

TAR: PRC 38660

Technical Assistance to the
People's Republic of China for
Preparing the Ningxia Yinchuan
Integrated Ecosystem Management
Project (Cofinanced by the Global
Environmental Facility)

August 2005

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 10 August 2005)

Currency Unit	–	yuan (CNY)
CNY1.00	=	\$0.1233
\$1.00	=	CNY8.11

ABBREVIATIONS

ADB	–	Asian Development Bank
CA	–	Conservation agriculture
CPF	–	Country Programming Framework
EA	–	Executing Agency
EAR	–	Environmental Assessment Reports
GEF	–	Global Environment Facility
IA	–	Implementing Agencies
IEM	–	integrated ecosystem management
LG	–	leading group
M&E	–	monitoring and evaluation
NHAR	–	Ningxia Hui Autonomous Region
O&M	–	operations and maintenance
PMO	–	project management office
PRC	–	People's Republic of China
PPTA	–	project preparatory technical assistance
TA	–	technical assistance

TECHNICAL ASSISTANCE CLASSIFICATION

Targeting Classification	–	General intervention
Sector	–	Agriculture and natural resources
Subsectors	–	Agricultural production, environment and biodiversity, livestock, forest, irrigation and drainage, and water resource management.
Themes	–	Sustainable economic growth, Inclusive social development, private sector development, and environmental sustainability
Subthemes	–	Sustainable economic growth, inclusive social development

NOTE

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

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I. INTRODUCTION

1. During the October 2004 Country Programming Mission, the Government of the People's Republic of China (PRC) requested technical assistance (TA)¹ from the Asian Development Bank (ADB) and Global Environment Facility (GEF) grant-financed assistance for preparing the Ningxia Yinchuan Integrated Ecosystem Management Project. After receiving ADB Management's endorsement of the concept for this TA, the Fact-Finding Mission in March 2005 held discussions with the government of Ningxia-Hui Autonomous Region (NHAR), and reached an understanding on the detailed objectives, scope, cost estimates, terms of reference for consultants, and financing and implementation arrangements for the TA to prepare the Project. The Project will support the NHAR government in restoring and protecting environmental and economic services in the Yinchuan-Helan Mountains areas, via an integrated ecosystem management (IEM) approach. The Project is in environmental category B and will need an initial environmental evaluation.

II. ISSUES

2. The requested TA is under the Country Programming Framework (CPF) for the PRC-GEF Partnership on Land Degradation in Dryland Ecosystems (the Partnership). The CPF was described in a Framework Brief that was approved by the GEF Council in October 2002.² The CPF covers a programmatic approach for a 10-year period (2003–2012) and seeks to combat land degradation, reduce poverty, and conserve biodiversity through capacity-building investments and developing viable model demonstration investment projects, consistent with GEF's Operational Program 12 (OP12) on IEM. The initial focus (2003–2005) is on six provinces/autonomous regions in the western region that are both national priority areas and of global significance for land degradation control and biodiversity preservation. During 2006–2012, all western region provinces/regions will be eligible.³ In aggregate, investments worth \$1.5 billion are planned, including \$150 million in GEF grants.

3. ADB's first project under the Partnership, the Capacity Building to Combat Land Degradation Project⁴, is ongoing in six provinces/autonomous regions: Gansu Province, Inner Mongolia Autonomous Region, NHAR, Qinghai Province, Shaanxi Province, and the Xinjiang Uygur Autonomous Region. Its initial focus is for each province/region to (i) prepare its own strategic plan for land degradation control, using an IEM approach; (ii) review relevant policy and legislative/regulatory conditions; (iii) strengthen national and provincial coordination and improve operational arrangements at provincial and county levels; (iv) support the capacity for

¹ Previously titled, Technical Assistance for Preparing the Shaanxi Qinling Integrated Ecosystem Management Project and the Ningxia Yinchuan Integrated Ecosystem Management Project. Following the Government's request in early June 2005, the preparation of the two projects was described in two separate TAs. The TA first appeared in *ADB Business Opportunities* (internet edition) on 18 April 2005.

² ADB. 2002. People's Republic Of China (PRC)-Global Environment Facility (GEF) Partnership on Land Degradation in Dryland Ecosystems, *Framework Brief*, September.

³ Gansu, Inner Mongolia, Ningxia Hui, Qinghai, Shaanxi, and Xinjiang Uygur with a population of about 120 million. The other six provinces/regions to be included from 2006 are Chongqing, Guangxi, Guizhou, Sichuan, Xizang Yunnan, Zizhiqu, and two prefectures in Hubei and Hunan. Eleven central government agencies are involved: Legislative Office of the State Council, Ministry of Agriculture, Ministry of Finance, Ministry of Land and Resources, Ministry of Science and Technology, Ministry of Water Resources, National Development and Reform Commission, Poverty Alleviation Office of the State Council, State Environmental Protection Agency, State Forestry Administration, and the Working Committee for Legislation of the National People's Congress.

⁴ ADB. 2004. *Technical Assistance to the People's Republic of China for the Capacity Building to Combat Land Degradation Project*. Manila. Approved on 29 June 2004 for \$13.8 million, of which \$7.7 million was provided by GEF as a grant. Supported by ADB. 2004. *Technical Assistance to the People's Republic of China for the Support Implementation of Capacity Building to Combat Land Degradation Project*. Manila, for \$1.2 million.

future IEM investment projects;⁵ (v) examine ways of improving and coordinating existing monitoring and evaluation systems; and (vi) support project implementation. An international workshop on integrated ecosystem management held in Beijing on 1–2 November 2004, aimed to introduce to the Government the concepts and principles of IEM and to promote mutual understanding of how the approach could contribute to combating the root causes of land degradation.⁶

4. The PRC's western region shares a common border with several Central Asian republics, where land degradation has serious economic, social, and environmental consequences. As in the dryland areas of the PRC, the causes of land degradation are multiple, complex, and varied, but are largely attributable to overexploitation of the natural resource base. Similar problems exist in the western region, and hence lessons learned from the Partnership are highly relevant for ongoing operations in Central Asia⁷ and elsewhere.

5. **Demonstration Investment Projects Under the Partnership.** Several demonstration investment projects are under way or are being planned. The World Bank is implementing the Gansu-Xinjiang Pastoral Development Project (\$66.25 million loan and \$10.5 million GEF grant) and has several other Partnership projects in its forward lending pipeline. The International Fund for Agricultural Development has a Partnership project currently under preparation for Gansu, Ningxia and Shaanxi provinces. ADB's 2006–2008 program includes six projects that are anticipated to involve a combination of loans and GEF grants; of these, several are under the Partnership.⁸ The TA will help prepare ADB's first loan/GEF grant demonstration investment under the Partnership.

6. **Ningxia–Yinchuan IEM Project.** To the north of the extremely poor and dry NHAR, with the Yellow River to the east and the Helan Mountains as its western boundary, the proposed project area sits close to the capital city, Yinchuan.⁹ The close correlation between dryland degradation, poverty, and rapid population growth, as in NHAR, has been well documented.¹⁰ Between 1980 and 2000, the NHAR population increased from 3.73 million to 5.54 million, or by 48.3% in 20 years. By comparison, the population of the Hui minority in NHAR increased from 1.17 million to 1.91 million, or by 63.6% during the same period. The project area is naturally divided into three. (i) The foothills and the central Yinchuan plain contain most of the

⁵ This includes (i) documenting IEM/land degradation control-related projects and programs, (ii) learning the lessons from past successes and failures by assessing the impact of past investments, (iii) training a cadre of provincial planners with the skills required to design land degradation control investment projects, and (iv) undertaking feasibility studies of selected priority IEM/land degradation control project investments eligible for possible financing under the Partnership.

⁶ Over 200 participants attended, including keynote speakers, as well as senior representatives from (i) central and provincial governments; (ii) international development agencies (including ADB, European Union, Food and Agriculture Organization, Global Environment Facility [GEF], United Nations Development Programme [UNDP], and World Bank), and bilateral development assistance agencies from Australia, Canada, and Japan; (iii) nongovernment organizations; and (iv) private sector companies. Publication of the workshop proceedings is expected by October 2005.

⁷ Two similar GEF-supported initiatives in Central Asia are (i) the UNEP project Sustainable Land Management in the High Pamir and Pamir-Alai Mountain—an Integrated and Transboundary Initiative; and (ii) ADB. 2005. *Regional Technical Assistance for the Central Asian Countries Initiative for Land Management*. Manila.

⁸ ADB. 2005. *Country Strategy and Program Update*. Manila.

⁹ The project area covers 3,350 square kilometers, including three districts and two counties of Yinchuan City. The total population (including that of Yinchuan City) is about 1.33 million, of whom 630,000 live in rural areas. In 2004, the average annual urban income was CNY7,200 (\$887.79) while the average annual per capita rural income was CNY3,080 (\$379.78), at approximately the poverty level on a \$1/day basis.

¹⁰ For data, see *Framework Brief* and ADB. 2004. *Technical Assistance to the People's Republic of China for the Capacity Building to Combat Land Degradation Project*. Manila. These sources note that the poor become increasingly vulnerable when human and animal populations have expanded well beyond the natural capacity of dryland ecosystems. Women tend to suffer more than men in terms of health, nutrition, employment, and income.

predominantly poor rural population, where traditional farming technologies and practices dominate, and land degradation is increasing. Limited commercial agribusiness exists, linked to the local community through contract growing and marketing. Some expansion on suitable areas is possible. Despite fragile soils that can easily become saline if poorly managed and are largely devoid of nutrients due to overcultivation and use of all vegetative matter for animal feed and fuel, the area is rich in biodiversity, with many rare or endangered species, (ii) Wetlands and lakes, feature many rare bird species. Yinchuan City government has invested in these areas for tourism and environmental protection, (iii) The massive Tengri (Gobi) and Mao Wushu (Ordos) deserts, threaten the oasis of the Yinchuan Plain with moving dunes. The Government has taken some effective control measures to protect roads, railways, towns, rivers, and farmland from these deserts. The Yellow River is heavily polluted and groundwater in Yinchuan City is declining; however, very limited use has been made of market-based mechanisms, such as water pricing, to allocate and conserve water resources.

7. To protect the environment, the Helan Mountains have been closed to grazing, fuel gathering, and hunting. The Government now wishes to combat land degradation through an IEM approach to the planned use of natural resources, promotion of sustainable agricultural practices including conservation agriculture, prevention of further desertification and to take steps toward the recovery of healthy soils, and increased farm productivity. Under the Project, the activities will involve (i) strategy development and institutional capacity building; (ii) rational use of water and land resources to balance the competing demands from the expanding urban sector and rural users; and (iii) expansion of agriculture on suitable areas, alternative livelihood development, habitat protection and restoration, biodiversity conservation, renewable energy options, carbon sequestration, and improved ecosystem monitoring. Although the basic infrastructure exists, tourism contributes little to the economy due to lack of promotion and limited investment to capitalize on the region's potential. However, tourism has a good potential as a commercial engine for NHAR. The Project complies with the project-specific eligibility criteria, as described in the Partnership's Framework Brief.¹¹

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

8. The impact of the Ningxia-Yinchuan Project will be restored productive and protective functions of the ecosystem resources of the Yinchuan area. To achieve this impact, the TA will produce a feasibility study to design an IEM approach for the sustainable use of natural resources in the Yinchuan area. The design outputs will be (i) an assessment of the enabling conditions for an IEM approach, including policies, regulations, and incentives; (ii) appropriate institutional arrangements for the Project, including for capacity building; (iii) sustainable commercial agriculture, including conservation agriculture, alternative means of livelihood, and water resources management; (iv) interventions for habitat restoration, wetlands protection, ecotourism, biodiversity conservation, carbon sequestration, and management and commercialization of wildlife; and (v) an ecosystem monitoring system. The design and

¹¹ Project-specific criteria cover (i) enabling legal and regulatory framework to enhance incentives and enforcement mechanisms for improved ecosystem management; (ii) an integrated and participatory approach to foster increased coordination among line agencies; (iii) local communities and stakeholders which are involved in identifying, designing, implementing, and monitoring; (iv) pilot-testing innovative and coordinated institutional arrangements, technology systems, land use planning, adaptive management approaches, and public-private partnerships; and (v) achieving synergy among biodiversity conservation, carbon sequestration, and land degradation control through sustainable agriculture and rural development, emphasizing local benefits and sustainable livelihoods.

monitoring framework is in Appendix 1, and Appendix 2 gives the initial poverty and social analysis.

B. Methodology and Key Activities

9. The NHAR government has agreed that the Project will be designed in a participatory way using an IEM approach. To address the global impacts, a GEF grant will add to the feasibility study in the following areas: (i) enabling environment, policy and institutional reforms, and capacity building to ensure an IEM approach is followed; (ii) strategies/assessments and recommended investments in habitat restoration, land degradation control, biodiversity conservation, carbon sequestration, grasslands, wetlands, management and commercialization of indigenous wildlife and plants, environmentally sensitive tourism; and (iii) environmental awareness with regard to options for conservation and profitable use of ecosystem resources and monitoring of global benefits. The ongoing work of the Capacity Building to Combat Land Degradation Project (footnote 4) will support an IEM approach under the future investment project.¹²

10. The key design activities of the TA and GEF project are as follows: (i) review and analysis of the enabling conditions, including policies, regulations, and incentives for sustainable development and pro-poor economic growth; (ii) institutional arrangements required for an IEM approach, including public-private roles and partnerships, capacity building, and overseas study/training; (iii) sustainable agriculture, including conservation agriculture measures in the central plain, salinity control, integrated pest and plant nutrient management, windbreaks and erosion control measures, expansion of the area under perennial economic crops (e.g., grapes, wolfberry, Chinese dates), forage, shed-based livestock, and greenhouses on suitable sites; (iv) development of alternative sources of rural livelihood, and processing and marketing support services; (v) improved water resources management, water balance studies, groundwater recharge, and improved storage and irrigation practices; (vi) biodiversity conservation, carbon sequestration, wildlife habitat protection and management/commercialization of wildlife through the development of a commercial zoo, ecological and cultural tourism, public environmental education, and related facilities/services; and (vii) an ecosystem monitoring system.

C. Cost and Financing

11. The total cost of the TA is estimated to be \$1.2 million equivalent, comprising \$517,000 in foreign exchange and \$683,000 equivalent in local currency. The TA will be financed on a grant basis by ADB's TA funding program (\$500,000) and a GEF grant (\$350,000 equivalent) administered by ADB. ADB will finance \$308,000 to cover the foreign exchange cost and \$192,000 equivalent of the local cost. GEF will finance \$209,000 of the foreign exchange cost and \$141,000 equivalent of the local cost. The Government will provide \$350,000 equivalent of local costs, to cover in-kind counterpart costs and services. The Government has been informed that approval of the TA does not commit ADB to finance any ensuing project. The cost estimates and financing plan are in Appendix 3.

D. Implementation Arrangements

12. The institutional arrangements and activities already in place for implementing the

¹²As incorporated into a number of international conventions on environment and development, integrated ecosystem management (IEM) is a holistic approach to addressing the links between ecosystem functions and services (such as carbon uptake and storage, climatic stabilization and watershed protection, and medicinal products) and human social, economic, and production systems. IEM recognizes that people and the natural resources they depend upon, directly or indirectly, such as land, water, and forests, are inextricably linked.

Capacity Building to Combat Land Degradation Project will support the preparation of the Project. The Executing Agency will be the Foreign Debt Management Office of the NHAR government. A Leading Group (LG) chaired by the responsible vice-governor, will coordinate the involved agencies. The LG will include the Yinchuan City government. A project management office (PMO) will provide administrative support and expertise in plant and animal biology, economics, finance, tourism, management, marketing, legal and regulatory aspects, information technology, and other needed professionals. Responsibilities of the PMO include (i) work planning, (ii) administrative support, (iii) financial management, (iv) facilitation of LG meetings, (v) project information dissemination, and (vi) regular liaison with involved agencies. The PMO will engage 8–10 permanent employees to support the Project. An expert panel will provide technical guidance to the PMO and the consultants and be paid an honorarium.

13. The TA will be carried out over 8 months starting in October 2005 and ending in June 2006. A total of 60 person-months of consulting services will be required: 21 international and 39 domestic. ADB will finance 41 person-months of consulting services: 13 international and 28 domestic. GEF will finance 8 person-months of international and 11 of domestic consultants. The consultants will work as an integrated team, under the leadership of the IEM specialist. The international consultants will also have expertise in project economics, water resources management, sustainable agriculture, wildlife management, commercialization and tourism, wetlands management, and carbon sequestration/clean development mechanism. The domestic consultants will have expertise in project economics and finance, dryland ecosystems, sustainable agriculture, rural livelihoods, livestock husbandry, water resources, renewable energy, social development, environmental aspects, legal and institutional aspects, species surveys, tourism, and wetlands management. A firm will be engaged by ADB in accordance with its *Guidelines on the Use of Consultants* and other arrangements satisfactory to ADB for engaging domestic consultants. The selection process will follow ADB's quality- and cost-based selection method, following simplified technical proposal procedures. Consultants with special expertise such as wildlife management, commercialization and tourism, and carbon sequestration/clean development mechanism, may be engaged as individuals. Equipment for the TA will be procured by the consultants in accordance with ADB's *Guidelines for Procurement*. Detailed terms of reference are in Appendix 4.

14. At the end of the first month, the consultant team will submit an inception report and a seminar and workshop plan to the Government and ADB, which will be discussed in a tripartite review meeting. A midterm report will be submitted to the Government and ADB at the end of the fourth month from the start of the TA, the findings of which will be discussed in a seminar or workshop, participated in by stakeholders, in a second tripartite review meeting. A draft final report (10 copies) will be submitted to the Government and ADB, 1 month before the end of the assignment, which will be presented by the consultant in the second seminar. A third tripartite review meeting will be held before the TA ends to discuss the draft final report. The comments generated during the second seminar will be incorporated into the final report in English and in Chinese (10 copies each), to be submitted to the Government and ADB at the end of the 8 months TA implementation period.

IV. THE PRESIDENT'S DECISION

15. The President, acting under the authority delegated by the Board, has approved (i) ADB administering a portion of technical assistance not exceeding the equivalent of \$350,000 to be financed on a grant basis by the Global Environment Facility, and (ii) ADB providing the balance not exceeding the equivalent of \$500,000 on a grant basis, to the Government of the People's Republic of China for preparing the Ningxia Yinchuan Integrated Ecosystem Management Project, and hereby reports this action to the Board.

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets/Indicators ^a	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>Impact Restored productive and protective ecosystem functions in the Yinchuan area</p>	<p>Increased use of conservation agriculture on suitable land, and increased rural incomes</p> <p>Water and land resources rationally planned and used</p> <p>Expansion of protected wetlands and reduced negative impacts from adjacent croplands</p> <p>Restored natural vegetative cover to protect vulnerable assets from moving sand dunes</p> <p>No biodiversity species lost; increased indigenous species and protection of migrating birds</p> <p>Increased tourism for international and domestic markets</p>	<p>Survey results compared with the baseline</p> <p>Employment statistics and household income surveys</p> <p>Tourism receipts and statistics</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Project design implemented effectively. Government and Asian Development Bank (ADB) sign loan agreement. <p>Risk</p> <ul style="list-style-type: none"> Government priorities change, or Government is reluctant to accept the recommended design measures.
<p>Outcome Project design and feasibility study agreed upon by ADB and Government</p> <p>Outputs 1. Project design and feasibility study suitable for ADB loan processing, and GEF grant application.</p>	<p>Memorandum of understanding (MOU) signed by Government and ADB during appraisal mission in August 2006</p> <p>Project preparatory technical assistance (PPTA) final report submitted by June 2006</p> <p>Personnel from participating agencies trained during the PPTA</p>	<p>Memorandum of understanding</p> <p>Report reviewed and accepted by ADB and Government</p> <p>MOU signed</p>	<p>Assumptions</p> <ul style="list-style-type: none"> Government priorities for area do not change, and proceed as planned. Global Environment Facility (GEF) grant is approved. Ongoing GEF-financed Capacity Building to Combat Land Degradation Project assists the design process. <p>Assumptions</p> <ul style="list-style-type: none"> Government supports the designed project. There is strong support from Yinchuan City govt. and the NHAR Govt.

^a The indicators are not time-bound or quantifiable at this stage, and will emerge as a result of the study.

Design Summary	Performance Targets/Indicators ^a	Data Sources/Reporting Mechanisms	Assumptions and Risks
<p>ADB-financed components:</p> <p>(i) Sustainable commercial agriculture and alternative livelihood sources</p> <p>(ii) Water resources management</p> <p>(iii) Wildlife habitat protection and restoration</p> <p>(iv) Management, commercialization of wildlife and tourism</p> <p>(v) Ecosystem monitoring</p> <p>(vi) Institutional capacity building</p> <p>GEF-financed components:</p> <p>(i) Enabling environment reforms covering incentives, legal/regulatory, institutional mandates, and coordination for integrated ecosystem management (IEM) approach</p> <p>(ii) Habitat restoration, biodiversity conservation, carbon sequestration, wildlife management, tourism, land degradation control to world standards, using market-based principles</p> <p>(iii) Environmental awareness program and monitoring and evaluation of global benefits</p>			<p>Risks</p> <ul style="list-style-type: none"> • Pressure from city, industry, agricultural and environmental needs, and sector agencies: competing demands for water and land continue unregulated. • Consultant's recommended approach is not acceptable to the Government.

Activities with Milestones	Inputs
<p>ADB-financed components</p> <p>1. Sustainable Commercial Agriculture and Alternative Livelihoods</p> <p>1.1 Analyze potential for expansion in central alluvial plain, based on conservation agriculture (perennial/annual crops) principles, livestock, related salinity and pest control, windbreaks, renewable energy options, etc., infrastructure and services (January 2006)</p> <p>1.2 Develop strategy in consultation with industry and stakeholders (midterm report, March 2006)</p> <p>1.3 Finalize recommended interventions (final report, June 2006)</p> <p>2. Water Resources Management</p> <p>2.1 Analyze water resources availability and demand, urban and rural (January 2005)</p> <p>2.2 Develop water resources strategy, inclusive of balance studies, groundwater recharge measures, wetlands protection and management, improved irrigation for water saving, antisalinity measures, and investment component in consultation with stakeholders (midterm report, March 2006)</p> <p>2.3 Finalize recommended interventions (final report, June 2006)</p> <p>3. Wildlife Habitat Protection and Restoration</p> <p>3.1 Analyze current situation, including vulnerable areas on desert margins, Helan Mountains, and in wetland areas (Jan. 2006)</p> <p>3.2 Develop strategy and investment proposals in consultation with stakeholders (midterm report, March 2006)</p> <p>3.3 Finalize recommended interventions (final report, June 2006)</p> <p>4. Management, Commercialization of Wildlife and Tourism</p> <p>4.1 Examine feasibility of a commercial zoo to international standards for captive breeding of endemic and endangered species, and public education (midterm report, March 2006)</p> <p>4.2 Develop strategy for three ecosystems and tourism facilities/services to ecological and cultural sites (midterm report, March 2006)</p> <p>4.3 Finalize recommended interventions (final report, June 2006)</p> <p>5. Ecosystem Monitoring</p> <p>5.1 Establish ecosystem monitoring system (final report, June 2006)</p> <p>6. Institutional Capacity Building</p> <p>6.1 Develop strategy and investment proposals in consultation with stakeholders (midterm report, March 2006)</p> <p>6.2 Finalize recommended interventions (final report, June 2006)</p> <p>7. Others</p> <p>7.1 Inception report and workshop plan (November 2005)</p> <p>7.2 Social assessments of gender, poverty, minority peoples, and involuntary resettlement aspects (January 2006)</p> <p>7.3 Baseline surveys (February 2006)</p> <p>7.4 Conduct financial and economic analyses (draft final report, May 2006)</p> <p>7.5 Conduct institutional analysis (January 2006)</p> <p>7.6 Complete initial environmental examination (midterm report,</p>	<p>An integrated consulting team comprising 21 person-months international consultants, and 39 person-months domestic consultants</p> <ul style="list-style-type: none"> • ADB: \$500,000 • GEF: \$350,000 • Government: \$350,000 <p>Inputs from the ongoing GEF-financed Capacity Building to Combat Land Degradation Project in Ningxia Hui Autonomous Region (NHAR), project management office at central level; and with relevant advice from other externally-supported activities under the People's Republic of China-GEF Partnership on Land Degradation in Dryland Ecosystems</p>

<p>March 2006)</p> <p>7.7 Finalize project design and monitoring framework (final report, June 2006)</p> <p>GEF-financed component</p> <p>8.1 Inception report and workshop plan (November 2005) all by midterm report (March 2006)</p> <p>8.2 Enabling environment reforms, covering consistent policies, incentives, legal/regulatory framework, institutional arrangements, participation, and coordination for IEM approach</p> <p>8.3 Assessments of habitat, land degradation control, wildlife, plants commercialization potential and interventions to world standards</p> <p>8.4 Biodiversity, grassland surveys, carbon sequestration/clean development mechanism options and conservation strategy</p> <p>8.5 Design of wetland rehabilitation and protection</p> <p>8.6 Formulate an environmentally sensitive tourism strategy and development program, based on the wildlife and cultural resources of all three ecosystems</p> <p>8.7 Design environmental awareness program and monitor and evaluate global benefits.</p>	
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NHAR – Ningxia Hui Autonomous Region, PPTA – project preparatory technical assistance, PRC – People's Republic of China

INITIAL POVERTY AND SOCIAL ANALYSIS

A. Linkages to the Country Poverty Analysis

Is the sector identified as a national priority in country poverty analysis?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is the sector identified as a national priority in country poverty partnership agreement?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Contribution of the sector or subsector to reduce poverty in the People's Republic of China (PRC):
 The Country Strategy and Program for the PRC (2004–2006) outlines the Asian Development Bank's (ADB) strategy to support the Government's ongoing poverty reduction efforts. The majority of the poor live in the central and western provinces that lag well behind the eastern provinces in achieving the Millennium Development Goals, and where poverty is strongly correlated with the incidence of land degradation. The majority of ADB's lending, particularly for infrastructure, is targeted to the poor interior provinces to help create a climate for pro-poor economic growth. Ongoing ADB-financed policy work is addressing poverty-related issues in health, education, social protection, nutrition, land degradation, access to clean drinking water, and sanitation in rural areas. The program includes continued support for the Government's fight against poverty by addressing environmental problems related to air, water, and land, and promoting rural development in mountainous areas in Ningxia Hui Autonomous Region (NHAR) and other western provinces/autonomous regions.

The poverty partnership agreement, signed by the Government and ADB in September 2003, sets out strategies and interventions for poverty reduction. PRC and ADB will continue to cooperate on a broad range of activities related to policy and regulatory reform and capacity building in the environment sector, and support projects to address environment problems. Projects will be designed so that the poor capture some of the environmental benefits. To sharpen the poverty focus of environmental work, the PRC and ADB are addressing land degradation by supporting the implementation of the 10-year (\$150 million, grant-financed) PRC-Global Environment Facility (GEF) Partnership for Degradation in Dryland Ecosystems to address policy, institutional, technical, and financing issues related to combating land degradation. It aims to reduce poverty, arrest land degradation, and restore dryland ecosystems in the western region.

The project area has a total population (including that of Yinchuan City) of about 1.33 million, of whom 630,000 are in rural areas. In 2004, the average annual income of the urban residents was CNY7,200 (\$887.79 equivalent) while the average annual per capita income of the rural population of the project area was CNY3,080 (\$379.78 equivalent, or about the poverty line on an equivalent of \$1/day). In recent years, most of the Helan Mountain area has been designated as natural reserve zone or enclosure zone for ecological protection, with stringent land use regulations being put in place. The Government has imposed a grazing ban. While the ban has increased the environmental value of the Helan Mountains, it has necessitated alternative livelihood and measures to compensate for the loss of traditional access to grazing. Also, the Government sees increasing urbanization as being important for reducing poverty, and urban population growth is rapidly increasing. Hence, future urban and rural water demand needs to be assessed and balanced, and use of water resources must be carefully planned. The Project will provide the opportunity to achieve an improved enabling environment and institutional capacity building for a participatory and community-oriented integrated ecosystem management approach to sustainable use of biodiversity, agriculture, and natural resources for (i) water and land resources; (ii) conservation annual and perennial agriculture on suitable land (e.g., grapes, wolfberry, Chinese date, forage, etc.); and (iii) livelihood diversification for rural people—many of whom are poor—including tourism-based employment. An example will be provided for future projects planned under the PRC-GEF Partnership on Land Degradation. Ecosystem-based livelihood activities will include (i) irrigated annual crop and perennial/tree crops, (ii) greenhouse production, (iii) livestock production, (iv) tourism, and (v) aquaculture production. Large-scale commercial agriculture, with related agro-industrial processing, is taking place on a limited scale within the project area. Project interventions are likely to feature community-based programs in rural areas, and public-private partnerships, especially in commercial agriculture and tourism.

B. Poverty Analysis

Targeting Classification: General Intervention

What type of poverty analysis is needed?

The total population of the project area (including Yinchuan City) is about 1.33 million, of whom 630,000 are in rural areas. In 2004, the average annual disposable income of the urban residents was CNY7,200 (\$887.79) while the average annual per capita income of the rural population of the project area was CNY3,080 (\$379.18, or about the poverty level on a \$1/day equivalent basis). Urban growth is significantly faster than rural growth, an important aspect of the Government's poverty reduction strategy. Poverty analysis will comprise the following: (i) rural and urban consultations/surveys in all three ecosystems (Helan Mountains footslopes and central alluvial plain, wetlands and lakes, and deserts); (ii) participatory focus group discussions with vulnerable groups such as women, migratory

groups, herders facing a grazing ban, and people living on the desert margins, to determine the linkage between income, poverty, and non-income poverty and the environment; (iii) design of interventions in policy/planning, regulations, institutions, and physical investments to address water resources including conservation and pollution, productivity improvements, including conservation agriculture, conservation of the environment and tourism. Public-private partnerships will be an important aspect.

C. Participation Process

Is there a stakeholder analysis? Yes No

A brief stakeholder analysis was conducted during fact-finding for the technical assistance and the roles of the key stakeholders were identified and agreed upon in the signed Memorandum of Understanding. Based on detailed discussions with the NHAR government, Yinchuan City government, representatives of agribusiness ventures, cultural and ecotourism operations, and a small group of rural residents, the Leading Group (LG) will comprise director general-level officials of the NHAR Development Reform Commission, Finance, Agriculture, Forestry, Water Resources, Poverty Alleviation Office, Environmental Protection Office, Tourism, and the Yinchuan City government. The NHAR arrangements for implementing the ongoing PRC-GEF Partnership on Land Degradation will provide an opportunity to build capacity in project planning and implementation. A project management office (PMO) will provide administrative support and have experts in plant and animal biology, economics, finance, tourism, management, marketing, legal and regulatory aspects, information technology, and other needed professionals. During the ADB project preparatory technical assistance (PPTA) and the GEF Project Development Facility (PDF-B) those responsible for preparing the full project proposal will consult fully with the above institutions, and make field visits to potential project pilot/demonstration sites. The project components will be designed and reviewed through a process of stakeholder consultation involving concerned authorities and technical agencies at NHAR, Yinchuan City, and local government levels, as well as NGOs and private sector bodies. A series of informal and formal consultations will be held with representatives of the key project beneficiaries (including rural households engaged in crop and livestock production within the project area) to take into consideration their concerns and aspirations.

Is there a participation strategy? Yes No

To strengthen the design, an expert panel will provide technical guidance to the PMO, the LG, and the consultant team. The panel will comprise 6–8 senior scientists and experts on sustainable water resources management, forestry, commercial agriculture, wildlife management, tourism, geographic information systems, conservation agriculture, wetlands, and business management from regional and national universities and institutes. Panel members will be paid a lump sum honorarium. In addition, participatory focus group discussions will be held with the community, including vulnerable groups, and with private sector corporations to determine their interest and capacity to participate in the Project.

D. Gender Development

Strategy to maximize impacts on women:

Gender analysis: Gender roles are determined by a combination of cultural factors, occupations, environmental conditions, education levels, and employment opportunities. Religious beliefs common to NHAR are an influence. During PPTA implementation, women's roles in the proposed project activities will be assessed, including those in institutional capacity building. The need for gender-specific groups, or other measures will be assessed.

Gender and development plan: The Project will not have significant negative impacts on women, but a gender plan will need to be developed given the fact that local staff have low gender sensitivity and lack the knowledge and skills for gender analysis and planning. The gender plan will ensure equal participation of women.

Has an output been prepared? Yes No

This will be prepared during the PPTA phase.

E. Social Safeguards and Other Social Risks

Item	Significant/ Not Significant/ None	Strategy to Address Issues	Plan Required
Resettlement	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None		<input type="checkbox"/> Full <input type="checkbox"/> Short <input checked="" type="checkbox"/> None
Affordability	<input type="checkbox"/> Significant <input type="checkbox"/> Not significant <input checked="" type="checkbox"/> None	Suitable water pricing arrangements will ensure sustainable use. Project work in this area will ensure the poor are not adversely affected.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Labor	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	There may be some shifting of locations related to new economic opportunities, and changes in livelihood as restrictions are applied to conserve ecosystem functions. Any such plans will incorporate mitigating measures.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Indigenous Peoples	<input checked="" type="checkbox"/> Significant <input type="checkbox"/> Not significant <input type="checkbox"/> None	NHAR is a minority area. A plan will be formulated during the PPTA.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Other Risks and/or Vulnerabilities	<input type="checkbox"/> Significant <input checked="" type="checkbox"/> Not significant <input type="checkbox"/> None	The Project will require adjustment of livelihood and land use to suit long-term and sustainable ecosystem management. The Government will need consensus building to ensure smooth implementation of the Project.	<input checked="" type="checkbox"/> Yes. Sustainable livelihood plan <input type="checkbox"/> No

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Foreign Exchange	Local Currency	Total Cost
A. Asian Development Bank (ADB) Financing^a			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	247.0	0.0	247.0
ii. Domestic Consultants	0.0	112.0	112.0
b. International and Local Travel	20.0	15.0	35.0
c. Reports and Communications	0.0	10.0	10.0
2. Equipment ^b	5.0	0.0	5.0
3. Training, Seminars, and Conferences			
a. Facilitators	0.0	5.0	5.0
b. Training Program	0.0	10.0	10.0
4. Surveys	0.0	10.0	10.0
5. Miscellaneous Administration and Support Costs	0.0	5.0	5.0
6. Representative for Contract Negotiations	6.0	0.0	6.0
7. Translation and Interpretation	0.0	5.0	5.0
8. Contingencies	30.0	20.0	50.0
Subtotal (A)	308.0	192.0	500.0
B. GEF Financing^c			
1. Consultants			
a. Remuneration and Per Diem			
i. International Consultants	160.0	0.0	160.0
ii. Domestic Consultants	0.0	44.0	44.0
b. International and Local Travel	30.0	17.0	47.0
2. Surveys: Biodiversity and Ecosystem Status	0.0	32.0	32.0
3. Workshops, Seminars, Technical Meetings	0.0	20.0	20.0
4. Miscellaneous Reports and Support Costs	0.0	15.0	15.0
5. Contingencies	19.0	13.0	32.0
Subtotal (B)	209.0	141.0	350.0
C. Government Financing			
1. Office Accommodation and Transport	0.0	50.0	50.0
2. Remuneration and Per Diem of Counterpart Staff	0.0	150.0	150.0
3. Others (maps, surveys, data collection, translations)	0.0	150.0	150.0
Subtotal (C)	0.0	350.0	350.0
Total	517.0	683.00	1,200.0

^a Financed by the ADB's technical assistance funding program.

^b Includes two computers, one printer, one fax, and one copier.

^c Administered by ADB.

Source: Asian Development Bank estimates.

OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The technical assistance (TA) will be carried out over 8 months commencing in October 2005. A total of 60 person-months of consulting services will be required—21 international and 39 domestic. The Asian Development Bank (ADB) will finance 41 person-months of consulting services—13 international and 28 domestic. The Global Environment Facility (GEF) will finance 19 person-months—8 international and 11 domestic. The long-term goal is to restore the productive and protective functions of the ecosystem resources of the Yinchuan area of Ningxia Hui Autonomous Region (NHAR). The direct purpose of the Project is to introduce an integrated ecosystem management (IEM) approach for the sustainable use of natural resources in the Yinchuan area. The Government's feasibility study and data provided by NHAR will be the initial basis for the team's work.

A. ADB-Financed Consultants

2. ADB will finance 4 international and 9 domestic consultants.

1. Team Leader/Integrated Ecosystem Management Specialist (international, 6 person-months)

3. The specialist will lead the team of international and domestic consultants (ADB- and GEF-financed), coordinate the work of the team members, and ensure close cooperation of the team with the Government and other stakeholders. The team leader will take overall responsibility for the quality of all TA products (in accordance with ADB's policies and standards), and will manage the financial and technical aspects. In addition, the team leader will carry out the following technical responsibilities:

- (i) In close coordination with the wildlife management and commercialization specialist (GEF-financed) and the consulting team prepare (a) a comprehensive assessment of the mandates, roles, responsibilities, and programs; (b) recommendations for institutional capacity building, elimination of conflicting responsibilities, consultative and participatory processes involving civil society, and (c) coordinate agencies in implementing arrangements for the Project.
- (ii) Take the lead role in project design, including (a) review of available information and relevant official documents; (b) site visits to assess the scope; (c) review and discussions of relevant subprojects; and (d) involvement of counterpart staff and/or contracted design institutes in doing additional studies.
- (iii) Formulate a sustainable ecosystem-based economic livelihoods project, based on an IEM approach, including (a) prioritization of investment activities; (b) implementation program; (c) costs and financing requirements; (d) implementation arrangements and resources for operations and maintenance (O&M) and cost recovery; (e) contract packages, procurement arrangements, work schedules, and arrangements for disbursing funds from different sources; an appropriate monitoring and evaluation (M&E) program; (f) assess the willingness of provincial, Yinchuan City, and local government agencies to implement an IEM approach.
- (iv) Preparation of the terms of reference for any technical, environmental, social, or other studies to be done during project implementation.
- (v) Build the technical and project design capacity of the counterpart staff.

- (vi) Take primary responsibility for ensuring that inception, midterm, draft final, and final reports are submitted on schedule and meet the required quality requirements of ADB, the Government, GEF, and other stakeholders.

2. **Project Economist** (international, 3.5 person-months)

4. The economist, in conjunction with the consulting team and in line with ADB's *Guidelines on Project Financial and Economic Analyses*, will be responsible for the project costs (using COSTAB or other appropriate software), the financial and economic benefit analyses, and analytical sections of the reports. The economist will be responsible for the following activities:

- (i) Cost estimates for the Project, including ADB loan financing and counterpart fund requirements, baseline costs, and GEF incremental cost analysis and matrix.
- (ii) Assess the economic and financial viability of all proposed activities, and the economic, financial, and fiscal sustainability and sensitivity of the Project.
- (iii) Contact the main private sector agribusinesses and processors in NHAR to assess their interest in participating in the Project, and their potential roles.
- (iv) Using relevant sector studies and local data, analyze market-based policy options for the use of pricing, incentive structures in water management, costs of compliance with regulations; and provide an economic analysis of optimal pricing for industrial, residential and rural use of water.
- (v) Assist the team leader to formulate the Project including (a) prioritization of major components, activities, and inputs; (b) implementation program; (c) costs and funding requirements; (d) management and implementation arrangements and resources for O&M; (e) mechanisms for revenues and cost recovery through pricing policy; and (f) contract packages, procurement arrangements, work schedules, and arrangements for disbursing funds from different sources.
- (vi) Assist the domestic economist/financial analyst to develop the analysis of trends and outlook in the local rural economy.
- (vii) Develop the proposed commercial farm/enterprise models and household models for sustainable livelihood and reducing poverty, including financial services required. Evaluate the financial and economic costs and benefits.
- (viii) Assist the team leader to formulate an appropriate M&E program.

3. **Water Resource Management Specialist** (international, 2 person-months)

5. The specialist will examine the urban and rural use and future plans for surface water and groundwater resources in relation to water quality and quantity. The following detailed tasks will be undertaken.

- (i) Assess the current and future water demand in Yinchuan City, and compare this with the available resource.
- (ii) Assess the current and future water demand of the agriculture sector, and compare this with the available resource.
- (iii) Assess the hydrological regime of the wetland area with regard to its ecosystem function within the IEM approach.
- (iv) Assess the groundwater recharge from the Helan Mountains and other sources, and compare this with current groundwater extraction rates.
- (v) Advise on options for improving recharge and sustainable extraction rates, including market-based mechanisms.
- (vi) Advise on water saving options in both urban and rural environments.

- (vii) Considering (i)-(vi), examine the Government's proposed interventions and take the lead in designing the water resources component.

4. Sustainable Agriculture Specialist (international, 1.5 person-months)

6. The specialist, working with the team, will review current farm management practices and advise on improving productivity, options for introducing conservation agriculture (CA) practices for improving profitability and sustainable use of soil and water, land degradation control, biodiversity conservation, and carbon sequestration. The following detailed tasks will be undertaken:

- (i) Assess current practices and productivity in all major agricultural activities (including food crops, grapes, wolfberry, Chinese dates, forage, fruits, livestock, etc.), and recommend improved practices for small- and large-scale producers.
- (ii) Review the experience of CA in Ningxia and the PRC, and advise on suitable interventions based on proven best practices, domestically and internationally.
- (iii) Review current farm management practices in the project area to assess the extent to which they conform to the requirements of CA, or have the potential to utilize CA practices. Identify the costs and benefits of adjusting to CA practices and the implementation period involved.
- (iv) Considering (i)-(iii), examine the Government's proposed interventions and take the lead in designing CA interventions, including implementation arrangements, demonstrations, support services, applied research, and field practices.

5. Economist/Financial Analyst (domestic, 6 person-months)

7. The specialist will undertake the following tasks under the supervision of the international project economist:

- (i) Prepare cost estimates for the Project, including ADB loan financing and counterpart fund requirements, and GEF components.
- (ii) Assist with analyses of farm household and commercial activity models, financial services, including credit; and assess economic and financial viability, and the economic, financial, and fiscal sustainability of the proposed Project.
- (iii) Perform any additional work as required by the team leader or the project economist; e.g., trends and outlook for existing rural industries, sustainable livelihoods, and cost-benefit analysis of existing measures to combat land degradation, including closure of the Helan Mountains.
- (iv) Assess the executing agencies' (EA)/implementing agencies' (IA) financial management system, including budgeting, accounting, financial reporting, internal control, cash-flow management, and internal and external audit arrangements. Recommend measures to address the issues and weaknesses identified in the financial management assessment, and determine any capacity building needs to strengthen the EA/IA's financial management capacity.
- (v) Design a financial reporting system suitable for project implementation. Recommend an appropriate format, content, timing, and consolidation procedures for project financial statements, which ensure disclosure of full accountability of the use of funds from all resources, and adequate disclosure of all material information of project implementation activities.
- (vi) Discuss and confirm the onlending/re-lending arrangements.

- (vii) Assess the debt repayment mechanism of the Project; identify risk factors and recommend mitigating measures.
- (viii) Identify suitable disbursement arrangements for the use of ADB loan proceeds and other financing resources.

6. Drylands Ecosystems Specialist (domestic, 3.5 person-months)

8. The consultant will prepare a report on the ecosystems of the Project area, including current degradation, problems, opportunities and challenges for restoration, national and global significance, as per the State Environmental Protection Agency's ecological function zoning of the area. The following detailed tasks will be undertaken:

- (i) Review national and provincial programs and plans in the project area, and international and bilateral development projects on biodiversity conservation.
- (ii) Prepare a strategic plan of natural ecosystem management and sustainable utilization, set logistic linkages of initiatives to be undertaken in the relocated area to the core protection area, and eventually to the entire project area.
- (iii) Advise on development of facilities in the relocated area, including introduction of species, integrated management of species, science education for the public, building habitats for animal species.
- (iv) Develop guidelines/manuals on ecosystem assessment, database establishment, and information system development for the project area.
- (v) Advise on the potential of the different dryland ecosystems in relation to an overall ecotourism strategic plan.
- (vi) Assess the current desertification issues in the project area. Identify the specific areas where there is a need for intervention to prevent further economic losses and recommend cost-effective desertification control measures for those sites.
- (vii) Collect and assess the natural resources data required by the team as the baseline for developing improved ecosystem management practices. The work entails collection of (a) all reports, maps, and satellite data documenting the natural resources (soils, vegetation, water resources, climate, etc.); and (b) data on land degradation; and preparation of maps showing the distribution and severity of different land degradation processes (water erosion, wind erosion, vegetation degradation, soil fertility decline, salinization, etc). Using ArcInfo GIS software, global positioning system field data, and other data, overlay various thematic maps to assist the team in identifying priority areas for future investment. Overlays may include soil type, geology, topography and landforms, vegetation cover, land capability, land suitability, current land use, incidence of land degradation, water resource distribution (groundwater and surface water), population density, major infrastructure, major mineral resources and operating mines, incidence of poverty, biodiversity species distribution, etc.

7. Sustainable Agriculture Specialist (domestic, 3 person-months)

9. Working with the international sustainable agriculture specialist, the domestic specialist will review current PRC experience with CA pertinent to crop production in the project area. The subject matter may include field practices, extension, research, financial services, farmer associations and public-private roles, and training. The domestic specialist will also assist in formulating a CA component for the Project.

8. Rural Livelihood Specialist (domestic, 3 person-months)

10. Working under the supervision of the international IEM specialist, the livelihood specialist will (i) identify the existing means of livelihood that exploit the ecosystem resources of the project area; (ii) assess the sustainability and income levels derived from current livelihood practices; (iii) assess the comparative importance of current practices in relation to the overall household welfare needs of the rural population as a whole in the project area; (iv) advise on the options for improving the sustainable returns from existing livelihood enterprises and identification of alternative enterprises suitable for the area; and (v) advise on existing practices, and the need for Project interventions in field services, such as extension, education, specific interventions to improve women's income, farmer associations, etc.

9. Livestock Husbandry Specialist (domestic, 2 person-months)

11. Working under the supervision of the international IEM specialist, the livestock specialist will (i) assess the current livestock husbandry issues and practices for improved livestock production, including shed-based systems and dairying; (ii) review the livestock feed situation and its sustainable sourcing from the project area; (iii) assess the quality of the feeds available in relation to what is required to meet the health needs of the domestic stock; and (iv) advise on how to improve animal nutrition to maintain healthy and productive stock.

10. Water Resources Specialist (domestic, 3.5 person-months)

12. Working with the international water resource management specialist, the domestic specialist will (i) identify the critical locations where groundwater recharge is taking place in the project area and advise on cost-effective measures for increasing the recharge rates; (ii) review current water management practices for crop production, and advise on ways to improve water use efficiency for crop production and irrigation management practices to minimize the risk of salinization; and (iii) identify water quality issues related to leaching and runoff of agrochemicals.

11. Renewable Energy Specialist (domestic, 2 person-months)

13. The consultant will (i) prepare selection criteria for subprojects; (ii) review appropriate technologies for agricultural and other wastes; (iii) review the marketing and distribution of biogas in the project area; (iv) review the potential for solar energy use in cooking, lighting, and other household purposes; (v) liaise with national/local energy agencies on policy matters and strategies; and (v) work closely with the international specialists to identify and develop cost and benefit estimates of investments under the Project.

12. Social Development Specialist (domestic, 3 person-months)

14. The consultant will (i) provide a background review of the Project, the nature of the proposed interventions, and the people likely to be affected; and (ii) based on the initial poverty and social assessment, conduct poverty and social analysis in accordance with ADB's guidelines, and assess how the proposed Project will help improve people's incomes and livelihoods. In collaboration with the economist, the specialist will estimate (i) the number of project beneficiaries by area, occupation, and income level (poor, low, medium, and high); (ii) the number of adversely affected people by type of impact; and (iii) the poverty impact ratio. Specify how the Project will improve benefits for local people, by income group; and will

recommend measures to enhance benefits and minimize adverse impacts, particularly on the poor and ethnic minorities. Other duties are as follows:

- (i) Prepare socioeconomic and poverty profiles as the baseline for socioeconomic benefit monitoring. Assist with preparing of the performance M&E systems, including a reporting format and how to measure indicators.
- (ii) Assess ethnic minorities, gender, and vulnerable groups, and recommend appropriate measures to address impacts and promote development opportunities. If the social analysis indicates that the Project will affect ethnic minorities, (a) prepare an ethnic minority development plan (EMDP) as set out in ADB's *Indigenous People's Policy 1998*; and (b) cover all necessary actions to determine the participation of key stakeholders, involvement of minority peoples, involvement of nongovernment organizations, the need for a participation strategy and framework; and guidelines for contractors and others involved with Hui Muslim communities.
- (iii) If the Project is gender-sensitive, formulate strategies and an action plan to enhance project benefits and improve gender equalization.
- (iv) Identify potential negative impacts in accordance with ADB's involuntary resettlement policy. Assist the EA to prepare a resettlement plan for any subproject that entails land acquisition, etc., conduct resettlement household surveys to understand social impacts, and quantify impacts on affected people.
- (v) Review the local government's policy, strategy, and programs for poverty reduction and economic development, as they pertain to the project areas.
- (vi) Analyze how the proposed Project will be consistent and coordinate with the government development programs, particularly alternative livelihood programs targeting the poor and ethnic minorities, and identify sources of funding.
- (vii) Assist the EA to establish consultation and participatory processes that will continue throughout project design, construction, and operation. Identify stakeholders; prepare a public participation and consultation status report and plan for project implementation, which will be managed by the EA.
- (viii) Complete the work by the midterm report. Advise if additional consulting services are needed during the project preparatory technical assistance.

13. Environmental Specialist (domestic, 2 person-months)

15. The specialist will (i) review, assess, and update the environmental assessment reports (EAR) for various interventions proposed under the Project and prepared by the NHAR government; (ii) conduct supplementary studies, in conjunction with the government and the international consultants, to update and improve the EARs, as necessary, to conform with ADB standards/guidelines; (iii) prepare the environmental impact assessment of the Project, including preparing the initial environmental evaluation (IEE); circulating the summary IEE; disclosing the summary to the public; and prepare the environment management plan, budget, and environmental monitoring plan, in accordance with ADB guidelines; (iv) conduct and document public consultation activities; and (v) prepare relevant sections of reports.

B. GEF-Financed Consultants

16. GEF will finance three international and four domestic consultants.

1. **Wildlife Management, Commercialization and Tourism Specialist** (international, 4 person-months)

17. The specialist will carry out the following technical responsibilities:

- (i) Assist the team leader/IEM specialist and domestic consultants to (a) formulate recommendations for institutional capacity building, consultative and participatory processes, and integrating sectoral agencies in formulating and implementing IEM; and (b) recommend an institutional approach for harmonizing the existing diverse programs to overcome any inconsistencies or overlaps.
- (ii) Introduce best-practice international standards for managing wildlife gardens and parks (with emphasis on reducing land degradation) and the Government's environmental restoration objectives, investment priorities, and current programs.
- (iii) Recommend measures for conservation and restoration of biodiversity and degraded land, and improvement of rural livelihoods, with emphasis on a market-oriented approach. Assess the wildlife resources of the natural ecosystems and identify key species and habitats that would attract tourists; and management requirements for conserving the habitats of the key species while developing the commercial potential of wildlife, including the feasibility of a modern zoo with conservation, education and tourism features.
- (iv) Identify priority sites for project interventions in accordance with the criteria agreed under the PRC/GEF Partnership; and identify suitable GEF investments.
- (v) Design an effective approach to ensure lessons learned from implementing and demonstrating biodiversity conservation and sustainable natural resource use in the focal areas will be used to promote and implement conservation.
- (vi) Advise on the Project's ability to integrate biodiversity considerations into the mainstream economy.
- (vii) Identify targets for improving the livelihoods of the beneficiaries based on sustainable use /harvesting and record progress at midterm and final evaluation.
- (viii) Establish a mechanism for monitoring the effectiveness of the proposed replication strategy promoting incentive measures and instruments (e.g., hypothecation, trust funds, payments for environmental services, certification).
- (ix) Recommend how mainstreaming biodiversity through the implementation of this project with ongoing GEF development assistance, sector lending, or other technical assistance programs can be harmonized.
- (x) Review all project components to ensure they contribute to the conservation and restoration of biodiversity and degraded land, and the improvement of rural livelihoods. Assess infrastructure requirements for international standards in wildlife conservation, management and commercialization.
- (xi) Take responsibility for ensuring the major GEF reports are submitted on schedule and meet the quality requirements of the Government and GEF.
- (xii) Using international best practices, advise an effective tourism strategy to increase sustainable income in the project area¹. In particular (a) review the cultural venues and the potential for tourism; (b) assess the infrastructure needs to support tours, tourists, and the on-ground organization; (c) advise on training

¹ Current ecotourism and cultural tourism sites include Shahu Lake (80 kilometers from Yinchuan) as well as Mingcui, Haibao and West lakes and wetlands (collectively called the Yinchuan Wetland Protection project), Xixia Emperor's tomb, Suyukou Forest Park, Suyukou Hotel and cable car, Gongzhongkou scenic park and nearby natural history museum, ski slope and lift, Helanshan nature reserve, Huaxia rare art exhibition, rock pictures at Helankou, Baisikou and Hongfo tower, Han dynasty tomb, and the large farm of some 200,000 hectares near Nuanquan, Yuhuangge (Pingluo), Wudang temple, and Chengtiansi tower.

programs to improve both service standards with the local tourist industry and the on-ground staff including guides at the various venues.

2. Wetlands Management Specialist (international, 2 person-months)

18. The specialist will be responsible for advising on the following activities: (i) the current utilization and development plans for the wetlands, and assess the extent to which the plans conform to international wetland management standards; (ii) the requirements to achieve the potential of the wetlands for both conservation and commercial utilization; (iii) the creation of niche habitats to maximize the attractiveness of the wetlands to the greatest number of species; (iv) design of multiple use strategies for mass leisure water-based tourism versus specialist tourism; (v) a management structure for the wetlands and identify particular strengths and weaknesses of these arrangements; and (vi) review the other components of the Project in terms of their impact on the wetlands and advise on mitigations where needed.

3. Carbon Sequestration/Clean Development Mechanism Specialist (international, 2 person-months)

19. The specialist will undertake the following duties: (i) assess the existing understanding in NHAR and current activities and arrangements for carbon emissions minimization, sequestration, and alternative energy generation; (ii) assess the steps required to maximize sequestration in the context of an IEM approach to multiple land use under the Project, international conventions, current carbon trading, and means of securing sustainable revenues and financing arrangements, including through the clean development mechanism; (iii) design suitable project interventions to be integrated into the Project; (iv) design and prepare cost estimates and a practical implementation schedule for emissions reduction, carbon sequestration, and alternative sources of energy, including methane; (v) work with the economics specialists to estimate the local and global benefits associated with these activities; and (vi) prepare sections of reports for the Project.

4. Species Survey Specialists (2 domestic, 2 person-months each)

20. The specialists will review all available sources of information on species distribution, including literature reviews, interviews with local experts, and field assessments, verify the information; and produce maps showing the key sites for commercializing important species.

5. Tourism Specialist (domestic, 3 person-months)

21. The consultant will undertake comprehensive tourism analysis of key cultural and wildlife sites in the Ningxia Yinchuan project area. Detailed tasks include (i) work with international tourism experts, develop a detailed plan of the Ningxia Yinchuan project area ecotourism, including strategy, public education, marketing, brand, etc.; and (ii) develop a long-term integrated strategy for ecotourism in the Ningxia Yinchuan project area; and support related works by other experts, as required.

6. Wetlands Specialist (domestic, 2 person-months)

22. The specialist will work with the international wetlands management specialist in developing a comprehensive commercial management plan for the wetlands.

7. Legal and Institutional Specialist (domestic, 2 person-months)

23. Based on a review of national and NHAR laws and regulations, and working closely with the legal staff involved in the ongoing GEF/ADB-financed Capacity Building to Combat Land Degradation Project, and the other consultants on the team, the specialist will undertake these tasks:

- (i) Identify the key stakeholders and their involvement in ecosystem resources, especially wildlife, wetlands, nature reserves, and agriculture; and recommend measures to safeguard their interests/benefits as the resources become more market-oriented.
- (ii) Examine the role of the Government as a regulator and recommend the regulatory changes and incentives required for the Government to equitably allocate ecosystem resources to ensure sustainable use.
- (iii) Examine the responsibilities of all parties, especially operators and investors, in the use of ecosystem resources for commercial purposes (e.g., wetlands, wildlife and other biodiversity, ecotourism, and cultural tourism). Prepare model contracts for commercial use of ecosystem resources (taking into account examples from more experienced areas such as Yunnan and Sichuan provinces, and international best practices).
- (iv) Taking into account the State Environmental Protection Agency's ecological function zoning, and the recommendations of the team, prepare detailed definitions of each ecological zone and conduct training and awareness building for project implementation.
- (v) Recommend land tenure arrangements and compensation arrangements for persons affected by environment protection measures, such as grazing bans.