary)	7-Jul-98	150.0
2788	Strengthening Demand side Mgt in Guangdong & Zhejiang Provs	7-May-97	575.0
2792	Clean Coal Power (IGCC) Project	19-May-97	500.0
2870	Capacity Building for Energy Conservation	18-Sep-97	78.0
2900	Financial Mechanism for Energy Efficiency Investment	21-Oct-97	150.0
2927	Promotion of Energy-Saving Construction Materials	3-Dec-97	421.0
3056	Renewable Energy Development	19-Aug-98	656.0
3071	Wind Power Development	21-Sep-98	600.0
3081	Coalbed Methane Demonstration	1-Oct-98	600.0
	Coalbed Methane Demonstration (supplementary)	11-Jun-02	398.0
3325	Shanxi Air Quality Improvement	7-Dec-99	700.0
3730	Preparing the Gansu Hydropower Project	27-Sep-01	950.0
3840	Opportunities for the Clean Development Mechanism in the Energy Sector	11-Mar-02	775.0
1165	North Hainan Water Resources Development	15-Jun-89	2,300.0
1506	Dalian Multipurpose Water Resources Development	15-Apr-91	600.0
1681	Beijing Region Water Resources Management	30-Mar-92	256.0
1835	Haihe River Basin Management	8-Dec-92	1,240.0
2015	Urban Environmental Improvement Planning	14-Dec-93	480.0
2073	Changjiang Water and Soil Conservation and Environment Improvement Study	24-Mar-94	600.0
2187	Anhui Municipal Wastewater Treatment	19-Oct-94	283.0
2511	Zhejiang-Shanxi Water Conservancy	26-Dec-95	1,000.0
2726	Water Quality Management Planning for Suzhou Creek	23-Dec-95	600.0
	Water Quality Management Planning for Suzhou Creek (supplementary)	13-Feb-98	400.0
2770	Fuzhou Water Supply and Wastewater Treatment	14-Mar-97	598.0
2817	Strategic Options for the Water Sector	26-Jun-97	1,180.0
	Strategic Options for the Water Sector (supplementary)	14-Jul-99	57.0
3049	Zhejiang-Shanxi Water Supply II (Wenzhou)	21-Jul-98	540.0
3095	Hai River Basin Wastewater Management and Pollution Control	11-Nov-98	150.0
3139	Policies and Strategies for Sustainable Development of the Lancang River Basin	22-Dec-98	660.0
3211	Improving the Environmental Management for Suzhou Creek	29-Jun-99	840.0
3256	Tianjin Wastewater Treatment and Water Resources Protection	2-Jul-99	800.0
3259	Yellow River Flood Management Sector	22-Sep-99	930.0
3488	Hebei Province Wastewater Treatment	30-Aug-00	850.0
3638	Wuhan Wastewater Treatment	19-Mar-01	500.0
	Wuhan Wastewater Treatment (Supplementary)	1-Mar-02	199.0
3749	National Guidelines for Urban Wastewater Tariffs and Management Study	25-Oct-01	700.0
3963	Study of Carrying Capacity of Water Resources	4-Nov-02	600.0
3863	Mudanjiang Water Supply	15-May-02	150.0
4014	Fuzhou Environmental Improvement Project	5-Dec-02	600.0
4061	Songhua River Basin Water Quality and Pollution Control Management	19-Dec-02	1,000.0
1356	Integrated Rural Dev of Selected Provinces in SW China	17-Aug-90	597.0
1573	Red Soils Development in Hunan Province	3-Oct-91	789.0
1759	Training in Establishment & Management of Forest Plantations	29-Sep-92	560.0
1760	Fishery & Coastal Marine Res. Management and Development in ECS	30-Sep-92	595.0
1767	Yunnan-Simao Forestry Development & Pulp Mill	20-Oct-92	395.0
1860	Fujian Soil Conservation and Soil Development	29-Mar-93	406.0
1881	Integrated Rural Development for Minorities Areas	10-Mar-93	550.0
1892	Hainan Agriculture Development	20-May-93	593.0
1934	North China Marine Culture and Coastal Resources Management	19-Aug-93	583.8
2119	Forest Ecosystem Planning and Industrial Pollution Control in Yunnan	30-Jun-94	600.0

No.	Technical Assistance	Date Approved	Amount ($'000)
	Province		
2156	Improvement of Northern Grassland Ecosystems	16-Sep-94	746.0
2337	Coastal Environmental Protection & institutional assessment	29-May-95	98.5
2394	Jianfengling Park Management and Biodiversity Conservation	7-Sep-95	600.0
2407	Capacity Building for Soil and Water Conservation	28-Sep-95	590.0
2735	Capacity Building for Natural Resources Legislation	24-Dec-96	800.0
2874	Zhejiang Sweetfish Research and Breeding Program	24-Sep-97	100.0
3069	Soil and Water Conservation in the Upper Yangtze River Basin	16-Sep-98	99.0
3821	Nature Reserve Management Plan in Guangxi Zhuang Automonous Region	19-Dec-01	100.0
3998	Sanjiang Plains Wetland Protection	22-Nov-02	600.0

What Are ADB's Plans for Future Environmental Operations?

ADB's forward lending program for 2003-2005 includes 18 environmental projects totaling around $2.0 billion. This future lending will be complemented by 27 technical assistance grants totaling over $15 million over the next four years. ADB is attempting to secure cofinancing from multilateral and bilateral sources for some of the environmental projects in its PRC pipeline. ADB is also working to help develop a PRC and the Global Environmental Facility (GEF) partnership in fighting land degradation.

Loan	Project Name	Amount ($ Million, indicative)
2003	Hebei Wastewater Management	100
	Wuhan Wastewater Management	90
	Coalbed Methane-Greenhouse Gas Abatement (Shanxi)	150
	Shanjiang Wetland Protection	20
	Liaoning Environment Improvement Project	100
	Gansu Clean Energy Development Project	50
	Fujian Soil Conservation and Rural Development II	80
	Fujian Fuzhou Wastewater Treatment II	100
2004	Henan Hai River Wastewater Treatment Project	100
	Suzhou Environmental Protection Project	150
	Jiangsu Urban Environment Improvement Project	100
	Zhoushan Islands Integrated Environmental Infrastructure Development	200
2005	Ecosystem Development and Environment Protection of Baiyangdian Lake	100
	Integrated Ecosystem Management Project	100
	Renewable Energy	80
	Water Supply and Sewerage System Development in Jilin Province	100
	Shandong Haihe Water Pollution Treatment	100
	Integrated Xiamen Coastal Environment Improvement	250
	Total	**1,970**

TA	Project Name	Amount ($ '000, indicative)
2003	Integrated Ecosystem Management Project (GEF)	500
	Ecosystem Development and Environment Protection of Baiyangdian Lake	500
	Implementation of National Guidelines for Water & Soil Conservation	500
	Enhancing Effectiveness of Environmental Investments	500
	Capacity Building for Land Degradation Management (GEF)	1,000
	Renewable Energy in Rural Area	500
	Renewable Energy Development Sector	500
	Shandong Haihe Water Pollution Treatment	500
	Water Supply and Sewerage System Development in Jilin	500
	Zhoushan Islands Integrated Environmental Infrastructure Project	500

TA	Project Name	Amount ($ '000, indicative)
	Integrated Xiamen Coastal Environment Improvement	500
	Jiangsu Urban Environmental Improvement Project	500
2004	Soil Erosion Rehabilitation in Western Region	600
	Water Conservancy	600
	Sustainable Ecosystem Protection	600
	Legislative Support for Water Sector	150
	Small Hydropower and Rural Electrification II	600
	Waste Coal Utilization Study	600
	Study on Interprovincial Acid Rain Control	600
	Urban Development and Environment Improvement Project	600
2005	Efficient Utilization of Agriculture Wastes II	700
	Integrated Water Resources Management	700
	Integrated Ecosystem Management	700
	Capacity Building and Demonstration for Ecological Conservation	700
	Environment Management in Western Region	500
	Renewable Energy II (Clean Coal Technology)	700
	Suzhou Creek Rehabilitation II	600
	Total	**15,450**