1. Project Data

	Su	mmary project data			
GEF project ID		1105			
GEF Agency project ID		33443			
GEF Replenishment P		GEF-2			
-	lude all for joint projects)	Asian Development Bank			
Project name	, , , , , , , , , , , , , , , , , , ,	•	Efficient Utilization of Agricultural Wastes		
Country/Countries		China			
Region		Asia			
Focal area		Climate Change			
Operational Program Priorities/Objectives	or Strategic	6- Promoting adoption of renew barriers/reducing costs.	6- Promoting adoption of renewable energy by removing		
Executing agencies in	volved	Ministry of Agriculture			
NGOs/CBOs involven	nent	one of the beneficiaries			
Private sector involve	ement	through consultations			
CEO Endorsement (FS	SP) /Approval date (MSP)	5/30/2002			
Effectiveness date / p	project start	06/16/2003			
Expected date of pro	ject completion (at start)	6/30/2008			
Actual date of projec	t completion	08/23/2010			
Project Financing					
		Project Financing			
		Project Financing At Endorsement (US \$M)	At Completion (US \$M)		
Project Preparation	GEF funding	· .	At Completion (US \$M)		
Project Preparation Grant	T	· .	At Completion (US \$M)		
	GEF funding	· .	At Completion (US \$M) 6.25		
Grant	GEF funding	At Endorsement (US \$M)			
Grant	GEF funding Co-financing	At Endorsement (US \$M) 6.36	6.25		
Grant GEF Project Grant	GEF funding Co-financing IA/EA own	At Endorsement (US \$M) 6.36 33.12	6.25 32.78		
Grant GEF Project Grant	GEF funding Co-financing IA/EA own Government	At Endorsement (US \$M) 6.36 33.12	6.25 32.78		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79	6.25 32.78 44.20		
Grant GEF Project Grant Co-financing Total GEF funding	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91 77.27	6.25 32.78 44.20 6.25 76.98 83.23		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing Total project funding	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91	6.25 32.78 44.20 6.25 76.98 83.23		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing Total project funding	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91 77.27	6.25 32.78 44.20 6.25 76.98 83.23		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing Total project funding (GEF grant(s) + co-fin	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91 77.27 valuation/review informatio	6.25 32.78 44.20 6.25 76.98 83.23		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing Total project funding (GEF grant(s) + co-fin TE completion date	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91 77.27 valuation/review informatio	6.25 32.78 44.20 6.25 76.98 83.23		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing Total project funding (GEF grant(s) + co-fin TE completion date TE submission date	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91 77.27 raluation/review informatio 12/2010	6.25 32.78 44.20 6.25 76.98 83.23		
Grant GEF Project Grant Co-financing Total GEF funding Total Co-financing Total project funding (GEF grant(s) + co-fin TE completion date TE submission date Author of TE	GEF funding Co-financing IA/EA own Government Other*	At Endorsement (US \$M) 6.36 33.12 37.79 6.36 70.91 77.27 raluation/review informatio 12/2010 C. Dingcong	6.25 32.78 44.20 6.25 76.98 83.23		

^{*}Includes contributions mobilized for the project from other multilateral agencies, bilateral development, cooperation agencies, NGOs, the private sector, and beneficiaries.

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation*	IA Evaluation Office Review*	GEF EO Review
Project Outcomes	S	Successful	Successful	S
Sustainability of Outcomes	L	Most Likely	Most Likely	L
M&E Design	N/A	Not rated	Not rated	S
M&E Implementation	HS	Not rated	Not rated	S
Quality of Implementation	HS	Satisfactory	Satisfactory	S
Quality of Execution	HS	Satisfactory	Satisfactory	S
Quality of the Terminal Evaluation Report			Satisfactory	S

^{*} ADB rating system is different than that of the GEF EO. ADB uses a 4-point scale for Relevance, Effectiveness, Efficiency, and Sustainability, with overall assessment based on weighted measure of all four metrics. ADB ratings for Implementation, Execution and TE quality are binary.

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objective of this project is to reduce GHG emissions through the promotion of sustainable agricultural practices, including the efficient utilization of agricultural wastes for biomass energy generation.

The strategy for industrial growth and agricultural intensification adopted by China in the past decades has resulted in environmental problems, particularly air and water pollution linked to rapid economic growth and industrialization. Direct combustion of large amounts of coal, firewood, and crop residues is contributing to the deterioration of the environment.

The use of coal, China's primary source of energy, has resulted in high levels of air pollution, causing major health problems, degenerating ecosystems, declining agricultural production, increasing emissions of greenhouse gases, and occurrences of acid rain. Poor farming practices and inefficient use of biomass in the agriculture sector account for 12-18% of China's national GHG emissions. Unsustainable forestry practices, including commercial and domestic use of firewood, excess biomass production from farms and households, and intensive farming on degraded soils, has degraded rural environments. These factors have led to increased air pollution from burning crop residues, soil erosion, and low farm productivity. Inappropriate disposal of household and animal wastes contributes to environmental and groundwater pollution.

Biomass technologies utilizing agricultural wastes or biomass resources could significantly reduce this environmental degradation and its associated health problems. Biogas digesters and crop residue gasification technologies have the potential to become increasingly popular, particularly among small farmers.

3.2 Development Objectives of the project:

The Project Development Objectives are to (1) improve the rural environment, (2) promote sustainable agricultural production, and (3) enhance the livelihoods of rural households in disadvantaged rural areas in Henan, Hubei, Jiangxi, and Shanxi provinces.

The intended outcomes of the project are

- (1) demonstration of economic viability of sustainable biomass technology for efficient utilization of agriculture waste to generate clean, renewable energy and private sector participation; and
- (2) enhanced agricultural productivity and rural income through recycling of biomass resources and reduced poverty.

Those two main outcomes are divided into 6 components:

Component A funds renewable energy generation and eco-environment development. According to the PD, this component supports four types of biogas technologies. The type I system, a 4-in-1 model eco-farm, it combines a greenhouse and pig raising (or other livestock) in an integrated system comprising a pigpen, greenhouse, vegetable crops, and a biogas digester. Type II systems, a 3-in-1 model eco-farm, combines pig raising (or other livestock) and a biogas digester with an orchard, or crops, or a fish pond. Type III systems pilots medium-scale biogas plants in commercial livestock farms. The type IV system, straw gasification plants, was cancelled during the midterm review. (See explanations below in section 3.3)

Component B aims to improve mechanisms for transferring biomass technology. It aims to address technical barriers to adopting biomass technology by training contractors, technicians and projects beneficiaries.

Component C involves rehabilitation of farmers' farm-to-market facilities. It aims at rehabilitating rural roads and bridges to link rural production areas to urban markets.

Component D aims at improving awareness of biogas technology and environmental policy implementation. This component helps to remove institutional barriers to promote and expand biomass technology adoption for environmental improvement and public awareness.

Component E pilots poverty-focused approaches for biomass development. It aims at removing the constraints to participation by local poor farmers in rural areas.

Component F intends to improve project implementation and capacity. It aims at providing consulting services to strengthen technical support, and improve the capabilities of the agencies.

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

The GEO and PDO were not modified. However, during the mid-term evaluation, some indicators and activities were revised.

Several indicators were modified for the first outcome, "demonstration of economic viability of sustainable biomass technology for efficient utilization of agriculture waste to generate clean, renewable energy and private sector participation", and for the second outcome "enhanced agricultural productivity and rural income through recycling of biomass resources and reduced poverty". A few modifications occurred in component A. According to the TE, the type IV system, straw gasification plants, was cancelled during the midterm review due to the concerns about the technology maturity. The budget of type IV systems was reallocated to construction of additional type II systems in Henan, Hubei, and Shanxi provinces. The targets for type I and type III systems were reduced. The target for the rehabilitation of old or building of new greenhouses for the type I system was reduced from 4,700 to 2,545 because the type I was less popular than the type II. Therefore, the target for the type II system was increased from 12,500 to 16,970 greenhouses.

4. GEF EO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

The project relevance is rated as satisfactory. The project addresses several challenges facing the government, including the need to increase agricultural productivity; reduce poverty in rural areas, particularly in the interior provinces; reduce the rural–urban income gap; and reverse environmental degradation.

The government is seeking through its agriculture development strategy to adopt integrated approaches to farming that are friendly to the environment. ADB's country partnership strategy, 2008–2010 for China has an overarching poverty reduction objective and its agriculture sector strategy emphasized increasing productivity and incomes in rural areas while conserving the environment. Therefore, this project is relevant to the government of China as well as to ADB.

Additionally, the Country's government has created a national biogas development program, passed the Renewable Energy Law of 2006, and tightened environmental standards for livestock farms. The government's Renewable Energy Act of 2007, amended in 2009, and the provincial strategies for rural biogas development, which include government financing support, all address the strong need for developing rural household biodigesters. The Circular Economy Promotion Law of 1 January 2009 encourages the use of agricultural waste in eco-farming to replace chemical fertilizers and produce green energy. Therefore, the project is aligned with the government's policy.

4.2 Effectiveness	Rating: Satisfactory
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Overall the effectiveness of the project is rated as Satisfactory. The project achieved most of its expected outcomes and goals, although some of them had to be revised following the Mid Term Review. The vegetable production exceeded the targets; the citrus production was 10% less than the target set at Mid Term review. The targets of components B was exceeded for both trainees and workshops. The roads built by the government under component C reached 526km, much more than the target of 60km. Additionally, there were 18 agro produce markets constructed and 113 mechanized wells drilled. The communication strategies developed under component D improved the farmer's knowledge and awareness of biomass renewable energy. Finally, under component E, 8528 poorer rural villagers received GEF grants to set up biodigesters (instead of 9000 initially planned), and 9182 low skilled poor households were trained instead of 9746 initially planned.

The following shortcomings in the achievement of the expected outputs were noted in the TE: Biogas was not provided to as many households as envisaged at appraisal. This is due to the dropping of type IV straw gasification plants in Component A. Moreover, only two of the 13 medium-scale type III plants financed under the project provided the gas reticulation to rural households. The 11 other plants produce gas for use in the operations of the project enterprises, including, for example, a slaughterhouse and a dairy factory. According to the TE, this change reflects the commercial risks involved in recovering investment and operating costs from many individual households through the sale of biogas and the capital costs of the reticulation network that would have been required. Those shortcomings were already expected during Mid Term review, when the targets for type I and type III systems under component A were reduced, while the construction of type IV systems was canceled. Overall, the project achieved 99% of the target for type I, and 98% for type II.

4.3 Efficiency	Rating: Satisfactory
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The efficiency of the project is rated as satisfactory. The financial internal rates of return (FIRRs) for the biogas systems and the economic internal rate of return (EIRR) for the overall project have been calculated by the TE, using information provided in the government's project completion report and supporting spreadsheets. As a whole, the EIRR for the project is estimated at 19.9%, based on the benefits from the increased biogas and agricultural production, which is higher than the 18% estimated at appraisal. If the benefits from reductions in cooking time, medical expenses, and carbon dioxide (CO₂) emissions are included, the estimated EIRR increases to 25.8%. (More details are given in Appendix 8 of the TE).

In term of schedule, the project activities funded by ADB started on time. However, the implementation of the GEF funded activities was delayed by 16 months. This delay arises from a slow flow of GEF funds, due to (1) lack of account in the provinces, (2) lack of knowledge from the project management office and project implementation office, about the ADB administrative procedures for implementing GEF components, and (3) difficulties in advancing funds by the project implementation office to implement GEF activities while waiting for the GEF funds to be available. Due to this delay, the closing date was extended by 1.5 years. However, the efficiency is still rating satisfactory, because according to the TE, these delays have been well managed, the activities financed by ADB were implemented on time and project resources were efficiently used as reflected in the EIRR of 19.9%.

4.4 Sustainability	Rating: Likely
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The sustainability of this project is rated as likely for the following reasons:

- (1) A pool of trained technicians has been developed during the project,
- (2) There is an ongoing interest and financial incentives from the government of China to expand the use of biogas technology,
- (3) The plant owners are satisfied with the reliability of the plant, with very few gas supply disruption,

(4) According to the TE, a network of support systems will be retained in the provincial and county governments, because of the ongoing government programs that encourage the uptake of small- and medium-scale biogas technology.

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The funds were divided as follow:

- The GEF financed components B, D, E, and F, with a grant of \$6.361 million. Those components aimed to reduce China's GHG emissions.
- The government financed component C, "rehabilitation of farmers' farm-to-market facilities".
- ADB financed component A, "Funding Renewable Energy Generation and Eco-Environment Development", with a loan of \$33.1 million.

At appraisal, the project cost was expected to be the equivalent of \$77.27 million. At closure, project expenditures amounted to \$83.23 million. According to the TE, the cost increase in dollar terms is due to the appreciation of the local currency during project implementation, and to the additional activities undertaken under components B and C.

"The actual costs of component B to improve the mechanism for transferring biomass technology exceeded the appraisal target by 217%. Those of component C to rehabilitate farm-to-market facilities were 465% over target. In the case of component B, this reflected ADB's agreement during the midterm review to the transfer of funds from contingency to training, workshops, and applied research; and from unused provincial budgets for environmental facilities to office and training equipment. Construction of farm-to-market roads under component C rose by 778% from the target at appraisal and construction of agricultural produce markets and the drilling of mechanized wells also increased." (TE Appendix 3)

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The project was delayed for 1.5 years. There were two extensions: on 21 January 2008, ADB approved the first extension of the loan closing date by 12 months to 30 June 2009. On 14 April 2009, ADB extended the loan closing date by 6 more months to 31 December 2009.

The project activities financed by the ADB loan began on time. However, the implementation of GEF components was delayed by 16 months from loan effectiveness to October 2004. The pilot program under component E started only in March 2007, while it was to be implemented during the project's first year. This program was postponed for review and modification to comply with current requirements. The postponement contributed to the slower overall progress of GEF-funded activities. Additionally, activities for component B, which required at least 36 months to implement, were only finalized and implemented after the midterm review. Consequently, the loan closing date was extended by 1.5 years. (TE Appendix 5).

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

As stated in the TE, country ownership was strong during this project. The project objectives were in line with the government's national policy. The project activities were also well integrated with the existing institutional system. The government demonstrated a strong ownership of and commitment to the project by increasing its counterpart contribution to the construction of infrastructure in the project area, the government was responsible for building roads between rural areas to urban markets. The targets of the component funded by the government were totally exceeded. According to the TE, the involvement of the government can also be seen by the issuance of relevant laws and policies during project implementation, which made the project successful and sustainable. Additionally, there were more than 100 organized community groups that participated in the construction and maintenance of rural infrastructure facilities. This shows a strong ownership from local communities.

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Satisfactory	

The M& E Design at Entry is rated Satisfactory. M&E design is included in the project under Component F, activity 3 "Establish monitoring and evaluation system".

According to the PD, the project was to be monitored and evaluated using ADB procedures. ADB would undertake this activity in cooperation with the GEF focal point in the MOF and other PRC agencies. Several reports were planned: evaluation surveys used to implement changes to the project; annual progress reports; progress of the various barrier removal and institutional strengthening activitie; records of expenditures and accounts; a Mid Term Review; and a project completion report. Additionally, the Project Management Office (PMO), in coordination with Project Implementation Offices (PIOs), was expected to establish a Project Performance Management System (PPMS) to monitor and assess project performance and impact. Some consulting services were provided under Activity 6 to assist the PMO to formulate and establish effective PPMS from the commencement of the Project.

6.2 M&E Implementation

Rating: Satisfactory

The M& E implementation is rated as Satisfactory. As required in the PD, the PMO worked in collaboration with the PIO to establish a project performance management system (PPMS) to monitor and assess project impact and the achievement of project objectives. Socioeconomic data for the PPMS were generated by different surveys. The impact on target beneficiaries (the poor and vulnerable poor) was estimated using beneficiary impact assessment surveys that included non-project survey baseline and pre-project conditions. The energy and environmental monitoring plan surveyed the environmental indicators across three conditions: before the project, with the project, and without the project. Additionally, the Mid Term review was conducted and led to changes adaptation of the project indicators and activities.

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 Quality of Project Implementation	Rating: Satisfactory
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Overall, the performance of the Implementing agency (Asian Development Bank) is rated as satisfactory.

According to the TE, ADB was responsive to the government's requests and provided proper justifications for adjustments in project scope and reallocations of funds, which ensured that the project design remained relevant and implementation was efficient. The cancellation of gasification plants due to technical issues demonstrated ADB's flexibility in adapting the design to avoid project failure.

However, disbursements were slower than expected due to GEF financing agreement constraints. It delayed the implementation of GEF components. Lessons learned have been applied by ADB to avoid similar issues in the other approved projects. ADB's resident mission in China also provided timely support to the government to address disbursement issues.

The TE notes that "ADB's review missions were deemed unnecessarily intensive by the government". Frequent changes in project officers might have increased administrative costs and work for both ADB and the government. The government also suggested to the TE, that the implementing agencies should have had the authority to change project scope.

7.2 Quality of Project Execution

Rating: Satisfactory

The executing agency performance is rated as satisfactory.

The executing agency was the Ministry of Agriculture, and in particular its Foreign Economic Cooperation Center at the national level, and the provincial governments of Henan, Hubei, Jiangxi, and Shanxi, through their departments of agriculture at the provincial level.

A project management office was established at the Ministry, and four project implementation offices were set up in the four different provinces of the project. The arrangements agreed at appraisal were followed throughout implementation. According to the TE, there was no major issue with the project execution.

The increased government counterpart funding for infrastructure was unexpected and positively impacted the project's impact and the improvements to the living environment of rural households in the four project provinces. According to the TE, the executing agency was dedicated to the delivery of the project outputs. It provided sufficient counterpart funds and human resource support in project administration. It was also well involved in the project implementation, and provided timely suggestions on adjustments to project scope to make the project more relevant to rural energy development. The staff of the PMO and PIOs was stable and highly dedicated to maintaining the high standards of work quality put in place to enhance project sustainability. Project regulations, guidelines, and training materials were prepared and distributed. Project financial management by the PMOs, the four PIOs, and their PFBs demonstrated the competence of their staff and their ability to meet ADB requirements.

8. Lessons and recommendations

8.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The following lessons are described in the TE:

- (1) Simplify grant disbursement arrangements. The flow of GEF funds was slow and delayed implementation. These disbursements arrangements need to be simple. The government has drawn lessons from the project and has now agreed to the establishment of accounts in provincial departments of finance to receive grant funds directly from ADB.
- (2) Government ownership key. The project objectives were in line with the government's national policy on environmental improvement, renewable energy development, and poverty reduction in rural areas. The project activities were also well integrated with the existing institutional system. The government demonstrated a strong ownership of and commitment to the project which made the project successful and sustainable.
- (3) Training crucial to sustainability. A well-designed, well-executed capacity development program assures that a project will be sustainable and can be replicated. The sound planning of this project's training programs was one of the keys to its success. The project trained technicians in service centers and stations in the counties and villages, helped establish service networks in the project areas, and ensured the availability of maintenance services in rural areas.
- (4) Climate and location important. The sustainability of type I systems, which include a greenhouse, could be marginal in Shanxi Province where the annual average temperature is low and they can only function properly for about half the year. The province's harsh

- weather also means that the greenhouses deteriorate faster and need more intensive maintenance. Understanding the geography of farmers' lives is also important in designing projects such as this.
- (5) Due diligence critical before using new technology. The technical and economic viability of a new technology, such as the straw gasification technology in the project, must be examined carefully before its inclusion in a project. This is particularly important to poverty-focused projects as poor stakeholders would have less capacity in managing risks of project failure. The cancellation of type IV gasification plants at midterm review mission over the concerns about their technology immaturity and economic viability avoided project failure and was a sound decision. However, it also showed a lack of proper due diligence regarding these factors at the appraisal.
- (6) Enterprise ownership lacking. The lack of ownership and commitment on the part of the project enterprises to the preparation of the PDD might cause the CDM pilot bundling project to fail. The government should seek direct involvement by the enterprises to enhance their ownership and understanding of the CDM process. The enterprises considered carbon financing as an easily accessible fund and were not aware of the commitment and efforts that would be required from them to avail of the carbon credit.

8.2 Briefly describe the recommendations given in the terminal evaluation.

The following recommendations are given in the TE:

- (1) Future monitoring. The types I and II systems are highly sensitive to the prices of pigs and pork, weather conditions, and rural economic growth. The executing and implementing agencies should therefore continue to monitor the use of the project systems and their impact on farmers' livelihoods.
- (2) Covenants. In accordance with the project agreement, the four PIOs will present their respective environmental assessment reports 1 year after project completion. The environmental assessment reports should include a compilation of the environmental monitoring results carried out during project implementation, a summary of the environmental assessment carried out by type III systems and their approvals, and the environmental management measures undertaken following the summary initial environmental examination report in the report and recommendation to the President.
- (3) Revolving funds. The loan has a 25-year term but the repayment periods for sub-loans are less than 10 years. Some sub-borrowers have started repayment and the government is considering recycling the funds to maximize the project benefits. The departments of agriculture and finance in Jiangxi province are preparing rules and guidelines to set up a revolving fund. Once approved by the MOF, this will allow loan repayments to be used to establish additional type II systems and multiply the project's impact.
- (4) Timing of the project performance evaluation report. It is recommended that ADB prepare the project performance evaluation report 3 years after project completion to assess the project's impacts and sustainability and identify lessons for ADB's future lending to similar projects.
- (5) The loan agreement required the borrower to establish a national policy coordination committee as a project policy-making body. Although the borrower complied with the requirement, the PCR mission found that the committee was not really operational. The government has its own mechanism for policy making in general and is unlikely to develop policy through a committee established under an ADB investment project. Future ADB projects should consider whether such a covenant or requirement in the loan agreement is needed and actually serve its purposes.

- (6) The PMO and PIOs prepared training materials in many media forms on subjects including O&M of household biodigesters and the safe use of biogas. It is recommended that the government continue to use these training materials in the project provinces for training biogas technicians and farmers and that it share them with other provinces and international financial institutions, such as World Bank, for training in biogas construction and O&M.
- (7) It is recommended that the PIOs, in consultation with relevant rural environmental monitoring stations, develop a rural environmental monitoring program to make the best use of the monitoring equipment purchased using the GEF grants.

9. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The TE contains a detailed assessment of the achievements of the project. The outcomes, outputs, and impacts are included, and the objectives achievements are well described, especially in a table in Annex.	S
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is consistent, and the evidences are convincing. Very details numbers and indicators are given to show the veracity of the evidence given. However some ratings are missing (e.g. M&E system).	S
To what extent does the report properly assess project sustainability and/or project exit strategy?	Project sustainability is assessed but with very few details. The overall sustainability is given, but there is not enough information on the potential future risks to the project.	MS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons and recommendations are clear and directly supported by the information given in the report.	S
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The project costs are given very precisely in the TE. Several tables present the actual vs. expected costs, as well as the cost break down per activity. Co-financing amounts are also given and well described.	S
Assess the quality of the report's evaluation of project M&E systems:	The M&E system is not clearly assessed in the TE. There is some information here and there in the report but there is no real assessment of the quality of the M&E design and implementation.	ми
Overall TE Rating		S

TE Quality = (.3*10)+(.1*(4+5+5+3)) = 4.7 = S

10. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).