



Report and Recommendation of the President to the Board of Directors

Project Number: 42022
October 2010

Proposed Loan and Grant
People's Republic of China: Jiangxi Sustainable
Forest Ecosystem Development Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 14 October 2010)

Currency Unit	–	yuan (CNY)
CNY1.00	=	\$0.1500
\$1.00	=	CNY6.6665

ABBREVIATIONS

ADB	–	Asian Development Bank
CCF	–	Climate Change Fund
EARD	–	East Asia Department
ha	–	hectare
JFD	–	Jiangxi Forestry Department
JPG	–	People's Government of Jiangxi Province
LIBOR	–	London interbank offered rate
m ³	–	cubic meter
PIO	–	project implementation office
PMO	–	project management office
PRC	–	People's Republic of China

GLOSSARY

commercial forest	–	forest stand whose primary function is to produce timber and non-timber forest products
economic forest or economic tree crops	–	plantation of cash crop trees mainly to produce fruits, nuts, medicinal herbs, raw materials for edible oils, spices, or other industrial raw materials
forest cover	–	the share of forested area of the total land area in a country or region
forest enterprise	–	private forest enterprises that are often linked with wood-processing industries with the purpose of securing or facilitating supplies of raw materials and that usually do not dispose of forestland but need to purchase or lease forestland use and management rights
forest or forest stand	–	the land covered by forest vegetation with a crown density ≥ 0.20 and a consecutive area ≥ 0.5 hectares, or a plantation in which planted trees have a survival rate $> 85\%$
forestland	–	land classified by laws and regulations that is exclusively for forest use, including land covered by forest vegetation, open forestland, shrubland, afforestation land, forest nursery land, and land suitable for afforestation
individual forest household	–	a household that has been allocated management rights for collectively owned forestland and has the technical and financial capacity to deploy adequate labor to establish forest plantations, particularly economic forests and bamboo stands

- large forest household – a household with more than 500 *mu* of forestland that has been engaged in forestry for some time and is usually willing to enter in shareholding arrangements with other households to manage their own land together with the additionally acquired forestland
- mu* – a Chinese unit of measurement equal to 666.67 square meters (1 hectare = 15 *mu*)
- public welfare forest – forestland classified by an authority primary for nature conservation and environmental services, with management limited to the conservation or rehabilitation of forest ecosystem stability and utilization for commercial purposes prohibited
- state farm – the forest management unit belonging to a province, city, county, and/or township that manages forestland that has not been allocated to individual households in the course of forestland tenure reform; forest farms operate like enterprises under their administrative government
- united household – an association of several individual households formed to accumulate enough forestland and working capital for forest management, currently in Jiangxi a type of management organization limited to informal arrangements between relatives or friends.

NOTE

In this report, "\$" refers to US dollars.

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PROJECT AT A GLANCE

1. Project Name: Jiangxi Sustainable Forest Ecosystem Development		2. Project Number: 42022-013	
3. Country: People's Republic of China		4. Department/Division: East Asia Department/Agriculture, Environment, and Natural Resources Div	
5. Sector Classification:			
		Sectors	Primary
		Agriculture and natural resources	√
		Finance	
		Subsectors	
		Forestry	
		Agricultural production and markets	
		Land-based natural resources management	
		Insurance and contractual savings	
6. Thematic Classification:			
		Themes	Primary
		Economic growth	√
		Environmental sustainability	
		Capacity development	
		Subthemes	
		Knowledge, science and technological capacities	
		Promoting economic efficiency and enabling business environment	
		Natural resources conservation	
		Institutional development	
6a. Climate Change Impact		6b. Gender Mainstreaming	
Mitigation		Medium	
		Effective gender mainstreaming (EGM)	
		Gender equity theme (GEN)	
		No gender elements (NGE)	
		Some gender benefits (SGB)	
		√	
7. Targeting Classification:			
General Intervention		Targeted Intervention	
		Geographic dimensions of inclusive growth	Income poverty at household level
		√	
8. Location Impact:			
National		Low	
Rural		High	
9. Project Risk Categorization: Low			
10. Safeguards Categorization:			
		Environment	B
		Involuntary resettlement	C
		Indigenous peoples	C
11. ADB Financing:			
Sovereign/Nonsovereign		Modality	Source
Sovereign		SDP - Project loan	Ordinary capital resources
Total			40.0
			40.0
12. Cofinancing:			
Financier		Category	Amount (\$ Million)
Climate Change Fund		Official – Grant	1.0
Total			1.0
13. Counterpart Financing:			
Source		Amount (\$ Million)	
Beneficiaries		9.4	
Government		16.0	
Total		25.4	
14. Aid Effectiveness:			
Parallel project implementation unit		No	
Program-based approach		No	
Use of country procurement system		No	

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan, and (ii) a proposed grant, both to the People's Republic of China (PRC) for the Jiangxi Sustainable Forest Ecosystem Development Project.¹

2. To support its development policies and plans, the project will help the People's Government of Jiangxi Province (JPG) improve the productivity of the forestry sector, demonstrate an ecosystem-based forest-development approach, and introduce forest carbon-sequestration and climate change-mitigation measures.² Key outputs of the project will include (i) sustainable forest plantation development and rehabilitation on 50,900 hectares (ha) of barren and low-yielding forestlands, (ii) strengthening forest insurance for natural risk mitigation, (iii) capacity development for sustainable forest management, and (iv) project management support.

II. THE PROJECT

A. Rationale

3. The PRC has a forest deficit despite forest cover of 175 million ha and a standing timber stock of 12.5 billion cubic meters (m³). The forested area per capita is only 0.13 ha, well below the world average of 0.65 ha. The standing stock volume amounts to less than 10 m³ per capita, which is significantly lower than the world average of 66 m³. Since the 1980s, the government has adopted a series of policy reforms to address the issues of forest resource conservation and ecosystem restoration, shifting its forestry policy from resource exploitation to resource protection. The PRC's forest cover has since increased to 18.2% with extensive plantation development programs. Rapid economic growth over the last 2 decades has escalated the country's demand for forest products, including wood fiber, which has put pressure on forests in other parts of the developing world and raised concerns regarding global climate change.

4. Forestation to sequester carbon is a key action the government cites in *China's Policies and Actions for Addressing Climate Change*.³ The government established the Green Carbon Fund in 2007 to promote carbon sequestration in forests and help domestic enterprises achieve voluntary emission reductions. The State Forestry Administration is developing guidelines for carbon accounting and monitoring, which will be used to gauge and register carbon sequestration by forestry projects. Based on the State Forestry Administration's assessment, Jiangxi Province meets the criteria for developing forest carbon stock⁴ and is on the list of regions where promoting carbon sequestration projects is prioritized.

5. **Project area.** The project will take place in 23 counties of 8 cities in Jiangxi Province, which is mountainous and underdeveloped. The provincial gross domestic product per capita was CNY14,727 in 2008, one-third less than the national average. About 5% of the population lives below the national rural poverty line of CNY1,067 per year. Of the 23 project counties, 15 are classified as national or provincial poverty counties. Forestry plays an important role in

¹ The design and monitoring framework is in Appendix 1.

² The Asian Development Bank (ADB) provided project preparatory technical assistance (\$700,000, approved in November 2008).

³ Information Office of the State Council of the People's Republic of China. 2008. *China's Policies and Actions for Addressing Climate Change*. Beijing.

⁴ The criteria include forest growth rate, potential for biodiversity conservation, plantation cost, and per capita income.

Jiangxi's economic development and environmental sustainability. The sector's gross output increased fivefold during 2000–2008 to reach CNY76 billion in 2008, which is 14% of the provincial gross domestic product. About 10.6 million ha, or 62.5% of the provincial area, is designated forestland, of which 1.5 million ha is barren or low yielding. The provincial forest stock is 353.5 million m³, an average of 34.4 m³/ha, much lower than the national average of 76.0 m³/ha and the world average of 99.8 m³/ha.

6. **Sector performance, problems, and opportunities.** Jiangxi Province is an important source of wood and bamboo, accounting for 7% of the PRC's wood production and 8% of its bamboo production in 2008. In Jiangxi, forests logs are mainly used as sawn timber, veneer, and fiberboard for domestic uses. Resin and a variety of chemical products are other products of forest materials. In 2008, the consumption of forest products was 7.6 million m³, and demand for raw timber was 6 million m³. Currently, the province produces only 4.6 million m³ of timber and meets the deficit with imports from abroad and neighboring provinces. The government foresees an increase in demand as many wood-processing enterprises in Jiangxi expand their production capacity or plan to do so.⁵

7. The JPG has established a long-term forestry-development plan to meet provincial demand for forest products and improve its forest ecosystem. The plan aims to promote public and private investments in forestry to increase forest coverage from 60.05% to 63%, forest stock to 750 million m³, average production to 90 m³/ha, and total forestry output to CNY160 billion by 2020. To promote forestry development in the province, the JPG launched its forestland tenure reform program in 2004 and, in 2008, distributed the management rights of 8.6 million ha of collective forestlands to 10 million farm households. The JPG further issued a provincial order to develop trading centers for forestry property rights in counties to provide services to forest farmers and the private sector regarding forestland tenure and property registration, legal consultation, and the trading of forestry properties and products. Reform has resulted in remarkable effects on forestry development: (i) prices for forest products have increased significantly, (ii) a market for leasing forestland is developing and growing, and (iii) private forest enterprises and household forest enterprises are emerging.

8. The core problem of the Jiangxi forestry sector is the fragility of its forest ecosystem, which cannot satisfy the social and economic development needs of the province. Major causes of the problem include (i) the underutilization of forestlands for lack of investment funds or access to credit, (ii) the historical overexploitation of forest resources, (iii) communities' lack of knowledge of or skill in forest management, and (iv) the lack of institutional experience in sustainable forest management. The underutilization of forestland has significantly damaged the environment, causing soil erosion, siltation in rivers and lakes, and the deterioration of water quality and reservation.

9. **Development coordination.** International development partners have supported the efforts of the Government of the PRC and the JPG toward forestry development since the early 1990s, which has improved forest cover in the province. After the logging ban and speedy economic growth since then, and considering the challenges of climate change that the international community faces, the government and international development partners support sector development to (i) meet growing domestic demand for forest products to ease the pressure on forest resources in other developing countries, (ii) improve forest management knowledge and practices to enhance the environmental value of forests, and (iii) introduce

⁵ Sector Assessment (Summary): Agriculture and Natural Resources (accessible from the list of linked documents in Appendix 2).

innovative practices to strengthen forest carbon storage and access additional financing for forestation, such as carbon financing and forest insurance.⁶ The project is in line with the PRC country partnership strategy, 2008–2010⁷ and the development strategies of both the Asian Development Bank (ADB) and the government.⁸

B. Impact and Outcome

10. The project impact will be improved sustainable forest management that enhances forest production, environmental benefits, and rural livelihoods in Jiangxi Province. The project will help the JPG achieve its long-term forestry-development goals, contribute to the sequestration of 150,000 tons of carbon per year through afforestation and reforestation, and develop institutional capacity in Jiangxi to mitigate climate change and enhance the environmental benefits of forests. The project outcome will be improved forest cover and rural livelihoods in the project area. It is estimated that the forest cover in the project area will expand by 1% after the completion of the project planting, 9 million m³ of timber will be produced, and 6 million labor-days of employment will be created.

C. Outputs

11. **Output 1: Sustainable forest plantation development and rehabilitation.** The project will develop 35,700 ha of timber plantation on barren forestland to improve forest productivity and help meet local demand for construction materials and other wood products. Major timber species include Chinese fir and slash pine. Broadleaf trees will be planted in fire protection belts to improve ecological biodiversity and multiply the functions of the timber plantation. The project will also rehabilitate 11,200 ha of low-yielding and snowstorm-damaged bamboo forests. Ninety-two forest farms, 34 forest enterprises, 190 large households, 200 united households, and 5,100 individual households⁹ will participate directly in plantation activities. The project will support farmers' planting of broadleaf species mixed with bamboo groves to protect them from climate-related disasters, pests, and disease. The project will also support farmers' establishment of 4,000 ha of economic tree crops, including orange, tea tree oil, and tea, to improve the productivity of project land and rural households' income.

12. **Output 2: Strengthening forest insurance for natural risk mitigation.** The project will provide 35,700 ha of timber plantation to improve the resilience of forest farmers and forest enterprises and support the government's initiative to establish insurance to protect the forestry sector from natural risks. The insurance output follows the forest insurance initiative that has been piloted in the PRC since 2009. The premium for commercial forests is about CNY1.20 per *mu*, or 0.15% of the CNY800 that is the average forest value per *mu*.¹⁰ The total premium for the insured area will be CNY0.64 million per year. The government will subsidize 60% of the premium, and the forest farmers will bear the remaining 40%. Insurance for timber plantations will start in the fourth year of project implementation. The project will organize training workshops to raise awareness of the impacts of natural risks on forest development and ways to mitigate them.

⁶ Development Coordination (accessible from the list of linked documents in Appendix 2).

⁷ ADB. 2008. *Country Partnership Strategy: People's Republic of China, 2008–2010*. Manila.

⁸ Contribution to the ADB Results Framework (accessible from the list of linked documents in Appendix 2).

⁹ To be selected for participation, farms and farmers must (i) hold land-use rights that are valid for a minimum of 25 years to the land at a proposed subproject site, (ii) have technical capability that can comply with forestation-related regulatory requirements, (iii) show that forestation land does not overlap with the sites of projects sponsored by other external assistance agencies, and (iv) demonstrate capacity to repay loans.

¹⁰ A *mu* is a Chinese unit of measurement (1 ha = 15 *mu*).

13. The People's Insurance Company (Group) of China is assigned by the JPG as the sole promoter of the insurance policy because the company is the largest property insurance company in the PRC and has many branch offices and service stations in rural Jiangxi to serve forest farmers. The company will support project workshops by providing resource persons. Awareness-raising training and capacity development will open up opportunities for dialogue among stakeholders and are expected to facilitate the improvement of the forest insurance policy and, consequently, its sustainability in the PRC.

14. **Output 3: Capacity development for sustainable forest management.** The project will introduce an ecosystem management approach to the development and management of forest resources that requires changes in farmers' behavior and the adaptation of new plantation skills and techniques. The project will implement a training and extension program to disseminate sustainable forest management concepts and corresponding technical silvicultural guidelines to project staff and beneficiaries to improve farmers' forestation practices for more profit and sustainability. The training will involve existing forestry and agriculture extension networks in counties and townships, with the project supporting a program to train trainers. A grant of \$1 million will be financed by ADB's Climate Change Fund (CCF) to support capacity development. The grant will (i) demonstrate and establish a monitoring, verification, and reporting system following State Forestry Administration guidelines to improve the forest carbon stock in Jiangxi and (ii) pilot sustainable forest management in selected project counties to improve forest composition and production.

15. **Output 4: Project management support.** The project will establish an adequate project organization at the three levels of forest administration—provincial, county, and township—supported by the corresponding guiding, advisory, and control bodies. Training will enable the staff of the project management office (PMO), project implementation offices, and the corresponding forest administration units to manage the project following the financial and technical management standards of ADB and the government, as they support beneficiaries in the implementation of afforestation through technical and administrative assistance. Major activities will include (i) developing and implementing domestic training programs for project staff and (ii) preparing and disseminating training materials.

D. Investment and Financing Plans

16. The project is estimated to cost \$66.39 million, including taxes and duties of \$4.12 million to be financed by the government. The investment cost comprises a base cost of \$57.58 million, contingencies of \$4.70 million, and financing charges during implementation of \$4.11 million. The base cost will mainly support output 1 with \$53.45 million. The investment cost of output 2, \$0.27 million, will be financed by the JPG and beneficiaries to pay insurance premiums for 35,700 ha of timber plantation. The investment cost of outputs 3 and 4 is mainly for capacity building and project management activities, to be sourced from the ADB loan proceeds, beneficiaries' counterpart funds, and the CCF grant of \$1.00 million. The investment plan is summarized in Table 1. Detailed cost estimates by expenditure category and by financier are in the project administration manual.¹¹

¹¹ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 1: Project Investment Plan
(\$ million)

Item	Amount ^a
A. Base Cost^b	
1. Sustainable forest plantation development and rehabilitation	53.45
2. Strengthening forest insurance for natural risk mitigation	0.27
3. Capacity development for sustainable forest management	1.72
4. Project management support	2.14
Subtotal (A)	57.58
B. Contingencies^c	4.70
C. Financing Charges During Implementation^d	4.11
Total (A+B+C)	66.39

ADB = Asian Development Bank, LIBOR = London interbank offered rate.

^a Includes taxes and duties of \$4.12 million to be financed by the government.

^b In 2010 prices.

^c Physical contingencies were computed at 1.13% of base cost. Price contingencies were computed based on ADB-prescribed international and national price-escalation factors and include provisions for potential foreign exchange rate fluctuations under the assumption of a purchasing power parity exchange rate.

^d Including interest and commitment charges. Interest during implementation was based on the 5-year fixed swap rate for LIBOR plus a spread of 0.30%. Commitment charges for the ADB loan were computed at 0.15% per year on the undisbursed loan amount.

Source: ADB estimates.

17. The government has requested a loan of \$40.00 million from ADB's ordinary capital resources to help finance the project, mainly for forest plantation and rehabilitation and to cover financing charges during implementation. The government will provide counterpart funds of \$15.96 million equivalent for plantation and forest insurance as a grant to beneficiaries, capacity development, and project management support. State forest farms and forest enterprises will use the ADB loan to purchase seedlings and labor and contribute \$9.43 million equivalent for labor, forest insurance, and contingencies. The loan will have a 26-year term, including a grace period of 6 years; an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; a commitment charge of 0.15% per year (the interest and other charges during construction, as applicable, to be capitalized in the loan), and such other terms and conditions set forth in the loan and project agreements.¹² The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank (loan) ^a	40.00	60.25
Asian Development Bank (grant) ^b	1.00	1.51
Government	15.96	24.04
Forest farms and enterprises	9.43	14.20
Total	66.39	100.00

^a Transportation and insurance are eligible for ADB financing.

^b Financed by the Climate Change Fund.

Source: Asian Development Bank estimates.

18. The PRC is the borrower of the ADB loan. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent

¹² Local transport and insurance costs, and bank charges on imprest account will be eligible for financing from the loan and grant proceeds.

decision and not made in reliance on any communication or advice from ADB. On behalf of the borrower, the Ministry of Finance will make the proceeds of the loan available to JPG for onlending to project beneficiaries through the city or county finance bureaus with the same terms and conditions as those of the ADB loan. The proceeds of the loan will be disbursed from the provincial finance department through the municipal and county finance bureaus to project beneficiaries, who will assume the foreign exchange and interest rate variation risks. The loan funds transfer arrangements and indicative funds flow of the loan proceeds and CCF grant are provided in the project administration manual.

E. Implementation Arrangements

19. The project will be implemented over 6 years from 1 May 2011 to 30 April 2017. The JPG, represented by the Jiangxi Forestry Department (JFD), will be the executing agency. The project county or district governments will be the implementing agencies. The JPG will set up a project leading group to provide policy guidance for project implementation. The JFD will establish a PMO in its foreign fund utilization office to take charge of day-to-day project management. The PMO comprises eight regular staff, including two finance officers and three project officers. Each participating county will establish a project implementation office led by the director of each county forestry bureau.

20. All procurement under the ADB loan and CCF grant will follow ADB's Procurement Guidelines (2010, as amended from time to time). Major procurement items will include seedlings and labor for forestation. The procurement of these items will follow established commercial practices, with an assessment carried out during project preparation found acceptable to ADB. Individual consultants will be recruited following ADB's Guidelines on the Use of Consultants (2010, as amended from time to time). The disbursement of loan proceeds and the CCF grant will follow ADB's *Loan Disbursement Handbook* (2007, amended from time to time). The local Digital Forestry Center will conduct surveys for forest carbon measurement. The center is a subsidiary of the Jiangxi Academy of Forest Inventory and Planning and is the only organization in the province that specializes in applying geographical information systems to the mapping and managing of forest resources. Selected center staff can be further trained to establish the monitoring, verification, and reporting system and carbon sink monitoring. To ensure that capacity will be developed and retained in the province, the center will participate in the capacity development component and conduct surveys.

21. The JPG requested advance contracting and retroactive financing for the procurement of seedlings and labor before loan effectiveness (but not more than 1 year prior to the signing of the loan and project agreements) to cope with seasonal constraints on plantation development. The amount of retroactive financing is estimated to be \$8 million, which is 20% of the loan amount. The government has been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project. The relevant sections of ADB's Anticorruption Policy (1998, as amended to date) will be included in all procurement documents and contracts. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.¹³

¹³ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	1 May 2011–30 April 2017		
Estimated project completion date	30 April 2017		
Expected loan and grant closing date	31 October 2017		
Project management			
(i) Oversight body	Project leading group, chaired by a vice governor and comprising representatives from concerned provincial departments		
(ii) Executing agency	Jiangxi provincial government, represented by the Jiangxi Forestry Department		
(iii) Key implementing agencies	Mainly 23 counties and districts in Jiangxi provinces, represented by their forestry bureaus, including Anfu, Anyuan, Chongren, Fengshushan, Fenyi, Fuliang, Guangchang, Jinggangshan, Jishui, Longnan, Luxi, Nanfeng, Ruijin, Shanggao, Shangli, Shicheng, Suichuan, Tonggu, Xiangdong, Xiushui, Xunwu, Yongxin, and Zixi. The EA, after providing justifications and consultation with ADB, may reduce counties from or add counties to the implementing agency list during the project implementation.		
(iv) Project management unit	Foreign Fund Utilization Office, Jiangxi Forestry Department		
Procurement	Established commercial practices that are acceptable to the Asian Development Bank	Commercial forest, economic tree crops, and bamboo forest development	\$53.45 million
	Shopping	Service providers for study tours, training, seminars, and conferences	\$0.19 million
		Demonstration program of sustainable forest management	\$0.35 million
		Equipment	\$0.05 million
Consulting services	One international individual consultant and four individual national consultants to be hired to support the demonstration program. A local institute will be hired directly to conduct survey and establishment of MVRS. The consulting services will be financed under the Climate Change Fund.		\$0.18 million 0.24 million
Retroactive financing and advance contracting	Advance contracting and retroactive financing will apply to up to \$8 million, or 20% of the loan amount, with respect to expenditures incurred procuring seedlings and labor before loan effectiveness, but not more than 12 months before the signing of the loan and project agreements.		
Disbursement	The loan and grant proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2007, as amended from time to time) and detailed arrangements agreed upon between ADB and the government.		

Source: ADB.

III. DUE DILIGENCE

A. Economic and Financial

22. Economic and financial analysis was carried out for the total project and for each forest type. Financial and institutional sustainability were also analyzed and confirmed. The sensitivity analysis confirmed that the project benefits and returns are robust.¹⁴ The economic internal rate of return for the whole project is estimated at 20.7%, and the economic net present value is CNY514.9 million over a 25-year period of analysis. All forest types have attractive economic

¹⁴ Economic and Financial Analysis (accessible from the list of linked documents in Appendix 2).

internal rates of return: 19% for investments in commercial forests, 24.6%–32.0% for economic forests, and 21.5% for bamboo forests. These values are above the currently accepted hurdle rate of 12%.

23. The financial internal rate of return for the whole project is estimated at 17.4%, and the financial net present value is CNY2.53 billion. The financial internal rate of return is 15.9% for commercial forests, 20.6%–24.9% for economic forests, and 19.7% for bamboo forests. Calculations for individual forest types include (i) the costs of materials and equipment, such as seeds and seedlings, fertilizers and pesticides, manure, equipment hire, and tools; (ii) labor costs for site clearing, preparation, planting, tending, road maintenance, guardhouse construction, and harvesting; and (iii) all relevant provincial and national taxes and fees.

B. Governance

24. The JFD, the Jiangxi Finance Department, and implementing agencies have adequate capacity for financial management, including undertaking procurement, providing counterpart funds, and organizing loan repayments. The project beneficiaries, comprising individual farmers, enterprises, and forest farms, generally have satisfactory capacity for financial management and loan repayment. The JFD lacks direct experience with ADB project management but is experienced in managing projects funded by other multilateral and bilateral agencies. The project will provide training to project staff on ADB project administration, particularly on procurement and disbursement. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the JFD and the Ministry of Finance. Specific policy requirements and supplementary measures are described in the project administration manual.

C. Poverty and Social

25. An estimated 25,500 rural households will benefit from the project, with 5,500 households increasing their income by participating directly in afforestation and bamboo rehabilitation and 20,000 households benefiting indirectly from the project by leasing their forestland to others. The 20,000 households will lease out 24,000 ha of land for a total of CNY9 million per year.¹⁵ The households can opt for different leasing arrangements, such as profit-sharing. Training on the advantages and disadvantages of various leasing arrangements will be provided to farmers to enable them to choose the best way to sustain their livelihood. The training will encourage farmer leasers to participate in forest management to enhance their forestland-management knowledge and skills. Project implementation will create 6 million person-days of employment.

26. The gender analysis indicated that the project faces issues regarding women's insufficient participation in decision making. Forestry is dominated by males because it involves heavy work and requires long hours away from the village. Under the proposed project, women will (i) participate in household decision making for land-lease arrangements, (ii) benefit from the planting and management of economic trees close to the village, and (iii) receive livelihood training. Women will be able to sign agreements related to the project, particularly lease agreements.

¹⁵ Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

D. Safeguards

1. Environmental Assessment

27. The project is environmental category B. The executing agency prepared a domestic environmental assessment report, which was approved by the Jiangxi provincial environmental protection department on 14 December 2009. An initial environmental examination was prepared in accordance with ADB's Environment Policy (2002) and the Safeguard Policy Statement (2009). The initial environmental examination indicates that the project is expected to achieve significant environmental benefits, including (i) annual carbon sequestration equivalent to 150,000 tons of carbon dioxide, (ii) soil erosion reduction by 100,000 tons per year, (iii) annual water conservation of 19 million m³, and (iv) improved habitats and increased biodiversity in the ecosystems of previously bare mountains and slopes. Adverse environmental impacts are limited to minor construction impacts such as the risk of erosion during the preparation of planting sites and minor construction, as well as forest fires. It is expected that these adverse environmental impacts will be prevented or minimized to an acceptable level by implementing the environmental management and monitoring plan.¹⁶

2. Involuntary Resettlement and Indigenous Peoples

28. The project is categorized as C for both involuntary resettlement (IR) and indigenous peoples (IP), and will need no IR or IP plan following ADB's Safeguard Policy Statement. The JPG will ensure that no land acquisition or change of land use will occur. Land for reforestation has already been classified as forestland and distributed to users. The executing agency has provided assurances that all land-lease arrangements with smallholders, directly or by enterprises, will be voluntary and implemented in an equitable and transparent way, so that they will not harm people's livelihoods. No ethnic minority communities live in the project area.

E. Risks and Mitigating Measures

29. Major risks of the project include price fluctuations for forest products; climate disasters, forest fires, plant pathogens, or pests that may affect the quality of forest products; farmers' adherence to outmoded forestation practices; poor quality seeds and seedlings; and the lack of timely counterpart funds. The major risks and their mitigating measures are summarized in Table 4. Overall, the integrated benefits are expected to outweigh the costs.¹⁷

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Price fluctuations for forest products	Project design and implementation allow flexibility to cope with market changes. Farmers diversify to commercial tree species and adopt flexible harvesting plans.
Climate disasters, forest fires, and plant pathogens affect the quantity and quality of products	Taking out forest insurance is one of the selection criteria for project beneficiaries. Climate change mitigation measures will be demonstrated through Climate Change Fund grant assistance
Farmers adhere to old forestation practices	Awareness-raising training on sustainable forest management will be provided. The outcome of the sustainable forest management practices will be disseminated.

¹⁶ Initial Environmental Examination (accessible from the list of linked documents in Appendix 2).

¹⁷ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures
Unavailability of high-quality seeds and seedlings	Inspection plans will be executed at various plantation stages to ensure the use of certified, high-quality seeds and seedlings, with funds released based on development progress made and outputs achieved.
Lack of timely counterpart funds	The financial status of participating farms and farmers will be reviewed before entering into onlending agreements Provincial and county governments provide guarantees.

Source: Asian Development Bank.

IV. ASSURANCES

30. The Government of the PRC and the JPG have assured ADB that implementation of the project shall conform to all applicable ADB policies and guidelines, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan documents.

31. The government and the JPG have assured ADB that all forestland leasing and other forestland transactions are voluntary.

32. The government and the JPG have agreed with ADB on certain covenants for the project, which are set forth in the loan and project agreements.

V. RECOMMENDATION

33. I am satisfied that the proposed loan and grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan of \$40,000,000 to the People's Republic of China for the Jiangxi Sustainable Forest Ecosystem Development Project from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 26 years, including a grace period of 6 years; and such other terms and conditions as are substantially in accordance with those set forth in the loan and project agreements presented to the Board; and
- (ii) the grant not exceeding the equivalent of \$1,000,000 to the People's Republic of China from ADB's Climate Change Fund for the Jiangxi Sustainable Forest Ecosystem Development Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant agreement presented to the Board.

Haruhiko Kuroda
President

19 October 2010

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact</p> <p>Improved sustainable forest management that enhances forest production, environmental benefits, and rural livelihoods in Jiangxi Province</p>	<p>By 2020</p> <p>Forest coverage in Jiangxi province reached 63%</p> <p>Forest stand stock reached 750 million m³</p> <p>150,000 tons of carbon sequestered each year</p> <p>A forest carbon monitoring, verification, and reporting system adopted in Jiangxi Province</p>	<p>JPG's annual statistical reports</p> <p>Local governments' statistical reports</p> <p>Project administration missions and project completion report</p> <p>Executing agency's pre- and post-evaluation surveys and reports</p>	<p>Assumptions</p> <p>Government policy continues to support forest development.</p> <p>The JPG and local governments remain committed to forest development.</p> <p>Sustainable forest management benefits rural communities and enhances rural development.</p>
<p>Outcome</p> <p>Improved forest cover and rural livelihoods in the project area</p>	<p>By 2018</p> <p>Forest coverage in the project area increased by 1%</p> <p>Tea tree oil yield increased from 225 kg/ha to 525 kg/ha</p> <p>Orange yield reached 22,500 kg/ha</p> <p>Tea leaf yield reached 3,000 kg/ha</p> <p>Up to 6 million person-days of jobs created for villagers, of which at least 15% are for women</p> <p>20,000 households received CNY9 million annually in rent and profit share from land leasing</p>	<p>Annual statistical reports of forestry bureaus</p> <p>Statistical reports of county forestry bureaus</p> <p>Performance monitoring reports of county forestry bureaus</p>	<p>Assumptions</p> <p>Key stakeholders are committed to forest investment.</p> <p>Forestland is available.</p> <p>Sufficient counterpart funds are available.</p> <p>Risks</p> <p>The market for forest products changes.</p> <p>Natural disasters, forest fires, plant pathogens, or pests destroy forests.</p>
<p>Outputs</p> <p>1. Sustainable forest plantation development and rehabilitation</p>	<p>By 2017</p> <p>Sustainable forest management practices adopted on 35,700 ha of timber plantation</p> <p>11,200 ha of low-yielding and snowstorm-damaged bamboo forests rehabilitated</p> <p>4,000 ha of economic tree crops established</p> <p>Bamboo yield increased from 1,500 kg/ha to 7,000 kg/ha</p> <p>Bamboo shoot yield increased from 400 kg/ha to 1,400 kg/ha</p>	<p>Statistical reports of Jiangxi Province and project counties</p> <p>Reports of county forestry bureaus</p> <p>PMO's monitoring reports</p>	<p>Assumption</p> <p>Farmers and enterprises adopt sustainable forest management practices.</p> <p>Risks</p> <p>High-quality seeds and seedlings are in short supply.</p> <p>Natural disasters affect forest growth and forest product quality.</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
			<p>Counterpart funds are lacking</p> <p>Farmers tend to adhere to outmoded forestation practices.</p>
2. Strengthening of forest insurance for natural risk mitigation	<p>35,700 ha of timber plantation insured against natural risks</p> <p>Training to raise awareness of forest insurance and natural risk mitigation measures delivered to forest farmers (including women) at an overall rate of at least 20%</p>	<p>Reports of county forestry bureaus</p> <p>PMO's monitoring reports</p> <p>Annual reports on forest insurance</p> <p>Training post-evaluation reports</p>	<p>Assumptions</p> <p>Government continues its forest insurance policy.</p> <p>Trainees apply knowledge and skills on sustainable forest management.</p>
3. Capacity development for sustainable forest management	<p>12 officials trained on sustainable forest management and climate change mitigation measures through international study tour</p> <p>600 officials (20% women) participated in domestic study tours</p> <p>2,500 forest officials and farmers (20% women) trained as trainers for sustainable forest management and climate change mitigation</p> <p>7,000 forest bureau staffers, forest farmers, and forest workers (20% women) trained on sustainable forest management</p>	<p>Reports of county forestry bureaus</p> <p>PMO's monitoring reports</p> <p>Training reports</p>	<p>Assumption</p> <p>Trainees apply knowledge and skills on sustainable forest management.</p>
4. Project management support	<p>The PMO is set up in the Jiangxi forestry department.</p> <p>23 PIOs are set up in project counties.</p> <p>500 staff from the PMO, PIOs, and state farms and enterprises trained on project management, ADB guidelines and procedures, and project monitoring and reporting</p> <p>A project performance management system set up and implemented effectively, including monitoring of social indicators</p>	<p>Project monitoring reports of the PMO and PIOs</p> <p>Training reports</p>	<p>Assumptions</p> <p>Government counterpart funds are adequately available.</p> <p>The PMO and PIOs are manned with appropriate staff.</p> <p>Forest farmers comply with project management requirements.</p>

Activities with Milestones	Inputs
1. Sustainable Forest Plantation Development and Rehabilitation	ADB: \$40.00 million
	Item Amount (\$ million)
1.1 4,000 ha of economic tree plantation established by 2013	Sustainable forest plantation development and rehabilitation 35.84
1.2 35,700 ha of commercial forest plantation established by 2014	Capacity development for sustainable forest management 0.05
1.3 11,200 ha of bamboo plantation rehabilitated by 2014	Financing charges during implementation 4.11
1.4 35,700 ha of timber forest plantation tended by 2017	
2. Strengthening of Forest Insurance for Natural Risk Mitigation	Government: \$15.96 million
	Item Amount (\$ million)
2.1 35,700 ha of commercial forests covered by forest insurance by 2017	Sustainable forest plantation development and rehabilitation 13.00
2.2 Training to raise awareness of natural disaster risk management conducted by 2017	Strengthening forest insurance for natural risk mitigation 0.15
3. Capacity Development for Sustainable Forest Management	Capacity development for sustainable forest management 0.67
3.1 2,500 staff and leader farmers trained as farmer-trainers by 2012	Project management support 2.14
3.2 A forest carbon monitoring, verification, and reporting system demonstrated in the Jiangxi Forestry Department by 2012	
3.3 12 PMO and PIO staff participate in international study tour by 2014	Forest Farms and Enterprises: \$9.43 million
3.4 600 officials participate in domestic study tours by 2014	Item Amount (\$ million)
3.5 7,000 forest bureau officials, project beneficiaries, and forest workers trained by 2016	Sustainable forest plantation development and rehabilitation 4.61
3.6 Demonstration of sustainable forest management in forestland by 2017	Strengthening of forest insurance for natural risk mitigation 0.12
	Contingencies 4.70
4. Project Management Support	ADB's CCF Grant: \$1.00 million
	Item Amount (\$ million)
4.1 A provincial PMO and 23 county PIOs established by 2011	Consulting services 0.18
4.2 A project performance management system established and operational by 2011	Equipment 0.05
4.3 500 staff from the PMO, PIOs, and enterprises trained on project management by 2012	Training and conference 0.18
	Demonstration 0.35
	Survey and others 0.24

ADB = Asian Development Bank, CCF = Climate Change Fund, ha = hectare, JPG = Jiangxi provincial government, kg/ha = kilograms per hectare, m³ = cubic meter, PIO = project implementation office, PMO = project management office.

Source: ADB.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=42022-01-3>

1. Loan Agreement
2. Project Agreement
3. Grant Agreement
4. Sector Assessment (Summary): Agriculture and Natural Resources
5. Project Administration Manual
6. Contribution to the ADB Results Framework
7. Development Coordination
8. Economic and Financial Analysis
9. Country Economic Indicators
10. Summary Poverty Reduction and Social Strategy
11. Initial Environmental Examination
12. Risk Assessment and Risk Management Plan