Evaluation Summary

I. Outline of the Project

Country: People's Republic of China

Issue/Sector: Environmental protection

Division in Charge: Environmental Management Team I, Group II, Global Environment Department

Period of Cooperation
(R/D): 25 January 2002

4 years
(1 April 2002 - 31 March 2006)

Project Title: The Sino-Japan Friendship Center for Environmental Protection Project Phase 3

Cooperation Scheme: Technical Cooperation Project (formally known as "Project-type Technical Cooperation)

Total Cost (at the time of evaluation): 680 million yen

Partner Country's Implementing Organization(s): Sino-Japan Friendship Center for Environmental Protection

Supporting Organization(s) in Japan: Ministry of Environment; Ministry of Economy, Trade and Industry; National Institute for Environmental Studies; Overseas Environmental Cooperation Center, Japan, etc.

Related Cooperation:
• Grant aid for establishing the Sino-Japan Friendship Center for Environmental Protection (1990 - 1995; approx. 6 billion yen for the construction of the building of the Center, and approx. 4 billion yen for equipment provision)
• The Sino-Japan Friendship Center for Environmental Protection Project - Phase I (1992-1995; technical guidance to technical personnel at the Center); the Sino-Japan Friendship Center for Environmental Protection Project - Phase II (1996-2001; strengthening the Center's major functions: research, training, and monitoring functions); follow-up of the Project (1 February 2001 - 31 March 2002).

1. Background to the Project

Rapid economic growth in the People's Republic of China ("China") is causing a range of environmental problems in many parts of the country and their effects are spreading even to Japan. At the request of the Chinese government, Japan supported the establishment of the Sino-Japan Friendship Center for Environmental Protection (the "Center") as shown in "Related Cooperation" above. Phase II of this large project was completed in 2001. As a result, the Center has gained the basic capacity to play a leadership role in China's

environmental protection. The Center had to address the emergence of new environmental problems as highlighted by the health hazards caused by dioxins and endocrine disrupters, and the escalation of the existing problems such as acid rain and DSS (dust and sandstorm). It was also under growing pressure to serve as a coordinator for environmental cooperation projects by the Japanese ministries, local governments, NGOs and businesses. These circumstances prompted the Chinese government to request for Phase III (the "Project") for the purpose of strengthening the functions of the Center. In response, JICA sent a series of three preparatory study missions to China. After signing R/D in January 2002, JICA launched the Project in April 2002 for a period of four years. Every year, the joint coordination committee held consultations to flexibly address a wide range of major environmental issues resulting from economic development, revising the PDM as many as five times. The first half of the Project addressed four issues: (i) regional air pollution; (ii) the improvement of environmental management; (iii) the emergence of hazardous chemicals; and (iv) environmental protection in the Western Development Regions. The second half of the Project (since June 2004) has focused on three aspects: (i) policy and institutional support (circular economy and the system of corporate environmental supervisors); (ii) technology transfer (dioxins, persistent organic pollutants [POPs], DSS, and acid rain); and (iii) general cooperation.

2. Project Overview

The Overall Goal and the Project Purpose shown below have remained unchanged since the project's launch in April 2002. The PDM, on the other hand, was revised four times, adjusting the target issues and project activities in response to the changing circumstances. The project summary shown below is based on the PDM for the terminal evaluation, which has drawn on the PDM for the second half of the Project that was agreed upon in the joint coordination committee on June 25, 2005 and covered this large project, taking into considerations the outcomes of the first half of the Project.

(1) Overall Goal

To enable the Center to contribute to the achievement of the environmental plan in the National Tenth Five-Year Plan

(2) Project Purpose

To enable the Center to exercise leadership in addressing issues of strategic importance for environmental protection in China and extend the outcomes of this activity nationwide, contributing to the mitigation of environmental problems in every part of the country.

(3) Outputs:

I. Priority Cooperation (cooperation in addressing issues of strategic importance for environmental protection in China)

1. Policy and institutional support

(1) Circular economy (recycling-oriented society) will be promoted.

1) The Center will improve its capacity to research on circular economy.
2) The State Environmental Protection Administration (SEPA) and other agencies that promote circular economy will improve their capacity to formulate and implement policies and systems for circular economy.

(2) The system of corporate environmental supervisors will be promoted.
1) Issues and solutions the legislation of the system will be clearly defined.
2) Municipal environmental protection bureaus and corporate environmental supervisors in the pilot cities will improve their environmental management capacity.

(3) A framework of the Basic Law of the Environment that is suitable for China will be laid down.

(4) The Center and other agencies concerned will support SEPA in developing administrative instructions for the Law on Environmental Impact Assessment.

(5) The wetland information service system will be made available toward formulating an ecological protection policy for the central and western regions in China.

(6) The Environment Model City Plan will be promoted.

2. Technology transfer

(1) Progress will be made in technology transfer in dioxin analysis.
1) The dioxin analysis laboratory at the Center will be put into operation.
2) Analytical techniques for dioxins will be improved at the Center and elsewhere.
3) Training participants will improve their analytical techniques for dioxins.

(2) Progress will be made in technology transfer in POPs analysis.
1) The Center will improve its analytical techniques for POPs.
2) The analytical capacity for POPs across the country will be identified and assessed.
3) POP pollution of the environment will be identified and assessed in some parts of China.
4) Training participants will improve their analytical techniques for POPs.

(3) Analytical research into the sources of particle matter (PM), including DDS, in the urban air will be promoted.
1) The Center will improve its techniques for sampling PM as well as its analysis and source identification.
2) Source identification will be conducted in some parts of China, roughly identifying some pollution sources.
3) Source identification for DSS will be promoted.
4) Training participants will improve their analytical techniques for PM in the urban air.
5) Quality control of PM analysis in the urban air will be improved.
6) Coordination with other cooperation schemes will be improved in addressing DSS.

(4) Research on the recycling of solid waste will be promoted.

II. General Cooperation

1. Follow-up on priority cooperation activities in the first half of the Project

(1) China's capacity for acid rain monitoring will continue to be improved.
(2) Coordination with the Acid Deposition Monitoring Network in East Asia will be promoted.
(3) Leaders at regional environmental protection bureaus will improve their environmental capacity.

2. Coordination with and support for cooperation activities under other JICA schemes

(1) The following cooperation activities under other JICA schemes will be implemented, and they will be implemented smoothly and effectively in coordination with the Project:
(i) In-County Training: Monitoring and Control Techniques of Acid Rain and SOx (2000 - 2004)
(ii) Country-Focused Group Training for China: System of Pollution Control Manager (2000 - 2004)
(iii) Development Study: Study on the Master Plan for Air Pollution Control in Guiyang Municipality (January 2003 - August 2004).

(2) The Third Country Training "Capacity development for environmental protection in Asia" (2003 - 2005) will be implemented smoothly.

(3) Coordination will be ensured with the individual expert for "improving coordination of financial assistance in the environmental sector" (March 2003 - March 2006), so that the Project and the experts will perform effectively.

3. Other general cooperation activities

(1) The outcomes of the cooperation activities will be implemented smoothly.

(2) The Sino-Japan Friendship Center for Environmental Protection will gain fame as a hub or a focal point for environmental cooperation between the two countries.

4. Items that were included as outputs in the PDM for the first half of the Project but are not included in the PDM for the second half.

(1) Training in developing and implementing measures to promote ISO14000
(2) Research on indoor environmental pollution
(3) In the process of addressing individual issues, the framework of coordination with the regions will be established, and the outcomes of the process will be disseminated to the regions through this framework.
(4) Progress will be made in solving issues of strategic importance identified in the Tenth Five-Year Plan.

(5) Inputs (by the time of evaluation; including inputs to be provided by the end of March 2006)
Japanese side:

Long-term Experts: 12 experts	249.4M/M Equipment: approx. 69,396,000 yen
Short-term Experts: 81 experts	Others (operating costs): approx. 125,951,000 yen

Trainees received: 46 persons
Chinese side:
Personnel at the Center: 319 persons
Operating cost of the Center: O&M costs of facilities and equipment, labor costs, and research costs

II. Evaluation Team

Members of Evaluation Team

Role/responsibility Name Position
Team Leader: Ikufumi TOMIMOTO Director General, Global Environment Department, JICA
Sub Leader & Policy and Institutional Support: Masaharu YAGISHITA Professor, Graduate School of Global Environmental Studies, Sophia University
Technology transfer: Hiroyasu ITO Senior Researcher, Analytical Quality Assurance Section, Environmental Chemistry Division, National Institute for Environmental Studies
General and Horizontal Cooperation: Hiromi CHIHARA JICA Senior Advisor
Cooperation Planning: Miwa HIASA Environmental Management Team I, Group II, Global Environment Department, JICA
Evaluation Analysis: Michiyuki KENMOTSU International Project Department, Chuo Kaihatsu Corporation

Period of Evaluation
11 - 29 September 2005

Type of Evaluation: Terminal Evaluation

III. Results of Evaluation

3-1 Achievement Level

Building on Phase I and Phase II, the Project (Phase III) was designed to improve the sustainability of the Center and its capacity to address environmental problems. The Project adjusted the PDM as appropriate to cope with fast-changing environmental problems in a timely manner amid rapid socioeconomic development. It addressed key policy issues that had been agreed upon at the joint coordination committee, by providing experts from Japan, organizing seminars and through other means. The Evaluation Team has confirmed that the project has produced many outputs that have contributed to the attainment of the Project Purpose. For example, personnel at central and regional environmental protection bureaus who play a pivotal role in developing and implementing the policy of promoting circular economy have improved their capacity through training in Japan and the process of drafting administrative instructions (regarding community participation) for the Law on Environmental Impact Assessment. Another example is that the open laboratory at the Center has demonstrated excellent performance in analyzing DSS, dioxins, and POPs. The Evaluation Team has also confirmed that the Chinese government is set to seriously consider the full-fledged introduction of the system of corporate environmental supervisors that JICA has long been supporting on a pilot basis. The Project is likely to achieve a measure of

success by its completion, although the construction of a laboratory for dioxin analysis was delayed due in part to the spread of SARS.

3-2 Summary of Evaluation Results

(1) Relevance

The Project is highly relevant. It is consistent with Japan's ODA policy, China's environmental policy, and related regional and global commitments, especially in light of (i) the national development plan and the National Tenth Five-Year Plan of Environmental Protection of China; (ii) the economic cooperation program for China and the new ODA Charter of Japan; (iii) the Record of Commitments/Partnership at the World Summit on Sustainable Development in 2002; (iv) the adoption of an international project on DSS by ADB/GEF; and (v) reports at the Ministerial Conference on the 3R Initiative. In addition, it is increasingly important and significant to respond promptly to environmental challenges facing China in the context of addressing regional environmental problems in East Asia, which is experiencing remarkable economic development.

(2) Effectiveness

The Evaluation Team concludes that the Project is effective. Most of the project activities that have been described in the PDM are nearing their completion, except in the field of dioxins, where the construction of the relevant laboratory was behind schedule. Assistance in promoting ISO14010, drafting administrative instructions on EIA, and promoting circular economy has helped the Chinese government at the project, policy, and institutional levels. Training regarding the system of corporate environmental supervisors and circular economy, through such schemes as In-Country Training, Training in Japan and Dispatch of Experts to the regions has played a certain role in disseminating the project outcomes to the regions.

The assistance since 1992, from Phase I through Phase III, has helped China to control the worsening of air pollution in some major cities and strengthen its framework for environmental management. The Evaluation Team has confirmed that the Project, in cooperation with other donor agencies of Japan and other countries, has effectively contributed to the efforts to solve key environmental problems in China.

(3) Efficiency

The Project as a whole has been appropriately managed and implemented according to plan. It has provided reasonable inputs and produced expected outputs. Flexibility in implementing the Project is worth mentioning. The adjustment of the activity plan by the joint coordination committee and the pursuit of effective coordination with other environmental cooperation activities have made it possible to respond to the changes in the important environmental issues in a timely manner and produce successful outcomes. The equipment provided by the Project has been put to effective and efficient use in the project activities.

(4) Impact

The project activities have contributed to the efforts to solve environmental issues of strategic importance that have been identified in the National Tenth Five-Year Plan. Initial steps have already been taken to promote circular economy, a likely issue of strategic importance in the National Eleventh Five-Year Plan. The system of corporate environmental supervisors, which is designed to establish a voluntary framework of environmental management at industrial establishments, will possibly have a major impact depending on how the central government introduces the system. The Evaluation Team concludes that no major negative effects will become present unless the Important Assumptions in the PDM undergo a major change.

(5) Sustainability

The building and development of personal and organizational capacities since the launch of Phase I in 1992 have provided essential conditions for the sustainability of the Center. The Center has begun to have a positive impact on the regions mainly through the training it provides for newly appointed chiefs of regional environmental protection bureaus. Through its cooperation activities, the Center has established itself as a platform for international cooperation in environmental protection. All these factors point to the high sustainability of the Center. This sustainability will be further enhanced if SEPA provides the Center with adequate human and financial resources and clearly defined roles and responsibilities so that the Center will develop its institutional capacity as a key organization under its direct supervision.

3-3 Contributing Factors

(1) Project planning

The Project ultimately aims to "enable the Center to contribute to the achievement of the environmental plan in the National Tenth Five-Year Plan [Overall Goal]" by "enabling the Center to exercise leadership in addressing issues of strategic importance for environmental protection in China [Project Purpose]." The Project responded to the changes to the key issues in China's environmental policy and to the corresponding changes in China's requests as flexibly as possible. This was done by reviewing the project plan and the PDM every year--or twice a year in 2003 as a result of the spread of SARS---so that activities to address issues of strategic importance for environmental protection in China would be incorporated into the project activities and outputs in the PDM. As a result, individual project activities have produced positive outcomes.

(2) Implementation process

With regard to the implementation process, two major factors have produced positive results or have contributed to the achievement of the project objectives. The first factor is that the project stakeholders flexibly adjusted the Outputs and Activities in the PDM to cope appropriately with the changing circumstances without changing the Overall Goal or the Project Purpose. For this purpose, they took advantage of the joint coordination committee, a forum for consultation between Japan and China. The other is that the project stakeholders

provided necessary inputs to address technical issues in a timely manner. Among the inputs, the long-term experts played a pivotal role, with short-term experts, seminars, and other inputs playing complementary roles.

3-4 Obstacles

(1) Project planning

In early 2003, the project activities were suspended due to the spread of SARS. After the epidemic was brought under control, the joint coordination committee held an extraordinary meeting and approved of the changes to the project plan. These changes delayed a few activities (those concerning dioxin analysis techniques) but did not pose as a major obstacle to the project's process.

3-5 Conclusion

The Evaluation Team has been examining the achievements, outputs and the implementation process since the launch of the project based on the PDM that had been agreed upon between the Japanese and Chinese sides. The team has concluded that although the Project Purpose has been largely implemented according to plan, there is room for improvement in the field of dioxins where the construction of the planned laboratory fell behind schedule. The Chinese government is set to consider officially promoting the circular economy and introducing the system of corporate environmental supervisors. The Evaluation Team has confirmed that these two issues might have a great impact if additional assistance is provided. Among the five evaluation criteria, the Project scores high in relevance, effectiveness and efficiency. It has had a positive impact and built a foundation for sustainability. The Project has also contributed to important policy issues for China and had some positive effects on the local governments' efforts toward environmental improvement.

3-6 Recommendations

(1) Activities and outputs to be achieved by the end of the project period

Some project activities have yet to produce sufficient outputs, including those related to dioxins. It is important that they generate certain levels of outputs by the completion of the Project. To that end, JICA should provide short-term experts for the issues that need to be addressed during this fiscal year (e.g., infrastructure development, including the construction of the dioxin laboratory). However, both the Japanese and Chinese sides should commit themselves to identifying the issues to be addressed in and after the next fiscal year and to formulating necessary activity plans. Because the circular econmy, for which its support started during the second half of the project period, will likely become an important issue for a bilateral environmental cooperation, it is advisable that both the Japanese and Chinese side make the necessary preparations during the remainder of the project period.

(2) Measures and activities to be implemented by the Chinese side after the completion of the Project

The Chinese side should maintain and capitalize on the outputs and outcomes of the assistance to the Center from Phase I through Phase III. To that end, it should stick to the Project Purpose of "enabling the Center to exercise leadership in addressing issues of strategic importance for environmental protection in China and extend the outcomes of this activity nationwide, contributing to the mitigation of environmental problems in every part of the country." SEPA should provide the Center with adequate human and financial resources and clearly defined roles and responsibilities so that the Center will develop its institutional capacity as a key organization under its direct supervision.

(3) Measures and activities to be implemented by the Japanese side after the completion of the Project

The Evaluation Team has found that a few issues, including the issue of dioxins, that have not yet been addressed appropriately by the planned project activities. It has also identified a few fields on which the Project might have a major impact if additional activities are conducted. These fields include the circular economy and the system of corporate environmental supervisors. The Japanese side should consult with the Japanese and Chinese agencies concerned to decide whether such additional activities are needed to attain the Project Purpose, with consideration given to the value of the function of the Center as a platform for environmental cooperation between the two countries. The Japanese side should work closely with the Chinese side to disseminate the major achievements of Phases I, II and III to the peoples of both countries. It should deepen mutual understanding of the importance of bilateral economic cooperation in various forms, including cooperation in regional environmental protection, in a wider context of promoting bilateral friendship.

The National Eleventh Five-Year Plan, due the first half of 2006, is expected to place a strategic focus on the circular economy. It is time to study integrated assistance in this field that involves not only the Japanese and Chinese governments but also universities, research institutions, private enterprises and NGOs, with a focus on its objectives, expected outputs and activity plans. Such assistance should also be designed to enhance the functions of the Center as a platform for international cooperation in environmental protection.

China still faces a myriad of environmental challenges. The importance of addressing these challenges is increasing in East Asia and the international community. Assistance to China in this sector represents a great contribution not only for China and Japan but also for the international community. It is important to design policy and institutional support, in particular, to maximize the positive effects. To that end, the Japanese government should hold policy consultations with their Chinese counterparts to identify priority issues. It is also important to promptly address emerging environmental problems as a result of rapid socioeconomic development by taking advantage of the platform function of the Center.

3-7 Lessons Learned

Building on Phase I and Phase II, the Project (Phase III) was designed to improve the sustainability of the Center and its capacity to address environmental problems. The Project adjusted the PDM appropriately to cope with the fast-changing environmental problems in a timely manner amid rapid socioeconomic development. It addressed key policy issues that had been agreed upon at the joint coordination committee. As a result, the Project achieved successful outputs as described in the Overall Evaluation section. The Project can provide a

good case study for other countries where rapid economic development changes the assumptions for cooperation projects. At any rate, it is important to develop a mechanism that manages the progress of activities and outputs in relation to each objective.

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The Project is not limited to the framework of a traditional technical cooperation project or to the PDM framework. It is more or less like a "Program" in which several projects with common objectives are implemented concurrently. In some aspects, the Project defies qualitative assessment of outputs and empirical study of positive and negative effects. It is expected that program-type assistance that features policy and institutional support will be on the rise. It is time to discuss evaluation techniques not only for individual projects but also for program-type assistance. In designing a program-type assistance, it is important to take the following steps: (i) consider consistency with other cooperation schemes (loan aid, grant aid, etc.) and with activities of other donors, NGOs, private enterprises and organizations, research institutions, and universities; (ii) identify opportunities for synergy with the activities of the partner country; and (iii) hold consultations with the partner country and other donors wherever possible to produce maximum outputs with minimum inputs.