

**PRC-GEF PARTNERSHIP ON LAND DEGRADATION
IN DRYLAND ECOSYSTEMS:
COUNTRY PROGRAMMING FRAMEWORK (CPF) AND CPF PROJECT #1**

COVER NOTE ON RESPONSE TO GEF REVIEW CRITERIA

The proposed Country Programming Framework (CPF) for the People's Republic of China (PRC) – Global Environment Facility (GEF) Partnership on Land Degradation in Dryland Ecosystems, is consistent with the *Criteria for Review of GEF Projects*. CPF Project 1 on Strengthening the Enabling Environment and Building Institutional Capacity, which is being submitted for work program inclusion in October 2002, also conforms to the GEF review criteria. The responsiveness of the overall CPF and CPF Project 1 to these criteria is described below.

Country Driven-ness: The design of CPF (Part 2 of the document) and CPF Project 1 on Strengthening the Enabling Environment and Building Institutional Capacity (Part 3 of the document) has been guided by a high level Steering Committee chaired by Madam Jiang Zehui of the People's Political Consultative Conference and representing all the concerned major PRC government agencies (Introduction). It responds to the Government of the PRC's land and natural resource management objectives, as outlined in its 10th Five-Year Plan, as well as the objectives of the Government's Western Development Strategy (WDS) and sectoral programs. It supports the Government's commitment to harmonize sectoral Five-Year Plans and rationalize budget expenditures to more effectively combat land degradation (Part 2, Section I and Part 3, Section I, II). It is consistent with the PRC's National Action Program to Combat Desertification (Part 1, Section III).

Endorsement: The CPF and CPF Project 1 are strongly supported by the Ministry of Finance (MOF) and other key PRC agencies, including the State Development and Planning Commission, State Forestry Administration, Ministry of Agriculture, State Environment Protection Administration, Ministry of Water Resources, Ministry of Land and Resources as well as the Governments of the six provinces/regions most affected by dryland degradation, which are the focus of the CPF in its first phase (Xinjiang, Qinghai, Ningxia, Sha'anxi, Gansu and Inner Mongolia). The CPF, including CPF Project 1, was endorsed by the PRC GEF Operational Focal Point, Yang Jinlin, on 1 August 2002 (Appendix 3 of the Framework Brief).

Program Designation & Conformity: The CPF is consistent with the GEF Operational Strategy, with Operational Program #12: Integrated Ecosystem Management (OP12), and with emerging GEF guidance on the programmatic approach as contained in relevant GEF documents (*The GEF Programmatic Approach: Current Understandings*. 12 April 2001. GEF/C.17.Inf.11). The CPF, and specifically CPF Project 1, will lead to the progressive mainstreaming of global environmental objectives within the WDS, and the 11th and 12th Five-Year Development Plans. It is consistent with the GEF programmatic approach "to secure a larger and sustained impact on the global environment through integrating and mainstreaming global environmental objectives into a country's national strategies through partnership with the country." Land degradation control will yield multiple benefits at local, national and global levels. In conformity with OP12, these benefits will be relevant to more than two focal areas (biodiversity and climate change focal

areas, as well as to the eventual land degradation focal area). The barriers to implementing integrated ecosystem management approaches effectively are summarized in Part I, Section V and the strategy for overcoming these barriers is laid out in Part 2, Section I and Part 3, Section II. The CPF and the proposed CPF Project 1 are designed to overcome these barriers and are described in Parts 2 and 3.

The GEF programmatic approach is considered appropriate because the Government has met the following basic criteria: (i) it has expressed a high level of political and economic commitment to the environment, and in particular, to the proposed program; (ii) it has developed a commitment and a willingness to work across sectoral ministries and agencies to integrate and mainstream global environmental issues into the national planning and development processes; (iii) it has made a clear commitment of domestic financial resources for environmental management and land degradation control in its 10th Five-Year Plan; (iv) it has established an open transparent process that encourages multi stakeholder involvement in the planning process; and (v) it has developed strong and meaningful co-operation, collaboration, and joint programming with the GEF Implementing Agencies and ADB.

Program Design: The rationale for, and strategic choices made, in the design of the CPF are explained in Part 2, Section I and its design is summarized in Part 2, Section IV. The rationale for CPF Project 1 is summarized in Part 3, Section I. The Project will improve the enabling conditions and operational arrangements for integrated ecosystem management, increase institutional capacity and develop a monitoring and evaluation system for land degradation. In combination with activities of this project, the CPF includes a series of demonstration projects to test replicable models of integrated ecosystem management. Lessons learned from previous Government and donor-supported initiatives in western PRC to address land degradation, as well as previous GEF and other international support to integrated ecosystem management worldwide, are reflected in the design of both the CPF and the Project (see Part 1, Sections III and IV)

Sustainability: The strategy of addressing constraints in enabling conditions and operational arrangements, while testing integrated approaches in key ecosystems, is specifically designed to achieve sustainability. The adoption of integrated approaches that yield significant local and national benefits, in addition to global benefits, is expected to provide the necessary incentives to stakeholders to sustain activities financed under the CPF. The CPF will lead to the progressive mainstreaming of global environmental objectives within national development planning and government budgetary systems, thus diminishing the need for GEF and other external resources over time. Through CPF Project 1, the key elements of the enabling environment will be improved, establishing a framework conducive to mobilizing additional resources to address land and integrated ecosystem management in the western region, as well as maximizing the effectiveness of the Government's domestic resources. CPF Project 1 will establish a monitoring and evaluation system to effectively track land degradation trends and supply feedback to the program. Sustainability issues are summarized in Part 2, Section VIII.A for the CPF as a whole and Part 3, Section V for CPF Project 1 specifically. Part 2, Section VIII.B identifies critical risks for the CPF and how they will be addressed.

Part 3, Section V.C identifies critical risks for CPF Project 1 and how they will be addressed.

Replicability: The CPF is targeted at the need to develop potentially replicable responses to land degradation in priority dryland ecosystems. The CPF explicitly recognizes the importance of replicability and will support demonstration projects that can be adapted, replicated and where appropriate upscaled throughout the dry areas of the PRC. Policy, legal and institutional factors are key to replicability, and the CPF Project 1 is designed to assist the Government to address these. Studies of lessons learned and best practices are included in the project, and knowledge gathering and dissemination will be an important activity. It is expected that lessons learned will be applicable in other countries affected by serious land degradation, and relevant lessons will be shared within the context of networks already established under the United Nations Convention to Combat Desertification (UNCCD). Replicability is addressed in Part 2, Section VIII.A for the CPF and Part 3, Section V.A for CPF Project 1.

Stakeholder Involvement: Extensive consultations on program design have been held with all key institutions at the national level and provincial levels, including field visits to each of the proposed demonstration project sites. These institutions include Government agencies, donor organizations, NGOs and the private sector, as well as informal consultations with land users. At the provincial and county level more detailed consultations will be carried out as Project 1 is implemented and demonstration projects are designed. This will include further consultations with local land users and the development of participatory approaches. Impacts and benefits are detailed in Part 2, Section VIII and Part 3, Section V.

Monitoring & Evaluation: Monitoring and evaluation is a key component of the CPF. The delivery of the CPF will be assessed against programmatic indicators and available funds. Monitoring and evaluation will be essential to set specific benchmarks for each phase, build in assessments at the end of each phase, and establish the next set of targets for each successive phase. Thus, while the first phase targets and indicators of favorable outcomes are defined, it should be understood that those for the second and third phase will evolve based on progress made and the availability of financial resources. An entire component is dedicated to establishing a monitoring and evaluation system for land degradation to better monitor the impacts of the program (Part 3, Section II.B.5). This activity forms an important part of Project 1. The overall program monitoring and evaluation plan, based on a learning and adaptive management system that will allow course corrections and fine-tuning during successive phases of the program, will be developed by the proposed PRC/GEF Coordination Office located in the MOF, with support of CPF Project 1 (Part 3, Section IV).

Financing Plan: The CPF is expected to cost approximately \$1.5 billion. The PRC Government expects a proposed indicative GEF allocation of \$150 million phased over a ten year period, and expects to request grants totalling \$40-70 million from GEF over the first four years (2003-2006), including \$7.7 million for CPF Project 1. The target is to achieve a ratio of GEF to cofinancing of about 1:10 for the whole program, reflecting the expected incremental cost profile for OP12 projects. Ratios for individual projects within the program will vary depending on the sustainable development baseline and GEF eligible components of each project. As CPF

demonstration projects are progressively developed by the GEF Implementing Agencies (IAs) and Executing Agencies (EAs), GEF approval for incremental cost financing will be requested on a project-by-project basis and these projects will be subject to the standard GEF project cycle. Costs and financing arrangements for the overall program are identified in Part 2, Section VI, and for the CPF Project 1 in Part 3, Section III. ADB is requesting GEF Council to approve funding for CPF Project 1 in October 2002.

Cost Effectiveness: The CPF will allow more cost-effective use of GEF resources by providing a coherent framework for prioritizing and sequencing interventions that will integrate land degradation control, biodiversity conservation, and carbon sequestration within government planning frameworks such as the WDS. Analysis of Government baseline expenditures on land degradation indicate that these resources are not being used cost effectively. The program will improve the cost-effectiveness of both Government and external resources through the promotion of more integrated approaches to natural resource management, rationalization of Government budget expenditures at provincial level, and improved coordination among external agencies. This is a key activity of CPF Project 1 as described in Part 3, Section II.B. Individual CPF demonstration projects will conform to GEF cost-effectiveness criteria as part of their project design.

Core Commitments and Linkages: Support for poverty reduction and environmental management in western PRC is a major emphasis of ADB's Country Strategy Program. GEF support will be complemented by ADB technical assistance grants and loan projects already in ADB's pipeline and incorporated in ADB's Country Strategy Program for the PRC, including initial support to CPF Project 1. These are identified in Part 2, Section VI.D. In addition, the World Bank's Gansu and Xinjiang Pastoral Development project, currently at the appraisal stage, will constitute the first investment under the demonstration projects component of the CPF (Part 2, Section IV.D.2.a). Other donors have expressed interest in supporting additional demonstration projects, and it is expected that the CPF will attract additional support, not just from traditional donors, but also from private sector organizations whose investments are threatened by the results of worsening land degradation.

Consultation, Coordination, and Collaboration among IAs and EAs: Excellent cooperation with GEF IAs/EAs was achieved during design of the CPF. Several donor consultations for the Partnership and for the UNCCD implementation process were organized, at which advice and support for the PRC-GEF Partnership was provided. Previous drafts of the framework brief has benefited from review by several agencies, including the World Bank, United Nations Development Program (UNDP), United Nations Environment Programme (UNEP), Food and Agriculture Organization (FAO), Gesellschaft fur Technische Zusammenarbeit, Kreditanstalt fuer Wiederaufbau and the Department for International Development (U.K.). Their comments have been incorporated into the current document to the extent possible.

It is expected that IAs/EAs as well as bilateral agencies will continue to play an increasingly active role in the Partnership, by preparing and implementing projects that respond to the CPF, and by jointly pursuing relevant policy dialogue in the context of CPF Project 1. The World Bank has been supportive in sharing experience on institutional and policy studies as part of the design of the CPF and Project 1, as well as land degradation control in the PRC. The World Bank will take

the lead in the Gansu and Xinjiang Pastoral Development Project, the most advanced of the demonstration projects to be included in the CPF.

Collaboration with UNDP on harmonizing the PRC-GEF Partnership and the National Action Program to Combat Desertification has been very useful in developing the proposal for a unified framework. Advanced discussions are ongoing with UNEP/GEF in regard to regional cooperation between the PRC and Mongolia to combat transboundary dust and sandstorms. Consultations will continue with the International Fund for Agricultural Development and FAO as two GEF EAs with substantial experience in addressing poverty and land degradation, both of which have pipeline projects of direct relevance to the CPF. Finally, the Global Mechanism of the UNCCD has agreed to provide full support in mobilizing resources for the Partnership, and has been involved in the Partnership from the beginning.

Response to Reviews: A project review meetings between the GEF Secretariat and ADB were held at pipeline entry in March 2001 and at work program submission in August 2002. In addition, the GEF Secretariat has had the opportunity for close involvement in the process of formulating the CPF, including participation in workshops and informal reviews of draft documentation, and this has been greatly appreciated. The most recent comments of the GEF Secretariat are also reflected in the revised Framework Brief, including comments on the structure of the framework brief, on incremental costs and financing plan of the CPF, and on details of CPF Project 1.

STAP Review: The STAP Review and ADB response are contained in Appendix 4 of the Framework Brief.

ASIAN DEVELOPMENT BANK

FRAMEWORK BRIEF

FOR THE

**PRC-GEF PARTNERSHIP ON LAND DEGRADATION IN DRYLAND
ECOSYSTEMS**

September 2002

CURRENCY EQUIVALENTS

(as of 6 September)

Currency Unit	–	Yuan (Y)
\$1.00	=	Y8.27
Y1.00	=	\$0.1209

ABBREVIATIONS

ADB	–	Asian Development Bank
CAS	–	Chinese Academy of Sciences
CBD	–	Convention on Biological Diversity
CCD	–	Convention to Combat Desertification
CCD-NAP	–	National Action Program to Combat Desertification
CCICCD	–	Chinese Committee for Implementation of the Convention to Combat Desertification
CEO	–	Chief Executive Officer
CPF	–	country programming framework
DFID	–	Department for International Development (U.K.)
EA	–	Executing Agency
FAO	–	Food and Agriculture Organization of the United Nations
GEF	–	Global Environment Facility
GTZ	–	Deutsche Gesellschaft für Technische Zusammenarbeit
ha	–	hectare (10,000 m ²)
IA	–	Implementing Agency
IFAD	–	International Fund for Agricultural Development
KfW	–	Kreditanstalt für Wiederaufbau
km	–	kilometer (1,000 m)
km ²	–	square kilometer (100 ha)
MOA	–	Ministry of Agriculture
MOF	–	Ministry of Finance
MWR	–	Ministry of Water Resources
OP	–	Operational Program
OP12	–	GEF Operational Program on Integrated Ecosystem Management
PDF-B	–	Project Development Facility–Block B
PMO	–	program management office
PRC	–	People's Republic of China
SDPC	–	State Development Planning Commission
SEPA	–	State Environment Protection Administration
SFA	–	State Forestry Administration
STAP	–	Scientific and Technical Advisory Panel
t	–	ton
TA	–	technical assistance
UNDP	–	United Nations Development Program
UNEP	–	United Nations Environment Programme
UN	–	United Nations
WB	–	World Bank
WDS	–	western development strategy

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INTRODUCTION

1. Under the direction provided by the Western Development Strategy (WDS), the Government of the People's Republic of China (PRC) requested the Asian Development Bank (ADB) to take a lead role in facilitating the preparation of a PRC-Global Environment Facility (GEF) Partnership on Land Degradation in Dryland Ecosystems (the Partnership), under Operational Program (OP) 12 on Integrated Ecosystem Management. It was agreed that the Partnership would (i) tackle land degradation issues through an integrated, participatory, and cross-sectoral approach aimed at root causes of land degradation and resolve inherently conflicting policies; (ii) evolve effective mechanisms to coordinate policies, programs, and actions by various sectoral agencies operating in the areas of agricultural and rural development, land, forestry and water management, environmental protection, finance, and planning; and (iii) mainstream stakeholder participation and introduce effective and transparent monitoring and evaluation systems to assess the outcomes and impact of efforts to combat land degradation and reduce poverty. The Partnership would also address the provisions of the Convention to Combat Desertification (CCD), as outlined in the National Action Program to Combat Desertification (CCD-NAP) and related plans, the Convention on Biological Diversity (CBD) as outlined in the Biodiversity Conservation Action Plan (BCAP), and the PRC's commitment to the United Nations Framework Convention on Climate Change (UNFCCC), including ratification of the Kyoto Protocol in August 2002.

2. Consultation and exploratory work was initially undertaken in the context of a small-scale technical assistance (TA) for the GEF partnership on land degradation in dryland ecosystems,¹ which was carried out from November 2000 to March 2001. The GEF Secretariat approved pipeline entry and a Project Development Facility–Block B (PDF-B) grant (\$350,000) on 28 March 2001. To match these funds, the Government requested ADB to provide TA for development of the Partnership.² Complementary TAs were also provided to assist the Government in developing strategic approaches to address land degradation at the national and provincial levels.³ At the national level, a framework, including options to address land degradation, has been set out under TA 3548. Many of the recommendations have been well received by the Ministry of Water Resources (MWR), the Executing Agency. The final report of this TA has been widely read at senior levels in PRC and has influenced the policy and strategy recommendations made in this report. In Gansu Province, one of the six provinces most affected by dryland degradation, progress towards a strategic province-wide approach is currently underway with high-level support in the province.

3. The process supported by these TAs has been instrumental in facilitating dialogue among key central agencies, including State Development Planning Commission (SDPC), Ministry of Finance (MOF), Ministry of Agriculture (MOA), Ministry of Water Resources (MWR), Ministry of Land and Resources (MLR), State Environmental Protection Administration (SEPA), Chinese Academy of Sciences (CAS), and the State Forestry Administration (SFA) on the need for an integrated ecosystem management approach to address land degradation in the western

¹ TA 3497-PRC: *GEF Partnership on Land Degradation in Dryland Ecosystems*, for \$100,000, approved on 5 September 2000.

² ADB TA 3657-PRC: *PRC-GEF Partnership on Land Degradation in Dryland Ecosystems*, for \$800,000, approved on 25 May 2001.

³ Complementary TAs comprised (i) TA 3548-PRC: *National Strategies for Soil and Water Conservation*, for which the final report was received in June 2002; (ii) TA 3663-PRC: *Optimizing Initiatives to Combat Desertification in Gansu Province*, which will be completed in September 2002; and (iii) TA 5941-REG: *Combating Desertification in Asia*, which is assisting the CCD process in PRC.

region.⁴ A Steering Committee chaired by Madam Jiang Zehui, Vice Chair of Committee of Population, Resources and Environment of the Chinese People's Political Consultative Conference, and comprised of senior representatives of these agencies directed the work of a Program Management Office (PMO) and its staff based in the SFA. A team of consultants was engaged under TA 3657 to undertake detailed field studies and report through the PMO to the Steering Committee and ADB. A representative panel of expert domestic advisers was also engaged to review reports.

4. The governments of the six western region provinces and autonomous regions most directly and seriously affected by dryland degradation—Inner Mongolia, Xinjiang, Qinghai, Gansu, Ningxia, and Sha'anxi—have also been closely involved in dialogue with the central Government, ADB staff, and the consultants in the preparation of a Country Programming Framework (CPF) presented in this report.⁵ The CPF has been developed in a participatory, country-driven process involving the key central government agencies and provincial/autonomous region governments mentioned above. The CPF is an agreement between PRC and GEF to commit resources to a phased set of priority activities over a 10-year period for combating land degradation in the western region covering

- (i) critical policy, legal, and regulatory instruments and the changes which will be needed to strengthen the enabling environment;
- (ii) the institutional arrangements and operational processes that will harmonize relevant sectoral Five-Year Development Plans and strategies of MOA, MWR, SEPA, MLR and SFA, and the CCD-NAP and BCAP;
- (iii) project selection and design criteria for prioritized packages of investments and technical assistance to advance environmentally sustainable development and global environmental outcomes in selected ecoregions;
- (iv) operational arrangements and increased capacity for the implementation of integrated ecosystem management;
- (v) land and ecosystem degradation monitoring and evaluation.

5. Participation in the CPF by multilateral and bilateral organizations and foundations, especially International Fund for Agricultural Development (IFAD), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and the World Bank and bilateral donors has been achieved through donor coordination meetings in Beijing and will be intensified and encouraged. The Global Mechanism of the UNCCD has been closely involved. This program framework has also benefited from formal review and feedback from the PMO and donor organizations, including the Food and Agricultural Organization (FAO), UNDP, UNEP, World Bank, Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ), Kreditanstalt fuer Wiederaufbau (KfW), and the Department for International Development (DFID). This feedback has been incorporated into the present document.

⁴ The western region covers six provinces (Sichuan, Guizhou, Yunnan, Sha'anxi, Gansu, and Qinghai); five autonomous regions (Tibet, Ningxia Hui, Xinjiang Uygur, Inner Mongolia, and Guangxi Zhuang); and Chongqing municipality.

⁵ This report is based on reports by consultants engaged under TA 3657 (footnote 2) and the complementary TAs (footnote 3), and extensive dialogue with the Government and its development partners. It was prepared by an ADB staff team comprising Bruce Carrad (Coordinator), Nessim Ahmad, Junmei Yang, Bruce Murray, Peter King, Xiaoying Ma, and Hong Wei. Valuable inputs were provided by many other ADB staff, including Zhang Yuejiao, Bob Everitt, John Whittle, Tahir Qadri, Ely Ouano, Hemanta Mishra, Edgar Cua, and David Sobel, with assistance from Spike Millington, Qi Lu, and Colin Rees (GEF consultants). Secretarial assistance was provided by Yurong Tao, Jing Zhong, and Caren Joy Mongcopa, and valuable assistance was provided by staff at ADB PRC Resident Mission (PRCM). Available: http://www.adb.org/Projects/PRC_GEF_Partnership.

6. This document is presented in three parts:
- (i) **Part 1** provides the background to land degradation in western PRC (including its global significance); the Government's strategy including policies, laws, programs, and plans for land degradation prevention and control; lessons learned; and the principal barriers that need to be overcome to effectively combat land degradation.
 - (ii) **Part 2** describes a phased, ten-year program, governed by a Country Programming Framework that consists of a combination of activities to improve the enabling environment and demonstration projects to test and replicate innovative approaches based on integrated ecosystem management.
 - (iii) **Part 3** describes an initial four-year project on strengthening the enabling environment and building institutional capacity that is being submitted to the GEF Council for approval in October 2002. This project forms an integral part of the overall program and should be considered in that context, including addressing the barriers identified in Part 1. Additional projects will be prepared and submitted individually for GEF consideration as the program develops.

PART 1. BACKGROUND

I. DIMENSIONS OF LAND DEGRADATION

1. Environmental degradation of air, water, and land resources threatens the quality of life of the People's Republic of China's (PRC's) 1.3 billion people. Increased Government awareness and commitment in recent years to addressing the nation's environmental challenges has drawn support from the international community which is keenly aware of the global implications of the PRC's size and potential.¹ Worsening land degradation, particularly in the dry and highly fragile environments of the impoverished western region seriously affects the welfare and livelihoods of nearly a quarter of the PRC's population. Land degradation and declining water resources directly threaten many critical habitats and endangered species. The incidence of sand and dust storms originating in western PRC and blowing across the borders from neighboring countries is increasing as a global problem and the Government recognizes that a major effort is needed to combat land degradation as a national development priority.

2. The PRC has many of the worst land degradation problems in the world, with over 40 percent of its land area, or between 3-4 million km², adversely affected.² Land degradation has been accelerated by human activities, especially over the past 50 years, and combined with the pressures generated by the country's rapid economic development, has had serious offsite effects ranging from sedimentation of rivers and reservoirs, deposition of blown sand onto roads and railways, dust storms affecting transport systems and the health of people, loss of biomass in grasslands resulting in poor livestock nutrition, and deforestation causing disturbances to the hydrological balance in river basins resulting in erratic river flows. The PRC's arable land per capita is 0.11 hectares (ha), very low by world standards. The shrinking arable land area and increasing demand for agricultural products pressure farmers to extract higher yields from their land, at the expense of stable soil structure and adequate organic matter content, leading to increased soil erosion.³ Annual soil loss is estimated at 5 billion tons (t). Over 90 percent of the 1.3 million km² of grasslands suffer from moderate to severe degradation, while demand for meat and other livestock products are rising as urbanization and standards of living increase. In the arid areas, rapidly increasing livestock numbers have exacerbated the spread of deserts.

3. The adverse impacts of land degradation trends are increasing, with the annual rate of expansion of degraded land in arid and semi-arid regions rising from 2,460 km² in the mid-1990s to 3,436 km² in late 1990s.⁴ Reports from provincial offices and field ecological monitoring centres set up under the Chinese Academy of Sciences (CAS) indicate that trends in land degradation due to wind erosion, salinization, and desertification are increasing with the rate of expansion rising from around 1,500 km² per year in the 1970s to approaching 3,500 km² per year in the late 1990s. Water tables in the vicinity of desert oases are falling by as much as 0.5 meter (m) per year. For example, in the Taklimakan Desert, natural riparian forests are dying as a result of changes in the groundwater regime. Many formerly stable grassland and shrubland areas have now become moving desert. Dust storms originating in western PRC increased from an average of 0.5 per year in the 1950s to 2.3 per year throughout the 1990s

¹ PRC currently has to feed 22 percent of the world's population, based on only 6.4 percent of the world's land area, 7.2 percent of the world's farmland and 5.8 percent of the world's annual water resources.

² Land degradation, as used in this document, includes wind and water erosion; overgrazing and loss of biomass in grasslands; deforestation; and related disturbances to the hydrological balance resulting in erratic river flows, excessive crop nutrient loss, soil fertility decline, poor soil drainage, and salinization.

³ TA 1615-PRC: *Monitoring and Management of Fragile Ecosystems in Shanxi-Sha'anxi-Inner Mongolia*, for \$600,000, approved on 27 November 1991.

⁴ State Forestry Administration. 2002.

and, with similar storms originating in Mongolia, have increased in severity in recent years regularly impacting on Beijing.⁵ These disturbing trends have led to reduced productive capacity of agricultural and pastoral lands, damage to roads and other infrastructure, and loss of watershed protection functions resulting in increased sedimentation of productive lands and reservoirs.⁶

4. These changes progressively degrade natural ecosystems and increase the risk of floods and drought. The social and economic consequences are profound, notably lower household incomes and increased poverty in many rural communities, high unemployment, and migration to other areas. Economic losses due to land degradation are estimated at Y64,200 million annually (Y176 million, equivalent to \$21.2 million, per day). Of this water erosion contributed Y40,000 million, wind erosion Y3,600 million, and salinization and loss of organic matter Y18,600 million. Sandstorms resulted in the loss of Y1,300 million annually. The indirect economic loss from land degradation is estimated at Y288,900 million annually, over four times as much as direct economic losses.⁷

A. Land Degradation and Poverty in the Western Region

5. Most land degradation is found in the vast western region that encompasses 6.8 million km² accounting for 71 percent of the total area of the PRC. It contains about 31 percent of the PRC's forested land and over 90 percent of the country's grassland. Land degradation of moderate to very severe intensity occurs in nearly half of the western region with 27 percent of the land currently experiencing wind erosion, 16 percent affected by water erosion, and 10 percent with actual desertification processes.⁸ The western region comprises 12 provinces and autonomous regions (page ii, footnote 4), many of which have a similar physical size and population to other Asian countries. In human development terms, some would belong to the category of least-developed nations.⁹ The western region supports a population of at least 350 million, including many of the country's poorest and most vulnerable people.¹⁰ Low land productivity is caused in part by fragile soils, water scarcity¹¹ and erratic rainfall patterns. Desertification is concentrated in the northern and northwestern regions lying in the arid, semi-arid, and dry sub-humid zones.¹² There is a high degree of overlap between ecologically

⁵ Two dust storms in Beijing in March 2002 reportedly blew in 26,000 and 30,000 tons (t) of sand and dust, respectively, causing increased respiratory problems and extra cleaning costs for the city (*China Daily*. 23 March 2002).

⁶ The Yellow River is well known for its very high annual sediment load of 1.6 billion t. The annual sediment load of the Changjiang River is also high at nearly 500 million t.

⁷ *Chinese Journal of Population, Resources and Environment*. 2002. Vol. 12, No.2.

⁸ State Environmental Protection Administration (SEPA). 2001. *Atlas of Remote Sensing: Investigation on Eco-Environment in Western China*. Beijing: SEPA.

Ministry of Water Resources (MWR). 2002. *The Proclamation of Soil and Water Loss in China*. Beijing: MWR.

⁹ UNDP. 2002. *China Human Development Report 2002: Making Green Development A Choice*. Oxford University Press.

¹⁰ Absolute poverty in the western region was estimated at the end of 2000 to afflict over 30 million people. Of the 592 key poverty counties designated by the State Council Leading Group Office of Poverty Alleviation and Development in 2001, 375 are located in the western area. Cua, Edgar A., and Lan Wang. 2002. *Notes on the Western Development Strategy*. Manila: ADB.

¹¹ As an example, groundwater levels in Gansu province are dropping by up to one meter per year.

¹² The CCD defines desertification as "land degradation in arid, semi-arid, and dry subhumid areas resulting from various factors, including climatic variations and human activities." The predominant factor causing the advance of desert fronts is wind erosion, although the actual causes of desertification are numerous.

sensitive areas and poverty counties in western PRC.¹³ Predominantly rural, these areas have low population densities, large populations of minority peoples, a high reliance on grazing and agriculture, a high poverty incidence, huge mineral deposits and arid and fragile environments. The massive territorial expanse, long distances between population centers and the eastern markets, poor economic and social infrastructure coupled with lower institutional capacity than the more advanced coastal areas, severely constrain western development.

6. The PRC has had considerable success in reducing absolute poverty since the adoption of a broad program of rural economic reforms in 1978. Widespread participation in the subsequent reform-driven economic growth, together with a well-funded national poverty reduction program, has brought about a major reduction in absolute poverty in rural areas during the past 20 years. However, almost 50 percent of all counties in the PRC that are ecologically fragile are located in the western region. Here desertification and dust storms have led to increases in respiratory diseases and exposure to wind blown salt and dust has caused widespread ill-health. Although some peasant families have overcome food and clothing problems, they are still vulnerable to the risks and challenges caused by environmental deterioration. Economic growth in poor areas is seen as a major instrument in overcoming poverty, usually based upon expansionist agriculture policies that have promoted food production. However such growth has also led to land degradation, e.g., grassland deterioration and increased soil erosion. When wealthy farmers place unsustainable pressure upon land because they graze large flocks that contribute to land degradation, poorer families have no option but to rely upon locally cut firewood or straw for cooking and heating and cut grass for fodder. Collectively these activities have profound and destructive impacts upon vegetation in arid localities and contribute markedly to land degradation.

7. The traditional role of women in rural communities in the western provinces continues to be largely menial and women are thought to suffer more than men from land degradation in terms of poorer health, nutrition, employment and income opportunities. Women's participation in public affairs at the community level is also weaker. Ethnic minorities, a majority of which live in the western region, often reside in remote and mountainous regions and suffer harsh environments where a high incidence of poverty prevails.

8. Controlling land degradation has a high and growing political profile, due to increasing national concern over its impact on the country's limited natural resource base and consequent impacts upon populations. Current rates of land degradation are seen as posing an increasing threat to the future economic welfare of the nation. There is an increasing willingness to acknowledge that much of the current land degradation is due to poor land use decisions and flawed development strategies over a long period of time, rather than climate changes or other natural factors. For example, under previous food self-sufficiency policies the production frontier pushed well into areas that are prone to natural hazards, especially in the western region. This led to conversion of unsuitable land, former forests, grasslands and wetlands for food production and ultimately led to the degradation of much of this land, and fostered poverty.

9. Recognizing that there is a severe problem, the PRC has invested increasing resources in the battle against land degradation. From the first half of the 1990s to the second half, total investment in land degradation control programs almost tripled to over Y54 billion, while investment by the central government has increased by more than 8.5 times.¹⁴ However,

¹³Voegelé, Juergen. 2001. *Combating Desertification in Western China: A Policy Perspective*. Washington, DC: World Bank.

¹⁴TA 3548-PRC: *National Strategies for Soil and Water Conservation*. June 2002. Final Report, p.iii.

despite this growth in expenditure, the Government is concerned over inefficiency and the lack of a coordinated approach within the present institutional system to tackle cross-sectoral issues. During 1979-2000 the Government budget for forestry and ecological protection projects amounted to Y20.6 billion of a total investment of up to Y35.4 billion. A further Y292 billion (\$35.2 billion) will be committed over the next 30 years under the Long Term Plan for Soil and Water Conservation in the Western Region, with a focus on controlling soil erosion in the upper and middle reaches of the Yellow and Yangtze rivers. The Government is investing Y96.5 billion under the *Natural Forest Protection Program* over a period of 10 years. The Western region is one of the Program's main focal areas. Planned 2002 Government expenditures in the six most degraded dryland areas (Gansu, Inner Mongolia, Ningxia, Qinghai, Sha'anxi, and Xinjiang) are anticipated to be Y8.8 billion (approximately \$1 billion, almost twice the 2000 level). Clearly, the opportunity to utilize this huge financial commitment and additional resources from the international community as efficiently and effectively as possible is very much in the interest of reversing long-term trends.

II. THE LEGAL AND INSTITUTIONAL FRAMEWORK

10. Legislation for environmental protection was established in the PRC in 1979 when the Environmental Protection Act, the basic environmental law, was promulgated. Laws and regulations for environmental protection and natural resources management have since been issued. Besides the basic environmental law, there are more than twenty special laws related to land degradation prevention and control that define and regulate institutions responsible for combating land degradation. However, there is substantial variation in the depth and capability of individual provisions within these laws to achieve the end objective, as well as duplication between the various environmental laws. For example, there are many overlapping roles, functions, and activities between the provisions and objectives of the Water and Soil Conservation Law, a central piece of environmental legislation, and the sectoral laws for agricultural development, forest management, environmental protection, grassland management, and desertification control.

11. Each law has been developed to provide specific state level institutions (and their provincial and local government counterparts) with a legal framework within which they can define their institutional mandate, responsibilities, priorities and policy objectives.¹⁵ However this leads to many conflicts between the different institutions. Within all of these environmental laws, there is an absence of cross-linking mechanisms for inter-institutional cooperation and collaboration, in tackling what is a multi-dimensional problem that cuts across different sectoral development interests. The Water and Soil Conservation Law, for example, is primarily concerned with soil erosion and currently lacks the capacity to address the wider soil environment in which soil erosion is a consequence of other land degradation processes. Likewise, the Desertification Law is primarily concerned with re-vegetative action to address

¹⁵ The key institutions are MWR, SFA, MOA, MLR, SEPA, MOF, SDPC, Ministry of Science and Technology (MST), research institutes under the CAS, universities, and community organizations, nongovernment organizations, and private companies. Relevant laws include the Forest Law, Water Law, Agriculture Law, Flood Control Law, Land Administration Act, Grassland Law, Marine Environmental Protection Law, Wild Animal Protection Act, Wild Plants Protection Act, Water and Soil Erosion Control Act, Water Pollution Prevention and Control Act, Solid Wastes Management Act, Regulation on Natural Reserves, and Desertification Prevention and Control Law. Several new laws and modifications of existing laws are also expected, including a Law of Natural Resources Conservation, a Renewable Energy Law, a Strategic Environment Impact Assessment Law, a Yellow River Law, amendments to the Water Law Environmental Protection Act, the Fishery Law, the Grassland Law, and the Land Administration Act.

wind-erosion problems but lacks provisions to deal with other land degradation processes. There is no overall integrating law covering natural resources conservation and management.

12. Existing land tenure reforms, in particular the adoption of the individual household responsibility system, and the auctioning of wastelands with 30-50 year leases, have increased production and investment in the prevention and control of land degradation. However in many areas there is still uncertainty among farmers as to the security of their user rights, particularly with regard to basic farmland suitable for grain production. This discourages them from making long-term land management improvements, given that they feel they may not be the ones to ultimately reap the benefits of such investments. Strengthening the land tenure reform process is therefore one element of a strategy for controlling land degradation.

13. The overlapping roles, conflicts, and inconsistencies indicate an urgent need to review the legal and institutional framework and define progressive, long-term actions to tackle the pervasive challenges posed by land degradation.

III. GOVERNMENT POLICIES AND PLANS

14. PRC has a number of different policies, developed at different levels of government, with the aim of controlling land degradation problems. However, there are inadequate links between development policies and legislative and statutory instruments, with many contradictions between policy objectives and legislative objectives. While sustainable land management is referred to in specific policies, there is no clear definition of what this means. Consistency is needed, for example, in the following areas:

- (i) Controlling soil erosion and desertification are regularly highlighted but there is far less concern over salinity, acidification, and nutrient decline, and no recognition of the problems associated with the deterioration of soil biological and physical properties.
- (ii) Economic development and environmental management are priority concerns running through all national and sectoral development policies. However economic development responsibilities commonly have precedence over those for environmental management and the emphasis of most policies is still on economic growth over sustainability.
- (iii) The current legislative and policy environment has a national focus. There are usually provisions for some regional differentiation, with different sets of planning and development strategies and objectives for the more developed economy in the eastern region, and the less economically developed central and western regions. However, there is only limited adjustment for provincial differences, particularly with regard to variations in ecological conditions or economic development opportunities. Thus, variability at the local level, a fundamental concern in a modern approach to land management as practiced in developed countries, is not adequately appreciated in the application of approaches. The Government has also recognized this problem and has placed high priority on revising the legislative framework to better coordinate development efforts and to achieve the necessary consistency of approach.

A. The Western Development Strategy

15. In June 1999, under provisions for development plans and programs, the Government officially launched the Western Region Development Strategy (WDS), which has two main objectives: (i) reduce economic disparities between the western and other regions; and (ii) ensure sustainable natural resources management.

16. The PRC uses geographic targeting to help ensure that the benefits of economic growth are inclusive and pro-poor. Because the incidence of poverty in the central and western provinces is significantly higher than in the eastern coastal region, promoting development in the poor interior provinces is essential to win the fight against poverty. The WDS will help to place these provinces first on the development agenda. Steps have also been taken to improve geographic targeting at the county level. By the end of the 1990s only about half of the absolute poor lived in poverty counties. Some of the poverty counties had reached a stage of development where they were no longer poor. The ten-year poverty strategy adopted in May 2001 proposed redefining the counties that would be eligible for poverty reduction assistance. In December 2001, 592 newly-developed key working counties replaced the previous poverty counties, with a focus on the central and western regions. However, the average size of a county exceeds 4,000 km², a rather large area. For some types of poverty reduction programs, villages rather than counties should be targeted. To help better target poverty reduction assistance, the Leading Group of the State Council for Poverty Alleviation and Development will implement a system to target poor villages that involves villagers in a participatory approach.

B. Other Government Plans and Programs

17. Past and present national and regional development plans have provided the goals and guiding policies within which projects and programs are developed for economic and social development and ecological protection. For more than a decade, PRC has known its natural resources have been deteriorating and has devoted considerable financial and other resources to reverse the trends. A fuller treatment of these plans is available in King, 2001.¹⁶ Some of the most important plans and programs are:

- (i) **National Plan for Ecological Environment Construction (1998-2050).** Coordinates water and soil conservation with national economic development. It aims to improve living standards and prevent water and soil loss within the parameters of land use policy.
- (ii) **The Natural Forest Protection Program.** Commenced in 1998 and introduced a ban on industrial logging in natural forests throughout most of PRC. It applies to all forests in the western region and is the largest nationally funded forest conservation program in PRC.
- (iii) **National Land Conversion Program.** Introduced in 2000 for western PRC to reverse the degradation of vegetation and soil erosion by converting steep lands that are presently cultivated or barren, into forest, shrub, or grassland cover by providing a combination of food and cash subsidies over a period of eight years.

¹⁶ ADB Position paper on Land Degradation in People's Republic of China - GEF OP12, Integrated Ecosystem Management.

- (iv) **Small Watershed Program of the MWR.** Aims to improve technical management of small and modest sized watersheds.
- (v) **Desertification Prevention and Control Programs.** Includes (a) the Three-north Shelterbelt System Program; (b) the Plain Farmland Shelterbelt System Program, (c) the Taihang Mountain Afforestation Program, (d) Shelterbelt Forests in the Middle and Lower Reaches of the Yangtze and Yellow Rivers and Taihu Lake Catchments, and (e) the National Program for Prevention and Control of Desertification. The media has been used to help raise public awareness on combating desertification. A policy was formulated to extend government discount credits to projects on desertification control and to exempt taxes over a limited period on benefits acquired from exploiting barren mountains and sandy land. In recent years, a policy of auctioning the 'Four Barrens' (barren mountains, valleys, deserts and other land) was introduced to encourage farmers to obtain land tenure so that they could rehabilitate and develop productive use of these barren lands.
- (vi) **National Action Program to Combat Desertification (CCD-NAP).** Has been drafted.¹⁷ It focuses on 265 priority counties in western PRC. Implementation is over three phases: 2001-2010, 2011-2030, and 2031-2050. A key objective of CCD-NAP in its first phase is to control 22 million ha of degraded land by 2010. A "blue book" of investment programs, submitted in 2000 by provincial authorities to the CCICCD for consideration and support by prospective development partners, lists 24 projects covering priority areas, with a total budget of \$1.26 billion.
- (vii) **Biodiversity Conservation Action Plan (BCAP) for PRC.** Formulated in response to CBD, and the Country Study Report on Biodiversity in China, which carried out comprehensive assessments of biodiversity, indexed endangered animals and plants, and put forward policy suggestions regarding the strengthening of national capacity for biodiversity protection and the sustainable utilization of biological resources.
- (viii) **National Wetlands Conservation Action Plan.** To enhance the provisions of the Ramsar Convention, this has been approved and includes the designation of important wetlands as national reserves.

18. With a few exceptions, these efforts have achieved less than intended with respect to natural resource conservation and management. The overriding development strategy has emphasized economic growth with insufficient attention to environmental sustainability. For PRC to adequately protect its basic natural resources, it needs to increase the priority given to environmental protection and management and to overcome contradictions between different sectoral development policies, which adversely affect moves to sustainable natural resources management.

¹⁷ CCICCD. April 2000. *China National Report on the Implementation of the UNCCD and National Action Program to Combat Desertification*.

C. Tenth Five-Year Plan

19. The Government's commitment to sustainable natural resource management is reflected in the Tenth Five-Year Plan, 2001-2005 (10FYP). The 10FYP calls for (i) attaching importance to the sustainable utilization of water resources; (ii) protecting land, forests, grassland, marine, and mineral resources; and (iii) improving environmental quality in rural and urban areas. Of the 18 key national projects identified in the 10FYP, 14 are in areas related to environment and natural resources management: (i) protecting natural forests; (ii) returning cultivated lands to forest or pastures; (iii) improving grasslands affected by desertification, degradation, and salinization; (iv) the shelter forest system; (v) greening projects for roads, railways, rivers, etc.; (vi) comprehensive treatment of water pollution; and (vii) control of air pollution. National and sector plans include policies and programs for the conservation and sustainable use of natural resources, particularly land and water. A central feature of this Country Programming Framework (CPF) is that it will aim to harmonize aspects of policies and plans concerning land degradation for the 11th Five-Year Plan, commencing in 2006. The WDS sets out environment protection and natural resource management as key intervention areas. Combating desertification and increasing the amount of arable land and ecological protection of grasslands, forests, and woodlands are given particular attention. Nevertheless, WDS is still in its initial stage of implementation and the policy statement has to be made operational with respect to scale of investment requirements and an implementation timetable. The CPF is expected to contribute to this process.

D. Donor-Supported Projects in the Western Region

20. Land degradation has become a focal theme of donor support over the past decade. Examples in the western region are: (i) World Bank (WB) Supported Loess Plateau Project in Sha'anxi and Gansu Provinces; (ii) support to the Three Norths Afforestation Program extended by the Federal Republic of Germany; (iii) Qinghai Natural Resources Management Project assisted by the Government of Australia; (iv) Canadian Government support to natural resources development in Inner Mongolia; (v) Government of Japan support to reforestation; (vi) United Kingdom support for the Water Sector Development Project in Gansu Province; (vii) Swedish Government support for Water Use Efficiency in Sha'anxi; (viii) UNDP support for Development of Capacity to Save Water Use Efficiency in Ningxia and the Yellow River Basin; (ix) UNEP/GEF Nature Conservation and Flood Control in the Yangtze River basin; (x) Belgian-supported Afforestation, Forestry Research, Planning and Development in the Three North Region; (xi) FAO technical support in forestry and agroforestry; (xii) GTZ-supported Combating Desertification in Ningxia; and (xiii) UNDP's Grassland Rehabilitation project in Hebei and Inner Mongolia (under development). World Bank-supported work in fiscal expenditure reform, notably at provincial level, will also be very relevant. The total value of grants provided by the donors under the Ninth and Tenth Five Year Development Plans is estimated to be \$100 million, whereas loan-funded projects under these plans is estimated to be in the range of \$ 50 million-\$100 million. Loan-funded projects currently under consideration to address ecological problems in the western region include the World Bank/GEF-supported Gansu-Xinjiang Pastoral Development Project.

E. Coordination

21. Coordination of the above plans and programs is a major challenge. Coordination among ministries and commissions can be effected through leading groups. In the past there was the National Leading Group for Water and Soil Conservation chaired by a vice-premier. However, this ceased to function some years ago. Although inter-agency committees still function at the provincial and county levels, they need strengthening at the central government level. Regional soil and water conservation councils exist within the middle reach of the Yellow River and the upper reach of the Yangtze River, and serve as high-level inter-provincial decision-making bodies with responsibility for coordinating and organizing soil and water conservation related activities.

22. An institutional framework exists to coordinate the activities of 18 ministries and state commissions associated with efforts to combat land degradation in PRC.¹⁸ To meet PRC's obligations under the UNCCD, the China National Committee for the Implementation of the Convention to Combat Desertification (CCICCD), a National Coordinating Group and Steering Committee to Combat Desertification have been established, consisting of 18 departments of the State Council, with an office and secretariat housed in SFA. Also established in 1996 were the China National Desertification Monitoring Centre, the China National Training Centre for Combating Desertification, and the China National Research and Development Centre for Combating Desertification. The CCICCD has a mandate to (i) coordinate various sectors combating land degradation, (ii) develop medium and long-term action strategies, (iii) prioritize financial resources, (iv) approve the guidelines and policies for implementing the CCD, and (v) review local area development plans submitted by various levels of governments.

23. Deficiencies in the CCD-NAP process and the existing institutional arrangements include (i) failure to mainstream CCD objectives within development strategies and ensure policy coordination across sectors; (ii) a focus on activities mainly within the responsibility of SFA, such as revegetation of desert margins and planting of shelterbelts, rather than providing an integrating framework for plans and programs of all relevant ministries; (iii) undue emphasis on achievement of top-down targets and technical solutions; (iv) insufficient coordination among line agencies; and (v) lack of sufficient attention to creating an enabling environment for improved resource management by resource users. In addition, opportunities have been missed to achieve synergies among land degradation control, biodiversity conservation, and climate change mitigation that could be realized through integrated ecosystem management approaches (Box 1). As a result of these deficiencies, the CCD-NAP does not yet provide an adequate framework for resolving inconsistencies and policy conflicts arising from sectoral plans.

¹⁸ State Forestry Administration, Ministry of Foreign Affairs, State Development Planning Commission, Ministry of Science and Technology, Ministry of Finance, Ministry of Railway, Ministry of Communications, Ministry of Land and Resources, State Environmental Protection Administration, Ministry of Agriculture, Ministry of Water Resources, People's Bank of China, Chinese Academy of Sciences, State Economic and Trade Commission, Office of the State Council Leading Group on Poverty Alleviation and Development, Office of Integrated Agricultural Development Leading Group under the State Council, State Administration of Taxation, and China Meteorological Administration.

Box 1: Integrated Ecosystem Management

Ecosystem degradation, of which land degradation is a major component, is caused primarily by an interacting set of socioeconomic factors (such as overexploitation of natural resources, poverty, and population pressure). Ecosystem management attempts to address these by influencing the ways in which local people (and others) use natural resources and benefit from viable ecosystems.

Integrated Ecosystem Management (IEM) is a holistic approach to addressing the linkages 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 (such as crop production, nomadic and sedentary livestock raising, and provision of infrastructure). It recognizes that people and the natural resources they depend upon, directly or indirectly, such as land, water, and forests, are inextricably linked. Rather than treat each resource in isolation, IEM offers the option of treating all elements of ecosystems together to produce multiple benefits. IEM has been incorporated into a number of international conventions concerning environment and development and international experience is beginning to demonstrate the benefits of this innovative approach.

In this PRC-GEF Strategic Partnership, GEF financing will help PRC's transition to IEM by building on promising initiatives and addressing the constraints limiting the adoption of integrated approaches.

IEM offers useful and pragmatic insights into optimizing ecological and socioeconomic benefits while maintaining and restoring ecosystem structure and functions. To address the need for multi-sector collaboration, creating partnerships with a variety of groups is essential. Partnerships include those with local communities; local, regional, and national administrations and government agencies; private sector; NGOs; and international donor organizations.

IV. LESSONS LEARNED

24. The PRC has primarily relied on sector approaches to address a multi-dimensional problem that is worsening in the western region. In Government programs there has been an absence of developing solutions that are based on an integrated approach to natural resource management. International experience, on the other hand, strongly suggests a multi-dimensional approach is appropriate to achieve long-term success in combating land degradation.¹⁹ Some donor-supported projects have adopted an integrated approach, but these have not been adequately mainstreamed. The Government has learned the following lessons that are relevant to future land degradation work.

- (i) **Institutional coordination and plan harmonization.** There is a compelling need for institutional coordination and harmonization at central, provincial, and local levels of land degradation policies, legislation, programs, and budgets. However, experience with the institutional framework that currently exists to coordinate the activities of 18 ministries and state commissions associated with efforts to combat land degradation in PRC (under the CCICCD) clearly shows the difficulties that might arise if one line agency is charged with

¹⁹ Yang, Youlin, Victor Squires, and Lu Qi, eds. 2001. *Global Alarm: Dust and Sandstorms from the World's Drylands*. Asia Regional Coordinating Unit, Secretariat of the UN Convention to Combat Desertification, United Nations (UNCCD, UNEP, UNESCO, FAO, ESCAP).

coordinating the activities of others at the same administrative level. A prominent lesson to be learned is that under the current administrative structure and culture, efficient inter-agency coordination can only be achieved if the function is properly defined and carried out in a cooperative manner. Developing institutional capacity, including research capacity, to formulate and implement integrated approaches and overcome constraints to involving existing technical capacity in the planning process are urgent priorities for western region provincial governments.

- (ii) **Consistent legislative and regulatory framework.** Although emphasis will be given to devolving planning and implementation responsibility to the lowest possible level, there is substantial duplication and overlap in environmental legislation that need to be addressed. In the short term, the Water and Soil Conservation Law needs to be clarified with respect to statutory responsibilities and the revised Water Law needs to be enacted. Another priority is the enforcement of the new Desertification Law. The Desertification Law contains attractive provisions concerning incentives for private sector involvement in contributing to the restoration of degraded ecosystems and for public participation, but is not yet operational. It would be desirable to combine both laws as a first step towards creating unified land degradation legislation. In the medium term, formulating a single Integrated Natural Resources Conservation and Management Law is desirable. Land tenure arrangements and land use rights for rural communities require further reform to promote a long term perspective on natural resource exploitation.
- (iii) **Devolving implementation responsibility.** Government has recently taken steps to devolve more implementation responsibilities to the provincial and local levels. This will result in opportunities that need to be explored actively. While harmonizing and rationalizing natural resources management requires reform of the existing sectoral mandates and responsibilities, it is also necessary to strengthen local capacities to take on more implementation responsibilities. Greater stakeholder participation in decision-making can play a vital role in fostering local governance over resources management, reducing institutional barriers and developing successful programs. The weak financial position of poverty counties in the western region (often the locations of severely degraded environments) requires fiscal reforms to improve provincial revenue generation and collection, as well as greater transfer of funds to the lower levels of government for programs that address land degradation. The use of fiscal and other incentives to stimulate community and private sector involvement is still largely inadequate, although some provisions are in place (e.g., under the new Desertification Law).
- (iv) **Consistent policies to address root causes.** Policy consistency at the local, provincial, and central levels will be promoted through greater emphasis on understanding, identifying, addressing, and monitoring the root causes of land degradation and not just addressing its symptoms. Root causes are the underlying reasons why inappropriate types of land use and management are practised. Root causes include the socio-economic circumstances of rural land users (poor farmers, foresters, and herders) and the social, cultural, economic and policy environment in which they operate (e.g., population pressure, poverty, promotion of inappropriate or poorly understood 'modern' farming methods, inappropriate development policies, weak capacity within institutional support services, inadequate regulatory environment, etc). For example, the agricultural land development policy that requires losses of agricultural land caused by urban or industrial development in one part of the PRC to be compensated through land development elsewhere is not in the interest of sound environmental management. A review of this policy is needed.

- (v) **Sustainable approaches.** Efforts to combat land degradation, notably in land use planning, have led to the development and application of standardized, sometimes inappropriate land management or technological treatments, irrespective of the geographic, ecological, social, or economic conditions of sites. Engineering solutions ('ecosystem construction') are still at the forefront of resolving ecological problems. Approaches that involve an integrated and participatory approach at the ecosystem level are likely to be more effective and sustainable in the long term than capital-intensive engineering solutions. Action that addresses land degradation needs to show linkages to major national initiatives and programs that enjoy strong governmental support. "Stand alone" tree planting or sand dune fixation initiatives have not been very effective.
- (vi) **Data quality.** Information on key land degradation indicators is often of poor quality, incomplete, overlapping, conflicting, inaccurate or based on poor methodologies. Agencies involved in monitoring and reporting land degradation trends use different definitions of land degradation or focus only on certain aspects of the problem (e.g., water erosion). There is a need to adopt an effective coordinated approach using standard procedures to obtain information on trends in land degradation so that decision-making can be based on accurate, timely, and universally acceptable data.

V. BARRIERS TO MORE EFFECTIVELY COMBATING LAND DEGRADATION

25. Despite firm commitments and considerable resources from the Government, there remain significant barriers to effectively combating land, water and ecosystem degradation in the PRC. Drawing upon the lessons learned from past experience, approaches to overcoming the main barriers are needed. The main barriers are as follows:

- (i) **Weak policy and legislative framework.** Compartmentalized policies and plans are a consequence of a compartmentalized institutional framework, as reflected in the mandates, roles and responsibilities concerning land degradation embodied in various laws. The result is a body of law containing overlaps and gaps. In addition, legislation could benefit from increased incentive-based measures that promote self-regulation and promote a monitoring rather than enforcement role for local officials. At local levels, where capacity is weak, regulations are poorly understood, inconsistently applied, and subject to varying interpretations. Land tenure arrangements and land use rights for rural communities require further reform to discourage overexploitation and environmental damage and promote a long term perspective on natural resource use. A review is needed to identify areas for improved policies and laws; strengthening linkages; and monitoring the impacts of policies, laws, and regulations.
- (ii) **Institutional and sector-driven policy fragmentation.** Constituent elements of an ecosystem are currently treated in isolation from each other, based on institutional mandates. For example, water is treated differently depending on whether it is managed for livestock, irrigated agriculture, forestry, or domestic consumption. Likewise, different agencies deal with soil erosion, depending on whether it is water-induced (MWR) or wind-induced (SFA). However, most ecosystems suffer from a combination of related water-induced and wind-induced erosion. The agency responsible for desertification (SFA) is not responsible for the management of grasslands (MOA), despite grassland degradation being the major cause of desertification. The result is poor institutional coordination and lack of clear authority and control of natural resources leading to institutional conflicts and poor implementation of policies and legislation. Problems related to consultation,

cooperation and coordination between different agencies in developing and implementing long term plans inevitably lead to duplications and even contradictions. Not only is this ineffective in achieving sustainable ecosystem management, but it also results in ineffective and inefficient use of resources. There is a compelling need for institutional coordination and harmonization at national, provincial, and local levels of land degradation programs and budgets to maximize the impacts on the ground.

- (iii) **Poor application of lessons learned from previous experience.** PRC has a long history of land degradation prevention and control projects. Yet there has been little systematic monitoring of the social, economic, and environmental impact and sustainability of these efforts, to better understand what has worked and why. PRC has undertaken significant research on combating land degradation over the last fifty years, focusing largely on technical solutions, with relatively little emphasis on long-term sustainable use. An example is the mandated planting of trees with little attention paid to incentives to promote survival of the trees, such as watering and prevention of destruction by livestock. Government agencies frequently complain that the research is academic and is of little use in developing or guiding programs. Others note that there is little systematic attempt to gather policy-relevant data and to incorporate the results of research into planning processes.
- (iv) **Undeveloped participatory approaches to address the root causes.** The PRC's emphasis on land degradation control has been on treating degraded land through the top-down application of "engineering" solutions ("ecological construction"). This approach has typically not involved extensive participation of affected populations nor has it attacked the root causes of land degradation, which have to do with addressing poverty and providing improved alternatives to unsustainable land practices. Land degradation actions are likely to be more effective if delivered as part of a comprehensive poverty alleviation framework, including public awareness programs, social and economic infrastructure, and sustainable livelihood promotion. This is particularly the case given the high correspondence between fragile ecosystems susceptible to severe land degradation and the incidence and distribution of poverty. Talent and professional expertise exists in research institutes, universities, and amongst other stakeholders, and needs to be mobilized in drawing up plans and implementing them.
- (v) **Poorly developed locality-specific land use planning.** Devolving responsibility for restoring degraded lands to the local government level needs to be based upon two requirements: (i) community participation; and (ii) appropriate land use planning tools/mechanisms which can be translated in the Five-Year Development Plans at County and Township level, where implementation capacity is weakest. Land-use planning is not sufficiently flexible to cater for the incorporation of community needs and central investment programs need to be adapted to local needs.
- (vi) **Perverse incentives.** Because of severe food shortages in the past, traditional, production-oriented approaches to development have resulted in a number of 'perverse incentives', which impinge directly and indirectly on land degradation. Although water tariffs now better reflect real costs, water, especially ground water, is still not priced at a level that enables recovery of depletion costs. Such distortions encourage the extension of irrigated areas into unsuitable environments, increase salinization, and support an increasing livestock population because of the availability of fodder. Likewise, fees for lease contracts of communal land do not generally reflect the real value of land and therefore encourage high input—low output forms of land utilization. Now that the PRC

has achieved food self-sufficiency, it has the opportunity to remove the perverse incentives resulting from the dominance of production in development thinking.

- (vii) **Inadequate financial arrangements and incentives.** Although government expenditures have increased in recent years and investment mechanisms have evolved as a result of the WDS, the counties most seriously affected by land degradation are the poorest, with a low revenue base. While larger and well-managed fiscal transfers from the central government are vital, and donor support is needed, financial reforms and mechanisms need to be developed to promote sustainable land use and improve the efficiency with which existing funds are used. Examples include (i) private investment in rural enterprises using improved production oriented (but conservation effective) field level farm and/or forest management practices; (ii) develop sustainable financial systems to provide effective services to rural areas; (iii) levy fees on offsite (downstream) beneficiaries, to pay for onsite (upstream) conservation. Mechanisms are required for charging such fees (e.g., a levy on water user fees, hydro-electricity bills, etc); (iv) fund land degradation control from the development and operation and maintenance (O&M) costs of major infrastructure development projects, such as roads, railways, dams, water transmission canals, irrigation facilities, hydropower plants, oil and gas pipelines, urban water supply projects, etc., as their long term viability may be threatened by erosion, sedimentation, flooding, burial by drifting sand or landslides; and (v) create river basin and provincial level trust funds using the money raised from the imposition of levies on the offsite/downstream beneficiaries, to support the planning and implementation of land degradation control programs as part of the public contribution to the costs of upstream conservation.²⁰

26. Reducing poverty and promoting sustainable development is a priority among nearly all international donors. While the donor community has supported programs to combat land degradation, its efforts have not been well coordinated and lessons have not been effectively learned in the PRC. The barriers described above need to be overcome to promote investment and maximize effectiveness of investments in reducing poverty and combating land and natural resource degradation. Actions to develop a strategic mechanism for overcoming these barriers and promoting more effective investment are needed.

VI. GLOBAL SIGNIFICANCE

27. The PRC has more of the world's known biodiversity within its borders than nearly all other countries on earth, and a higher proportion of endemic species than any other. The PRC ranks in the top three countries in the world for biodiversity including 30,000 species of seed plants, 6,300 species of vertebrates, and 3,862 species of fish.²¹ There are 17,300 endemic seed plants (58 percent of the total in the PRC) and 667 endemic vertebrates (10.5 percent). The six most degraded areas in western PRC (Gansu, Inner Mongolia, Ningxia, Qinghai, Sha'anxi, and Xinjiang) have no less than 5,000 recorded plant and animal species, which is less than a tenth of the rest of the PRC (>50,000 species not including invertebrates, lower plants, fungi, bacteria, and actinomycetes), but it has a higher percentage of endemics which are endangered in their range. The Qingzang Plateau in the western region, known colloquially as the last intact kingdom of animals in the world, has 43.7 percent of the terrestrial vertebrates of the PRC and 40 percent of vascular plants.

²⁰ TA 3548-PRC: *National Strategies for Soil and Water Conservation*. Final Report. June 2002.

²¹ State Environmental Protection Administration. 1998. *China's Biodiversity: a Country Study*. Beijing: China Environmental Science Press.

28. While the western region has fewer species than the rest of the country, its endemic species richness is higher than elsewhere. However, it is associated with a high degree of threat of extinction. Many plant species are ancient, relictual species, like the animal species, or are becoming rare, and have enormous scientific and commercial worth (tourism, pharmaceuticals, construction materials). About 700 endemic plant species (16 percent of all species in the PRC) and 199 endemic vertebrate species (28 percent of all species in the PRC) are currently recorded. Desert endemism at 16-23 percent is much higher than in most other parts of the PRC (2-14 percent). Many of these species are threatened in the wild. Among the plant examples are in the genera *Ephedra*, *Salsola*, *Ammopiptanthos*, *Nitraria*, *Zygophyllum*, *Reaumuria*, *Tamarix*, *Brachanthemum*, *Haloxylon*, *Populus euphratica*, and *Cynomorium*; and among the animal species, *Camelus bactrianus*, *Cervus elaphus*, *Procapra przewalski*, *Ursus arctos*, *Testudo horsfieldii*, *Phrynocephalus* spp., *Bufo viridis*, and *Gazella subgutturosa*. Some of the species that are presumed extinct are *Betula halophila*, *Glycyrrhiza triphylla*, *Panthera tigris*, *Equus przewalski*, *E. ferus*, *Saiga tatarica*, and *Aspiorhynchus laticeps*.

29. *China's Biodiversity: A Country Study*²² reinforced the need to prioritize specific ecosystems and species-critical biodiversity regions. The existing 85 established nature reserves in the western region (12 percent of total reserves) in an area of about 24 million ha (54 percent of all reserves in the PRC, by area) cover all of the ecoregions²³ identified in the *Country Study*, and the World Wide Fund For Nature (WWF) classification of ecoregions, although much of the biodiversity lies outside protected areas in the western region. These critical biodiversity regions are those close to Myers biodiversity hotspots and are based on estimates of species richness and the number of endemics but not status of threats like the WWF classification. However, the definition of ecoregions is incomplete and ill defined. Clarification of ecoregion definition criteria, together with new field studies in localities where biodiversity is inadequately described is required. The greatest threat to biodiversity in the PRC, including the western region, is habitat loss through forest and woodland clearance, desertification, and other forms of land and vegetation degradation. As natural habitats shrink and become isolated, individual species become increasingly threatened by direct or indirect human exploitation.

30. According to SEPA, desertification is occurring mainly in five provinces: Xinjiang Uygur Autonomous Region, Inner Mongolia Autonomous Region, Gansu Province, Qinghai Province, and Ningxia Hui Autonomous Region covering 30 priority ecosystems identified by BCAP. BCAP stresses that conservation of the established nature reserves is not rational as much of the work needed for the identification of conservation priorities (for example, genetic analysis) has not been done, and the development of options for ex-situ conservation in zoos, botanical gardens, aquaria, gene banks, and breeding centers does not have a firm base on which to build further. BCAP considers that decisions on priorities for *in situ* and *ex situ* biodiversity conservation action will be flawed. However, the *Country Study*, which built on the BCAP, recommends some positive ways forward, which the PRC has adopted.

31. Wetlands are critical to the continued functioning of watersheds and rivers. Wetlands are shrinking in the PRC and disturbance to the hydrological cycle is a contributory factor in the cycle of droughts and flooding in the Yangtze and Yellow River basins. The PRC has over 63

²² UNCED. 1992. Convention on Biological Diversity.

²³ Ecoregions have been defined as relatively large units of land or water containing a distinct assemblage of natural communities and species, with boundaries that approximate the original extent of natural communities prior to major land use change. *BioScience* 51:11. 2001.

million ha of some of the world's most important and unique wetlands, supporting a wide range of globally important biological diversity. In addition to being habitats for endangered or endemic flora and fauna, they act as crucial staging and breeding areas for migratory bird populations, including many globally threatened species. They are also an important source of food, medicine, and raw materials for local communities. In western PRC they include (i) wetlands of the southern edge of the Gobi desert; (ii) saline desert lakes in Inner Mongolia, Qinghai, Tibet, and Xinjiang; (iii) Qinghai lake (over 440,000 ha); and (iv) the wetlands of the upper and middle Yangtze valley. In addition, the PRC's largest contiguous area of high altitude peat bog on the Qinghai-Tibetan Plateau is the source of several international river systems (Brahmaputra, Ganges, Indus, Mekong, Salween, Yangtze, and Yellow rivers).

32. The atmosphere's role as a global regulator of temperature and climate is essential to life on earth. Changes in the concentration of naturally occurring atmospheric gases such as carbon dioxide may result in global climate change. Establishing vegetation on degraded land systems and promoting zero and minimum tillage systems provide opportunities for atmospheric carbon capture. Trees mainly contribute to atmospheric carbon capture through increased stem and root biomass, while low tillage agriculture minimizes soil carbon losses and contributes to soil carbon storage. Despite the relatively low total biomass of many degraded grasslands, they still have a potential (once restored) to capture and store considerable quantities of atmospheric carbon both above and below the ground. Based upon a number of assumptions, improved management practices on degraded land in the western region has the potential to capture and store an average of 25.7 million t of carbon per year by 2012 and 73.2 million t of carbon by 2032.

33. Dust storms are of global significance in relation to atmospheric conditions. Degraded grasslands, large-scale mechanized farming, and saltpans on the edges of dried-up saline lakes are the sources of dust storms in northwest and north PRC. The impact is felt not only in Beijing but also in the neighboring Korea Peninsula and Japan. Dust from PRC has been identified along the west coast of the USA. The seriousness of this issue has been well documented with numerous examples from Central Asia, Mongolia, and the PRC (footnote 19).

34. The solution to this problem is the formation of dense ground cover vegetation within agricultural, grassland, forest, and barren land ecosystems. This will require the introduction of land use practices which aim at maximizing ground cover during the period when wind speeds are at their highest in northern PRC, i.e., the spring months, and preferably throughout the year. To ensure that degraded areas in different ecosystems in the same area are dealt with at the same time and in a coordinated way, it will be important that integrated ecosystem management is used as a planning and technological approach by local authorities and sector agencies. The benefits of this management include recovery of ecosystems and provisions for multiple goods and services under environmentally sustainable practices.

PART 2. THE COUNTRY PROGRAMMING FRAMEWORK

I. RATIONALE

35. The WDS represents the Government's commitment to promoting sustainable development of the country's interior provinces. These provinces have lagged behind the rest of the PRC in economic growth and are also home to a large proportion of the country's poor people and ethnic minorities. The WDS will involve a considerable increase in the resource flow

to these provinces for infrastructure development, sustainable use of renewable and non-renewable energy resources, and industrial and agricultural development.

36. The Government recognizes that the success of the WDS is predicated on the protection of the region's fragile environment and the eventual reversal of natural resource degradation trends. Much of the region's population, and most of the rural poor, are involved in land- and resource-based livelihoods. Their future prospects will depend on whether the productivity of the resource base can be maintained. In addition, environmental degradation in the west is imposing tangible costs on other areas. This includes the increased occurrence of catastrophic downstream floods, increasing desertification, and the dust storms that are sweeping across the eastern part of the country and beyond.

37. As part of the WDS, the Government is committed to addressing the environmental prerequisites that underpin development. Among these, land degradation control is preeminent since it is the problem that most directly threatens ecosystem integrity, most directly constrains poverty reduction efforts, and is most likely to undermine the sustainability of rural development. This emphasis on combating land degradation is firmly embedded in the 10FYP and is reflected in operational terms in the sectoral plans of the main line agencies. In addition, the Special Programs of National Ecological Conservation serve to coordinate natural resources protection and economic growth. The *National Action Program to Combat Desertification* (CCD-NAP) is being reviewed.

38. Despite the considerable efforts to address land degradation in the last decades, the Government has become increasingly aware that fragmented legislation, narrow institutional mandates, and sector-by-sector approaches to land degradation control are not achieving the best results possible. Each of the government agencies is tackling particular aspects of land degradation through separate programs that are not necessarily well coordinated at the field level. The interactions among the various facets of the natural resource base and linkages with socioeconomic factors are not considered in the planning and implementation phases. Opportunities to generate multiple benefits at local, national, and global environment level are not being captured.

39. Although a broad regional strategy has been announced (WDS), consistent national and provincial level strategies for land degradation still need to be adopted. Towards this goal, however, a proposed national strategy and framework for addressing land degradation has recently been articulated (footnote 20). The elements of this strategy are to (i) prevent and control land degradation through integrated land management arrangements contributing to sustainable agricultural production, increased food security and improved livelihoods, most importantly increased rural incomes; (ii) establish a sound policy and legislative framework at the national, provincial and local level; (iii) enhance state, provincial and local government inter- and intra-agency cooperation; (iv) facilitate active community level stakeholder participation; (v) promote increased private and public investment in the control of land degradation; and (vi) promote the identification, development, and dissemination of new technically sound and cost effective land degradation technologies, including monitoring. In Gansu Province, one of the six provinces most affected by land degradation, a start has also been made in developing a strategic approach to address desertification.²⁴

²⁴ TA 3663-PRC: *Optimizing Initiatives to Combat Desertification in Gansu Province*, which will be completed in September 2002.

40. Against this backdrop, the Government would like to enter a strategic partnership with the GEF and other international partners to develop, test and scale-up more comprehensive resource management approaches that integrate the ecological, economic, and social dimensions of the land degradation problem. Such a partnership would (i) provide opportunities to create synergies among land degradation control, carbon sequestration, and biodiversity conservation objectives within the framework of the WDS; (ii) enhance the scope and new opportunities for catalyzing action, replication, and innovation for integrated ecosystem management; (iii) provide greater opportunities for maximizing and scaling up of approaches that yield both local and global environmental benefits; and (iv) help to create an open and transparent process for interacting with international agencies. A partnership based on the programmatic approach would also provide opportunities for coherent planning and predictable financial support that would simply not be possible under an ad hoc project-by-project approach to GEF assistance.

41. A GEF programmatic approach is appropriate because the Government has met the following basic criteria: (i) it has expressed a high level of political and economic commitment to the environment, and in particular, to the proposed program; (ii) it has developed a commitment and a willingness to work across sectoral ministries and agencies to integrate and mainstream global environmental issues into the national planning and development processes; (iii) it has made a clear commitment of domestic financial resources for environmental management and land degradation control in the 10FYP; (iv) it encourages multi stakeholder involvement in the planning process; and (v) it has developed strong and meaningful cooperation, collaboration, and joint programming with the GEF Implementing Agencies and ADB.

42. In accordance with the GEF programmatic approach, the Government believes that the Partnership should be governed by a CPF. The CPF would represent an agreement between PRC and the GEF to commit resources towards sequenced priorities over a 10-year period. Other partners will be invited to participate and the CPF is seen as a platform upon which to rally increased support for PRC's efforts to combat land degradation. To optimize and leverage the catalytic use of GEF resources in PRC, the CPF specifies

- (i) the critical policy, legal, and institutional instruments which will be needed to strengthen the enabling environment;
- (ii) the institutional arrangements and planning process that will harmonize relevant sectoral Five-Year Development Plans and strategies of MOA, MWR, SEPA, SFA, MLR, and the CCD-NAP and BCAP;
- (iii) existence of nationally and globally significant ecoregions and potential for economic development and poverty reduction;
- (iv) project selection and design criteria for prioritized package of investments and technical assistance to advance sustainable development and global environmental outcomes in the selected ecoregions; and
- (v) objectives, milestones, and indicators of favorable outcomes.

II. OBJECTIVES

43. The overall goal is to reduce land degradation, alleviate poverty and restore dryland ecosystems in the western region. The specific purpose of the CPF is to assist the Government to establish an effective system of integrated ecosystem management to generate both global benefits from enhanced biodiversity conservation and carbon capture, as well as sustainable use and equitable benefit sharing to reduce poverty. The CPF will not substitute for Government

policies and plans but support the evolution of the Government's institutional frameworks and programs aimed at applying integrated ecosystem management to solve land degradation. Some of the Government's planned future reforms and actions illustrate its determination to address land degradation problems, as shown in Box 2 (in Part 3 of this document). The CPF will support this reform process.

44. Activities financed within the CPF will assist the Government to make progress in (i) strengthening the enabling environment; (ii) providing improved operational arrangements and approaches, and strengthening institutional capacity for integrated natural resources management; (iii) establishing a monitoring and evaluation system; and (iv) implementing pilot demonstration projects that test and demonstrate an integrated approach to land management. Emphasis will be placed on local and provincial level planning and related activities. Implementation will be in three related phases synchronized with the Government's five-year planning process, WDS and long-term national programs. Phase 1 will be for three years (2003-2005) and match the Tenth Five-Year Plan, Phase 2 (2006-2010), and Phase 3 (2011-2015).

45. Proposed GEF assistance will focus particularly on overcoming the *seven barriers* to a comprehensive approach to land degradation identified in para. 25, namely, (i) weak policy and legislative framework (ii) institutional and sector-driven policy fragmentation; (iii) poor application of lessons learned from previous experience; (iv) undeveloped participatory approaches to address the root causes; (v) poorly developed locality-specific land use planning; (vi) perverse incentives; and (vii) inadequate financial arrangements and incentives to address land degradation in the western region.

III. GEOGRAPHIC SCOPE

46. Six provinces/autonomous regions (Gansu, Inner Mongolia, Ningxia, Qinghai, Sha'anxi, and Xinjiang) have 97 percent of the wind-eroded and desertified land, are the source of all of the dust storm activity originating in northern PRC, and have 54 percent of the water-eroded areas. Therefore, these localities represent the main focus for the CPF in its Phase 1. Each of these provinces has indicated high-level political support for the future reforms needed in the enabling conditions (policies, legislative framework, well-coordinated institutional arrangements, harmonized plans, and budgets) that are essential for sustained progress in arresting land degradation.

47. In addition to focusing on improving the enabling environment in Phase 1, the CPF will target specific areas within these provinces that represent high priorities for combating land degradation from both national and global environment perspectives. The relevant areas have been identified according to the following agreed criteria:²⁵ (i) national sustainable development objectives (as indicated by national and provincial development plans), (ii) global environment significance (as stated in the BCAP), (iii) land degradation status and trends (as highlighted in the CCD NAP), (iv) potential for poverty reduction and economic development (as evidenced by agricultural or rural development prospects), (v) opportunity to develop potentially replicable responses for integrated ecosystem management (as signaled by existence of significant areas with similar characteristics), and (vi) ownership by the local government as indicated by a specific decision to allocate counterpart funds. In Phases 2 and 3, the focus will broaden to cover the entire western region.

²⁵ Pipeline Concept and PDF-B Proposal approved by GEF Secretariat in March 2001.

IV. CORE INTERVENTIONS

48. The CPF includes four integrated components: (i) enabling conditions to support sustainable land management in dryland ecosystems, (ii) operational arrangements for implementation of integrated natural resource management, (iii) land degradation monitoring and evaluation, and (iv) demonstration projects. CPF Project 1 (Part 3) on strengthening the enabling environment and building institutional capacity will address components (i) - (iii). In addition to financing investments, the demonstration projects will also be designed to test approaches to address issues related to components (i) - (iii). Other interventions consistent with the objectives and principles of the CPF will also be accommodated during the period of the Partnership. Interventions will be implemented in a flexible and phased manner to facilitate government budgeting, to respond to capacity building and to enable lessons to be learned from project experience that can be adapted to new investments elsewhere.

A. Component 1: Enabling Conditions to Support Sustainable Land Management in Dryland Ecosystems

49. Component 1 addresses enabling conditions to support a comprehensive approach to land degradation problems in the dryland ecosystems of western PRC. It will contribute to the removal of institutional and technical barriers through the review and revision of policies, legal, organizational, regulatory, and budgetary arrangements, and also the resolution of technical constraints concerning sustainable management of dryland ecosystems. It will identify mechanisms for enhanced community-based resource management, public participation, and conflict resolution. Government at all levels will be supported in making the Eleventh Five-Year Development Plan for 2006-2010 consistent with integrated ecosystem management principles. The indicative list of proposed Government reforms and actions set out in Box 2 (Part 3) provides examples of the scope of work that will be required.

50. Targeted policy studies and actions will be undertaken to assist the Government in developing policy options and in further development of a consistent legal and regulatory framework for an integrated approach to land degradation. These will include

- (ii) Revisiting the *National Action Program to Combat Desertification* (CCD-NAP), and formulating a national action programming process to combat land degradation that will address all forms of land degradation and that will integrate the work of the various sector ministries concerned with land degradation. It will also involve upgrading the existing coordination arrangements for the CCD so that it can be combined with the PRC-GEF Partnership. Budget, plan, and program harmonization to consistently address land degradation is a key feature of the work to be done.
- (iii) Studies on (a) possibilities of increasing private sector involvement for combating land degradation and management of protected areas, (b) integration of land degradation priorities into the Eleventh Five-Year Development Plan for 2006-2010, and (c) land-tenure arrangements and customary rights.
- (iv) Case studies on (a) inclusion of public participation in decision-making related to land use management and in conflict resolution, (b) price distortions in land and water charges, and (c) implications of domestic grain policy on land degradation.
- (v) Supporting studies on regulations for the new Water Law (when enacted), water permit system, reforms on river basin management and water rights, and coordination.
- (vi) Consider harmonizing the Water and Soil Conservation Law with the Desertification Law, including regulations to implement the incentive provisions under the Desertification Law.

- (vii) Roadmap for the preparation of an Integrated Natural Resources Conservation and Management Law and local enforcement capability.

51. Institutional coordination at national and provincial/regional levels will be facilitated by the following:

- (ii) Establishing a CPF coordination office in the Ministry of Finance.
- (iii) Convening Meetings with vice-governors of 6 provinces/regions to confirm plans to implement the CPF.
- (iv) Convening PRC-donor coordination meetings.
- (v) Studies and action on (a) analysis of roles and mandates of all participating agencies at the provincial and local levels; (b) ways to improve horizontal and vertical cooperation between relevant natural resources management agencies from State to county level; and (c) the practicability of harmonizing sectoral plans, programs, and national/provincial budgets for natural resources agencies to achieve a coordinated approach to land degradation.
- (vi) Promoting opportunities for private sector investors and NGOs in land degradation prevention and control and developing information 'handouts' and a web site on investment possibilities in land degradation prevention and control.

52. The three major outputs of Component 1 will be (i) an improved policy environment; (ii) a consistent legal and regulatory framework; and (iii) effective institutional coordination at national, provincial/regional, and local levels. Effective donor coordination to maximize concessional assistance for addressing land degradation will be achieved.

B. Component 2: Operational Arrangements for Implementation of Integrated Natural Resources Management

53. Component 2 will assist in developing a strategic planning framework approach to land degradation in each participating province/autonomous region. For instance, Gansu Province has recently made a start towards developing a comprehensive, province-wide strategy for addressing land degradation.²⁶ The aim of such a framework would be to reduce land degradation and improve the profitability and sustainability of rural land/natural resource-based livelihoods through integrated ecosystem management. Such an approach would facilitate the introduction of demonstration projects (Component 4). The framework would be based on sustainability in ecological, social and cultural, economic, livelihoods and institutional terms. The development of location-specific integrated ecosystem management planning guidelines and their application into regulations and operational manuals will be a core activity. It would have the following elements: (i) improvement of the policy, legislative/regulatory, and institutional environment; (ii) investment in community based sustainable natural resource management; (iii)

²⁶ This has commenced under TA 3663 (footnote 24). Following this approach the following are the key six steps in a logical process: (i) *Diagnosis*. A strategy to control land degradation must begin with a clear definition of the root causes. It is important to have the correct diagnosis and also be aware of the difference between *chronic* (on-going, low level) and *severe* land degradation. (ii) *Identify the drivers*. Decide on the pressures in the system that lead to land degradation, identify the "drivers of change." (iii) *Tackle the impediments to progress*. Institutional, legal, and policy roadblocks need to be addressed. An institutional framework needs to be established that gets to the root of the problem and oversees its solution. (iv) *Assess the physical extent and rate of change*. An examination for the size of the problem and its location. Classify according to severity and urgency of treatment; (v) *Prioritize actions*. Tackle the sites that promise the best return for effort, not necessarily the worst affected sites, which may be beyond economic repair and the cost of rehabilitation exceeds the value of the land or that restoration will take longer than a human life span. (vi) *Involve land users*. Stakeholder involvement, especially the land users (farmers, herders, etc.) need to be seen as a part of the solution and not as part of the problem.

development of improved technologies and approaches; (iv) determination of the costs and benefits of controlling land degradation by placing values on the ecological, economic, and social impacts; (v) identification of alternative funding mechanisms; (vi) institutional capacity building of the advisory support service providers (environment, agriculture, forestry, soil and water conservation) through staff in-service training and study tours; (vii) formulation of an agreed action plan for operationalizing the strategy, detailing the duties and responsibilities of the participating institutions; and (vi) development of a monitoring and evaluation system. Certain core activities could include (i) raising awareness of the causal linkage between poverty and land degradation and the need for projects that address them together; (ii) using the river basin as a planning unit; (iii) conducting a series of workshops and meetings in a representative selection of counties in order to consult with stakeholders; and (iv) establishing a land and water coordinating committee at province/region level, to be chaired by a vice-governor, including preparation of a draft mandate and set of operating protocols.

54. Component 2 facilitates the development and implementation of viable, efficient and sustainable approaches to address land degradation. National and provincial agencies require capacity development, staff training, facilities, and resources to effectively serve the needs of participating provinces/regions. Strategic planning and management activities and improved approaches which draw from best practices in achieving long term success in combating land degradation (both the PRC and from international experience) will be undertaken. Key activities would include

- (i) Developing approaches and methodologies for strategic plans for integrated ecosystem management. Special emphasis will be placed on strengthening the planning and coordination capacity of provincial and local government agencies and improving stakeholder participation.
- (ii) Developing integrated ecosystem management operational manuals and procedures for six provinces/regions and developing six proposed provincial strategic planning frameworks to address land degradation; Gansu Province has commenced the first of these.
- (iii) Training communities and provincial personnel in integrated ecosystem management.
- (iv) Studies of existing arrangements between the State and users of natural resources and relations to ecosystem functions.
- (v) Undertaking institutional assessments, including capacity/training needs and developing capacity building/training programs.
- (vi) Reviewing and evaluating land and natural resource management experience in dryland ecosystems and documenting best practices.
- (vii) Holding national and international workshops to establish the principles of integrated ecosystem management and its application.
- (viii) Establishing applied research programs and reviewing the need for centers of excellence for integrated ecosystem management, including programs geared to guide/inform demonstration projects as vehicles to future investments.
- (ix) Best practice studies on land tenure/customary rights, gender roles and minorities, and support to an improved knowledge base.
- (x) Public awareness campaigns.

C. Component 3: Land Degradation Monitoring and Evaluation

55. During 2001, the ADB TA for national strategies for soil and water conservation (footnote 20) identified limitations to the current programs to monitor land degradation and found wide variations in the amount and quality of baseline data for assessing land degradation trends.

Conflicting information from different studies on the status of land degradation makes decision-making difficult for developing a comprehensive approach. A major reason for this is the lack of common baseline and monitoring methodologies.²⁷ The National Soil Erosion Surveys include little field verification and the level of accuracy associated with them is low, leading to trend results that are inconclusive. The problems associated with increasing soil salinity appear to be underestimated. Information on land cover does not provide sufficient information on the quality of vegetation, a factor that influences the generation of dust storms. Sound, validated, national baseline data needs to be developed to determine the actual extent and trends of all major land degradation types, including soil erosion, vegetation and groundcover loss, water depletion and degradation, loss of soil fertility, and salinity.

56. This component will contribute to reducing land degradation and promote sustainable rural development by providing accurate information on changes in the nature, extent and severity of land degradation, the impact of land degradation prevention and control efforts, and by strengthening capacity for land information management.

D. Component 4: Demonstration Projects

57. Demonstration projects have been identified to generate knowledge and experience in integrated approaches to land management and will be designed to test various approaches to addressing legal, institutional, policy and funding problems and approaches to increased participation. As part of a structured learning program, these projects collectively will provide an array of lessons and replicable models on integrated management for the priority ecoregions in western region, and—if successful—will provide confidence to the Government in adopting the integrated approach more widely. Individually, each project will be justified in its own right in terms of its direct local, national and global benefits. In order to maximize demonstration effect, each project must comply with certain criteria as set out in para. 60.

58. In Phase 1, the priority ecoregions with associated WWF ecoregions²⁸ identifiers are Qilian mountains sub-alpine meadows (Gansu, Qinghai); Qilian mountains conifer forests (Gansu, Qinghai); Tibetan Plateau alpine shrub and meadows (Qinghai); Tian Shan foothill arid steppe (Xinjiang); Tian Shan Montane steppe and meadows (Xinjiang); Tian Shan Montane conifer forests (Xinjiang); Eastern Gobi Desert steppe (Inner Mongolia); Emin Valley steppe (Xinjiang); and the Qionglai-Minshan conifer forests (Sichuan). The representative priority areas within these ecoregions are Qilian Mountains—Hexi Corridor (Gansu), Mao Wushu Desert (Sha'anxi); the Gansu-Xinjiang grasslands; Gonghe—Talatan (Qinghai), SW Zhungeer (Xinjiang); Helan Mountains—Yellow River (Ningxia); and lastly, the Tongliao Sand Lands (Inner Mongolia).

59. Site-specific project locations represent the highest priority geographic areas for GEF assistance under the CPF. Collectively, project interventions in these locations have: (i) globally significant biodiversity conservation and carbon capture potential; (ii) are consistent with the Government's development objectives, including poverty alleviation; (iii) will impact positively on

²⁷ Ministry of Agriculture (MOA). 1996. *Soil Survey Data in China*. National Soil Survey Office, China Agricultural Press. Beijing: MOA.

State Environmental Protection Agency (SEPA). 1998. *China's Biodiversity: A Country Study*. Beijing: SEPA.

State Development Planning Commission. 2000. *China Resources Information*. Beijing: China Environmental Scientific Publishing House.

Ministry of Land and Resources. 2001. *National Land Use Planning in China*. Beijing: China Dadi Publishers.

²⁸ Myers, N. 1990. The Biodiversity Challenge: Expanded Hot-Spot Analysis. . *The Environmentalist*: 10,4,243-256. *Biosciences* Vol. 51 (No.11). November 2001. Available: www.worldwildlife.org/ecoregions.

prevention and control of land degradation; and (iv) have the potential to develop replicable models for integrated ecosystem management for wider application. Demonstration project localities are as follows:

- (i) **Gansu—Xinjiang Pastoral Grasslands.** Extending over the three globally significant ecoregions (Qilian mountains sub-alpine meadows, Qilian mountains conifer forests, Tian Shan foothill arid steppes); carbon capture potential in extensive grasslands, shrublands, forests; land degradation continues; high biodiversity of grassland habitats; potential to reduce rural poverty.
- (ii) **Qilian Mountains—Hexi Corridor, Gansu Province.** Covering two globally significant ecoregions (Qilian Mountains Sub-alpine Meadows, Qilian Mountains Conifer Forests); carbon captures potential in extensive grasslands, shrublands and forests; high biodiversity of Qilian Mountains; extensive land degradation continues; potential to reduce rural poverty.
- (iii) **SW Zhungeer Basin, Xinjiang.** Extending over three globally significant ecoregions (Tian Shan foothill arid steppes, Tian Shan montane steppe and meadows, Tian Shan montane conifer forests); high biodiversity of Tian Shan mountains, including relic plant communities; carbon capture potential in grasslands; extensive land degradation continues.
- (iv) **Gonghe Basin—Talatan, Qinghai.** Covering part of one globally significant ecoregion (Tibetan plateau alpine shrub and meadows); carbon capture potential in extensive grasslands, shrublands; extensive land degradation continues.
- (v) **Helan Mountains—Yellow River.** Ningxia meets the Governments' biodiversity conservation criteria under the BCAP although is not covered by a described ecoregion of global significance; carbon capture potential in extensive grasslands, shrublands; high potential to develop replicable models for use elsewhere; economic development; land degradation continues.
- (vi) **Tongliao Sand Lands, Inner Mongolia.** Carbon capture potential in extensive grasslands and shrublands; high potential to develop replicable models for use elsewhere; extensive land degradation continues; economic development; covers part of one globally significant ecoregion (Eastern Gobi Desert Steppe); potential to reduce rural poverty.
- (vii) **Mao Wushu Desert Stabilization, Yulin, Sha'anxi.** Ongoing land degradation programs; extends over part of one globally significant ecoregion (Eastern Gobi Desert steppe); carbon capture potential in extensive grasslands; extensive land degradation continues; potential to reduce rural poverty; high potential to develop replicable models for use elsewhere.

1. Eligibility Criteria

60. Within the identified priority areas, projects will be elaborated to deliver specific activities, outputs and outcomes that contribute to the approved programmatic objectives laid out in this CPF. Each project will be designed to meet the following eligibility criteria (in addition to the existing GEF principles and criteria):

- (i) Addresses enabling legal and regulatory framework conditions that enhance incentives and enforcement mechanisms for improved ecosystem management.
- (ii) Demonstrates an integrated and participatory approach, rather than a sector based approach, and fosters increased coordination among line agencies.
- (iii) Fully involves local communities and all stakeholders in identifying, designing, planning, implementing, and monitoring sustainable ecosystem management projects.
- (iv) Pilot tests innovative and coordinated institutional arrangements, technology systems, land use planning tools, adaptive management approaches, public/private partnerships.
- (v) Achieves a synergy among biodiversity conservation, carbon sequestration, and land degradation control objectives through sustainable agriculture and rural development activities, with an emphasis on locally appropriated benefits and sustainable livelihoods.
- (vi) Includes a structured monitoring and evaluation component to generate lessons for potential replication.

2. Demonstration Projects

61. Seven demonstration projects have been identified. The first of these projects is already at an advanced stage of preparation (paras. 62-66). The other potential demonstration projects require further preparatory work. ADB has several feasibility studies in its Country Program 2003-2005 for demonstration projects (para. 90). Further feasibility studies for future demonstration projects to be potentially funded by the donor community are planned.

a. Gansu—Xinjiang Pastoral Development Project

62. Grasslands in Gansu and Xinjiang have experienced serious degradation over the past 50 years from water erosion and have been subjected to severe wind erosion and desertification. This project will address the root causes of grassland ecosystem degradation through an integrated and holistic approach towards land use management. The potential to support ongoing nationally important land degradation programs, improved management of globally significant mountain grassland and forest ecoregions (Qilian mountains sub-alpine meadows, Qilian mountains conifer forests, Tian Shan foothill arid steppes), the potential for carbon capture through large-area ground vegetation interventions, and poverty reduction are the primary project site selection criteria.

63. The World Bank/GEF-supported project has the following objectives: (i) develop sustainable grassland management in sub-alpine grassland ecosystems; (ii) improve the livelihoods of herders and farmers in project areas; (iii) empower farmer and herder households and pastoral associations to better manage their grassland resources; (iv) increase farmer and herder incomes; and (v) improve the condition of natural grassland ecosystems to enhance global environmental benefits through biodiversity conservation, carbon capture, and river basin management.

64. Site selection criteria have been met, including the presence of globally significant ecoregions, the potential to support ongoing nationally important land degradation programs and reduce land degradation, the potential for carbon capture through extensive large area ground vegetation interventions, the potential to reduce rural poverty and national development objectives.

65. The activities to be carried out under the project include (i) inventory of grassland ecosystems in selected biodiversity-rich pilot areas, including assessment of their biodiversity and its change as a response to improved management practices; (ii) preparation and implementation of pilot community and herders' association-based grassland resource management plans in selected project sites, which will be designed to promote biodiversity conservation and carbon storage; (iii) implementation of demonstration global environment-friendly grassland management techniques and investments which are consistent with the existing trans-human pastoral systems; (iv) strengthening existing grassland ecological monitoring systems, including monitoring of biodiversity values; and (v) capacity building, extension, training, and technical assistance, including the preparation of training modules and awareness building to support the above global environment-oriented activities.

66. Many of the activities under this project have direct linkages with the CPF, including development of best practices, ecological monitoring, and capacity building. Opportunities to build these activities into the enabling conditions, operational arrangements, and monitoring and evaluation components of the CPF will be actively sought, as will linkages with other demonstration projects in Gansu and Xinjiang.

b. Qilian Mountains, Gansu Province—Hexi Corridor Integrated Ecosystem Management and Water Saving Project

67. The location covers the Qilian Mountains sub-alpine meadows and the Qilian Mountains conifer forests, both areas of global biodiversity significance. The Qilian Mountains are of crucial importance for water supply to agriculture and cities in the Hexi Corridor on which the livelihood of more than four million people depends. The potential is high for globally significant wide-area carbon capture from improved management of extensive grasslands and forests. Decrease in vegetation and rangeland overstocking have been identified as prime causal factors of land degradation.

68. Site selection criteria have been met, including presence of globally significant ecoregions, the potential to support ongoing nationally important land degradation programs and reduce land degradation, the potential for carbon capture through extensive large area ground vegetation interventions, the potential to reduce rural poverty and national development objectives.

69. The project aims to (i) develop a replicable model for overcoming technical and institutional barriers for restoring linkages between mountain and oasis ecosystems to achieve improved water supply and water use; (ii) improve vegetation cover, biodiversity and water supply; (iii) introduce water saving arrangements in agriculture; (iv) develop a knowledge base and skills amongst local communities; and (v) improve the condition of natural grassland ecosystems to enhance global environmental benefits through biodiversity conservation, carbon capture, and river basin management.

c. Xinjiang Province—Southwest Zhungeer Basin Integrated Ecosystem Management Project

70. Wind blown dust, salt, and sand from the exposed lake floor of Aibi Lake and from extensive areas of arable land in its vicinity, linked to desert expansion and declining water yields, are of increasing concern locally, provincially and nationally. Salinization, loss of soil structure, and loss of soil fertility contribute towards land degradation and have negative impacts upon food production, income generation, public health and the quality of life for rural

and urban communities. Effective and sustainable conservation of the globally significant Tian Shan mountains and foothills ecoregions is of national and provincial concern.

71. Site selection criteria have been met, including improved conservation of two globally significant ecoregions, the potential to support nationally important land degradation control programs, the potential for carbon capture through large area ground vegetation interventions, the potential for rural poverty reduction and support to national development objectives. The project aims to (i) achieve coordinated, multisectoral, area-based planning of natural resources within selected river catchments; (ii) develop the knowledge base and skills of local communities; and (iii) formulate a large-scale investment project based on the pilot project findings with the aim of replicating sustainable land management.

d. Qinghai Province—Gonghe Basin-Talatan Integrated Environmental Management Project

72. State and provincial agencies recognize the need to protect the upper reaches of the Yellow River and to maintain the safe operation of the Longyang Gorge reservoir, the most important flood control reservoir on the Yellow River. As well as the national and global importance of these actions, the Government needs to promote the well being of the local nomadic ethnic communities. The potential to support ongoing nationally important land degradation programs, improved ecoregion management, poverty reduction, and the potential for carbon capture through large area ground vegetation interventions are the primary project site selection criteria. The locality adjoins globally significant ecoregions.

73. The project aims to (i) improve the ecological environment on the Talatan sand dune plateau, (ii) establish artificial oases for herdsman settlement, and (iii) maintain the living standard of farmers and herdsman at or above the average levels.

e. Ningxia Province, Helan Mountains—Yellow River Integrated Ecosystem Management Project

74. Water and wind erosion, loss of grassland, and soil salinization, linked to desert expansion and declining water yields, are of increasing concern, locally, provincially, and nationally. Project assistance will test, evaluate, and demonstrate new sustainable land management technologies and management arrangements that remove institutional barriers and achieve harmonization and integration of policies, programs, and budgets at provincial and prefecture levels. Conservation of nationally significant biodiversity in the river catchments of the Helan Mountains and in wetlands in the Yellow River valley where globally endangered mammals, birds, and plants occur is also of national and provincial concern. The Yellow River is of international importance as a flyway and provides feeding and breeding habitats for migrant bird species, many being globally significant and endangered in their range. As well as the national and global importance of these actions, the government needs to promote the well being of the local nomadic ethnic communities.

75. Site selection criteria are met, particularly in regard to ongoing nationally important land degradation programs, the potential for carbon capture through large area ground vegetation interventions, nationally important sustainable development objectives, the potential to reduce rural poverty and the potential to achieve improved conservation of mountain, plain, and wetland ecoregions in the Yellow River valley. The project aims to (i) achieve coordinated, multisectoral, area-based planning of natural resources within selected catchments draining the Helan Mountains; (ii) develop the knowledge base amongst local communities aimed at the design of

sustainable land management interventions; and (iii) develop a replicable model for overcoming technical and institutional barriers for sustainable management of upland grasslands.

f. Inner Mongolia—Tongliao Sand Lands Integrated Natural Resources Management Project

76. The Kerqin Desert, one of the four major deserts in the PRC, is a continually expanding area of severely degraded land that is a source region for many dust storms affecting northern PRC. Wind erosion severely damages agriculture and impacts adversely on economic development and on the livelihood and health of people. Unsustainable expansion of farming and over-exploitation of water resources have led to a decline of grassland area and to pastureland degradation. The globally significant Eastern Gobi Desert steppe ecoregion comprises vulnerable desert and semi-desert grassland ecosystems.

77. International cooperation in regard to land degradation and dust storms is the subject of dialogue between the PRC and Mongolia. A pilot scale natural resources management program will provide a technical basis for transborder cooperation on land degradation between the PRC and Mongolia. This proposal has the potential to support ongoing nationally important land degradation control programs, national development objectives, improved ecoregion management, the potential for carbon capture through large area ground vegetation interventions, and the potential to develop a replicable land degradation control model and poverty reduction.

78. The project aims to (i) achieve coordinated, multi-sectoral, area-based natural resources management planning; (ii) develop land degradation control and natural resources management procedures that will also provide a constructive basis for transborder cooperation between the PRC and Mongolia; (iii) test and introduce water saving in agriculture through alternate cropping arrangements, improved irrigation efficiency, and appropriate water tariffs; and (iv) develop improved community participation in land management.

g. Sha'anxi Province—Mao Wushu Desert Stabilization Project

79. Stabilizing about 200,000 ha of desert land and preventing further land degradation over 1.2 million ha in Yulin prefecture is a national and provincial priority. Development of replicable and sustainable land management practices on the margins of, and within, Mao Wushu Desert is proposed, to reduce the incidence of dust storms, to protect nationally and globally significant biodiversity and to alleviate poverty. Project assistance will test, evaluate, and demonstrate new sustainable land management arrangements and technologies that overcome institutional and technical barriers and will achieve harmonization and integration of policies, programs and budgets at provincial and prefecture levels. Lessons learned from earlier land degradation control experience in the Mao Wushu Desert will be applied in project design.

80. The project has the potential to support ongoing nationally important land degradation programs, improve biodiversity conservation and ecosystem integrity, support nationally important sustainable development objectives, increase the potential for carbon capture through large area ground vegetation interventions, and reduce rural poverty. These are the primary project site selection criteria. The project aims to (i) achieve coordinated, multi-sectoral, area-based planning of natural resources management; (ii) develop a replicable model for overcoming technical and institutional barriers for sustainable management of degraded land in Mao Wushu Desert, linked to poverty reduction; and (iii) develop the knowledge base and skills

amongst local communities aimed at sustainable and integrated land and water resources management.

V. CPF PHASING

81. The CPF will be implemented in three phases, following the Government's five-year planning cycle so that project implementation and outcomes can be mainstreamed into the physical and financial planning system and facilitate Government budgeting. The delivery of the three phases of the program will be assessed against programmatic indicators and available funds. Monitoring and evaluation will be essential to set specific benchmarks for each phase, build in assessments at the end of each phase, and establish the next set of targets for each successive phase. Thus, while the first phase targets and indicators of favorable outcomes are defined, it should be understood that those for the second and third phase will evolve based on progress made and the availability of financial resources. Key elements of each phase are summarized below.

- (i) **Phase 1.** Matching the remaining years of the Tenth Five-Year Plan (2003-2005), activities financed within the CPF will (i) promote harmonization and rationalization of programs, plans, and budgets for land degradation; (ii) support policy and technical 'best practices' studies; (iii) initiate legal, regulatory, and institutional reform to support the process of formulation of an integrated natural resources conservation and management law, natural resources management procedures, and a national ecological development coordination body; (iv) establish improved monitoring procedures; and (v) formulate and initiate demonstration projects. Furthermore, Phase 1 will assist provincial/region administrations (Governors' offices) to strengthen coordination of activities addressing land degradation at provincial, prefecture and county levels. Donor coordination will have improved. At the end Phase 1, the following will have been achieved: (i) results of the policy and best practices studies will have been converted into provincial strategic frameworks and integrated ecosystem management guidelines at state and provincial/local levels, (ii) action to achieve practical results will be underway, (iii) a legal action plan will be in place, and (iv) demonstration projects will have started in participating provinces/regions.
- (ii) **Phase 2.** This phase will coincide with the Eleventh Five-year Plan (2006-2010). Activities financed under the CPF will include (i) support to the integration of the main laws relevant for land degradation and the enactment of binding environmental legislation, (ii) advice to the national coordination body, and (iii) helping Government to identify elements for major investment programs on the basis of the experience gained. It is expected that at the end of Phase 2, the following will have been achieved: (i) the Water and Soil Conservation Law and the Desertification Law will have been combined, (ii) the incentive provisions under the Desertification Law will have been implemented through appropriate regulations, (iii) an integrated natural resources conservation and management law will have been drafted, (iv) provincial regulations for the implementation of integrated ecosystem management guidelines are in place and will have been tested, (v) at least six demonstration projects will be underway and some may have been completed and evaluated; and (vi) integrated ecosystem management procedures and practices will have been adopted in all provinces of the western region.
- (iii) **Phase 3.** Matching the Twelfth Five-Year Plan (2011-2015), the third phase will be directed at completing the mainstreaming of the previous phases into national development policy and planning and into provincial-regional planning and budgetary

processes. The CPF will (i) continue to support activities directed at overcoming barriers for achieving improved ecosystem management, (ii) evaluate all CPF activities, (iii) mainstream demonstration project experience into Government policies and programs at the national level, and (iv) continue the development and expansion of monitoring procedures.

VI. COSTS AND FINANCING ARRANGEMENTS

A. Program Costs and Government Baseline Commitment

82. The total cost of the 10-year program is estimated at \$1,465 million (Table 1). This includes \$15 million for components 1-3 (CPF Project 1), \$700 million for 7 demonstration projects under component 4, and \$750 million for additional projects that are consistent with the CPF but are yet to be identified.

83. The Government has a very strong baseline financial commitment through its ongoing programs to combat land degradation through line ministries, depending on the type of land degradation being addressed. Reflecting the recent growth in expenditures on land degradation, Government expenditures in the six Phase 1 provinces/regions in 2002 is anticipated to be Y8.8 billion (approximately \$1 billion, almost twice the 2000 level). A 5 percent real annual growth assumption (the low case) would imply equivalent to \$13 billion over the next decade. A 20 percent annual growth (the high case) would mean total land degradation expenditures of \$32 billion over the next decade.²⁹ This seems a reasonable range of estimates, and underlines the potential for making efficiency gains through the proposed reforms. The Government's direct baseline contribution to CPF costs would be about \$637 million or more than half of the total expenditures.

B. Proposed GEF Allocation

84. The indicative total incremental cost of the 10-year program is estimated at \$150 million. Project 1, with a total cost of \$15 million, will have an incremental cost of \$7.7 million. Identified demonstration projects, each with a total cost of \$100 million, will each have an incremental cost of \$10 million, for a total of \$70 million. Additional demonstration projects that are expected to be developed at a total cost of \$750 million will have incremental costs of \$72.3 million. GEF financing is sought for the incremental cost of activities that will result in global benefits. Specific activities that may be financed through GEF grants include technical assistance and capacity building, demonstration investments, institutional reform, and targeted research to address barriers to the adoption of integrated ecosystem management, particularly with respect to biodiversity conservation and carbon sequestration in critical ecosystems.

²⁹ In comparison, in the longer term, Y292 billion (\$35.2 billion) will be committed over the next 30 years under the Long Term Plan for Soil and Water Conservation Program in the Western Region, with a focus on controlling soil erosion in the upper and middle reaches of the Yellow and Yangtze rivers. The Government plans to invest Y96.5 billion (\$11.7 billion) under the Natural Forest Protection Program over 10 years.

Table 1: Cost Estimates
(\$ million)

Component	Foreign Exchange	Local Currency	Total Cost
A. Baseline Cost			
1. Enabling Conditions	0.7	2.9	3.6
2. Operational Arrangements	0.5	1.3	1.8
3. Monitoring and Evaluation	0.6	1.3	1.9
4. Demonstration Projects			
a. Gansu and Xinjiang Pastoral Grasslands	27.0	63.0	90.0
b. Qilian Mountains—Hexi Corridor Integrated Ecosystem Mgmt.	27.0	63.0	90.0
c. Southwest Zhungeer Basin Integrated Ecosystem Mgmt.	27.0	63.0	90.0
d. Gonghe Basin-Talatan Integrated Environmental Mgmt.	27.0	63.0	90.0
e. Helan Mountains—Yellow River Integrated Ecosystem Mgmt.	27.0	63.0	90.0
f. Tongliao Sand Lands Integrated Natural Resources Mgmt.	27.0	63.0	90.0
g. Mao Wushu Desert Stabilization	27.0	63.0	90.0
Subtotal Component 4	189.0	441.0	630.0
Total Baseline Cost	190.8	446.5	637.3
B. Incremental Cost			
1. Enabling Conditions	2.9	0.9	3.8
2. Operational Arrangements	1.3	0.5	1.8
3. Monitoring and Evaluation	1.7	0.4	2.1
4. Demonstration Projects			
a. Gansu and Xinjiang Pastoral Grasslands	7.0	3.0	10.0
b. Qilian Mountains—Hexi Corridor Integrated Ecosystem Mgmt.	7.0	3.0	10.0
c. Southwest Zhungeer Basin Integrated Ecosystem Mgmt.	7.0	3.0	10.0
d. Gonghe Basin-Talatan Integrated Environmental Mgmt.	7.0	3.0	10.0
e. Helan Mountains—Yellow River Integrated Ecosystem Mgmt.	7.0	3.0	10.0
f. Tongliao Sand Lands Integrated Natural Resources Mgmt.	7.0	3.0	10.0
g. Mao Wushu Desert Stabilization	7.0	3.0	10.0
Subtotal Component 4	49.0	21.0	70.0
Total Incremental Cost	54.9	22.8	77.7
C. Total Program Cost			
1. Enabling Conditions	3.6	3.8	7.4
2. Operational Arrangements	1.8	1.8	3.6
3. Monitoring and Evaluation	2.3	1.7	4.0
4. Demonstration Projects			
a. Gansu and Xinjiang Pastoral Grasslands	34.0	66.0	100.0
b. Qilian Mountains—Hexi Corridor Integrated Ecosystem Mgmt.	34.0	66.0	100.0
c. Southwest Zhungeer Basin Integrated Ecosystem Mgmt.	34.0	66.0	100.0
d. Gonghe Basin-Talatan Integrated Environmental Mgmt.	34.0	66.0	100.0
e. Helan Mountains—Yellow River Integrated Ecosystem Mgmt.	34.0	66.0	100.0
f. Tongliao Sand Lands Integrated Natural Resources Mgmt.	34.0	66.0	100.0
g. Mao Wushu Desert Stabilization	34.0	66.0	100.0
Subtotal Component 4	238.0	462.0	700.0
Total Program Cost (Identified)	245.7	469.3	715.0
Percentage	34	66	100
D. Other GEF-Eligible Projects (to be identified)			750.0
E. Total Program Cost (Phases 1, 2, and 3)			1,465.0

85. The indicative GEF amount of \$150 million over 10 years will depend on (i) subsequent replenishments beyond the current replenishments and the availability of GEF funding, (ii) performance in the PRC regarding removal of barriers and project design and implementation, and (iii) the availability of counterpart funds to finance baseline costs. For Phase 1, it is expected that the PRC will seek \$40 million-\$70 million from GEF's current replenishment, dependent on progress in removing barriers, the quality and timing of project preparation, and success in mobilizing funds from the Government and/or donors to finance baseline costs. The goal is to achieve a cofinancing ratio of about 1:10 for the whole program. Ratios for individual

projects within the program will vary depending on the baseline and incremental costs. A World Bank/DFID blending mechanism is being used for funding social sector loans in the PRC, illustrating how donors can cooperate and pool resources around common objectives.

86. CPF Project 1 on strengthening the enabling environment and building institutional capacity, with a total cost of \$15 million, has an incremental cost \$7.7 million, which is being requested from GEF. ADB has programmed an initial TA grant \$1.0 in 2003 to support project implementation. It is anticipated that additional concessional resources will be available from donor agencies to assist the Government to meet the baseline costs of these components, conservatively estimated at \$6.3 million. For example, DFID has indicated the use of the Poverty Reduction Trust Fund (DFID/ADB Trust Fund) as the program evolves.

C. Approval Process for GEF Grants

87. Individual priority projects already identified will be prepared and submitted to GEF Council according to the standard GEF project cycle. Other projects that are consistent with the CPF will also be eligible for GEF support. They will also follow the full GEF project cycle and will be submitted individually to Council for work program approval.

88. GEF financing will be delivered by GEF implementing agencies (IA) (UNDP, UNEP, World Bank) and the relevant GEF executing agencies (EA) under the expanded opportunities arrangement (ADB, FAO, IFAD). The projects identified for priority support will be prepared and administered by these institutions based on their own respective procedures, and each agency will be accountable to the GEF for the projects under its responsibility. The Government will decide which IA and/or EA should take the lead for each project to be prepared.

D. Donor Support

89. The international donor community has been closely involved in program development and will be invited to support, through grants and/or loans, both ongoing Government programs and the strengthening of planning and implementation mechanisms. Formal participation in project funding under this Partnership by other multilateral and bilateral organizations, especially ADB, DFID, IFAD, UNDP, UNEP, and World Bank will continue to be actively pursued.

90. For example, ADB has recently completed its Country Programming Mission for 2002-2005. In this program there are a number of proposed activities that address land degradation in the western region. Loan amounts have been programmed for several projects. For other Projects, loan amounts will be identified during the feasibility studies. The activities include:

- (i) 2002: TA for preparing dryland farming in northern areas (loan project for \$100 million).
- (ii) 2003: TA for preparing a loan project for integrated ecosystem management (Inner Mongolia), TA for implementation of national guidelines for water and soil conservation (MWR), TA for enhancing effectiveness of environmental investments (SEPA), and TA for capacity building for land degradation management (MOF).
- (iii) 2004: TA to prepare a loan project for soil erosion rehabilitation in the western region, TA to prepare a loan project for water conservancy, TA to prepare a loan for sustainable ecosystem protection, and TA for legislative support for the water sector.

- (iv) 2005: TA to prepare a loan project for integrated water resources management, TA to prepare a \$100 million loan project for integrated ecosystem management in western region, TA for capacity building and demonstration for ecological conservation, and TA for environment management in the western region.

VII. IMPLEMENTATION ARRANGEMENTS

91. Implementation arrangements recognize that the CPF rationale, goals, objectives, scope and financing arrangements are built upon the basic administrative framework of the Government. CPF implementation arrangements will facilitate integrated ecosystem management by (i) strengthening the role of provincial and local governments, (ii) increasing the participation of local communities in the planning and implementation of land degradation action, and (iii) facilitating increased donor involvement for combating land degradation.

A. Formation of a Leading Group

92. Given the cross-sectoral and multi-agency nature of the proposed activities and the direct link to the WDS, the Partnership requires guidance at a senior level of Government. The Steering Committee (or Leading Group) that has directed the work during program preparation will continue its role in coordinating the key agencies, which will comprise representatives from

- (i) State Development Planning Commission including Office for Western Region Development,
- (ii) Ministry of Finance,
- (iii) Ministry of Foreign Trade and Economic Cooperation,
- (iv) Ministry of Land and Resources,
- (v) State Forestry Administration,
- (vi) Ministry of Water Resources,
- (vii) Ministry of Agriculture,
- (viii) State Environment Protection Administration, and
- (ix) Office of the Leading Group on Poverty Reduction.

93. Representation on the Leading Group will be at a senior level. The Leading Group will establish a Coordination Office in the Ministry of Finance. The Ministry of Finance is the GEF Focal Point and is an important interface between State and provincial governments and the donor community. Headed by a full-time PRC-GEF Program Director (director-general level), the Coordination Office will be responsible for overall Program overview, direction and monitoring as well as for liaison between GEF and Government. The office will also organize the PRC-donor coordination process.

94. The Office of the Leading Group will undertake coordination of activities between the line ministries and respective provincial governments that are implemented through the Partnership. A flexible approach to provincial/regional level implementation is needed. Different areas may require different alternatives, and donor requirements also need to be met. One alternative may be a project management office to be established within the Finance Bureau, reporting to the provincial vice-governor and the Provincial Government Standing Committee on Agriculture/Forestry/Environment. Leading interagency groups (environment, forestry, soil and water conservation, agriculture) may need to be established at the county level to oversee field level implementation activities. Where more than one province/region or county is involved, considerable flexibility may be needed.

B. Donor Coordination

95. Upon request of the Government, ADB has convened regular donor roundtables to share information on the partnership process and solicit input to the formulation of the CPF. Participating organizations include the Australian Agency for International Development (AusAID), Canadian International Development Agency (CIDA), DFID, FAO, GTZ, IFAD, Japan Bank for International Cooperation (JBIC), Japan International Cooperation Agency (JICA), KfW, UNDP, UNESCO, World Bank, and the Embassies of Italy, the Netherlands, Norway, Sweden, and USA. At these meetings, participants have expressed strong support for improved donor coordination to combat land degradation. Building on this process, the Coordination Office of the Leading Group in the Ministry of Finance will have primary responsibility for donor coordination under the Partnership. The Office will disseminate information on program implementation, including the development of a Partnership website and will convene regular donor meetings to facilitate the mainstreaming of donor interventions into the Partnership. The office will also provide liaison with similar offices that may be set up at provincial and county levels, as well as promoting cooperation in cross-border programs. ADB will provide support to the office, as well as continuing to support donor coordination in collaboration with UNDP. The Global Mechanism of UNCCD has agreed to provide full support in mobilizing resources from bilateral, multilateral, and the private sector for the Partnership and has been a vital contributor to the Partnership from the beginning.

C. Reporting Requirements

96. The Government, through ADB, will report every two years to the Council on the status of the Partnership. The CEO will transmit a report to Council on achievement of progress and indicators in the first phase, for consideration at a Council meeting before authorizing the start of the second phase. Individual projects under the program will follow their own reporting requirements, as established in the project documents. The Coordination Office of the Leading Group in the Ministry of Finance will prepare reports on the achievement of progress and indicators of the program. The Coordination Office will be responsible for incorporating the results of these projects into program progress reports, which will be transmitted to GEF, through ADB. A final report with lessons learned and recommendations will be submitted to Council at the end of the formal Partnership period.

D. Monitoring and Evaluation

97. The PRC-GEF Partnership is a complex program that requires regular and timely feedback between components, as well as incorporation of new and updated information as this becomes available. This will serve to adapt and refine individual components and activities to enhance their effectiveness and impact. This is the essence of a learning and adaptive management system that will be developed to monitor the progress of the program, with the support of the initial project to strengthen the enabling environment and build institutional capacity. The improved system for monitoring land and ecosystem degradation that constitutes Output 5 of this project will feed into the program monitoring system, notably in assessing the impacts on the program goal of reducing degradation of dryland ecosystems.

E. Future Land Degradation Focal Area

98. As this report has shown, land degradation is a major problem in the PRC. At the Beijing GEF Assembly meeting in October 2002, it is expected that land degradation will become a new focal area. Following this, operational guidelines will be prepared. Once these are available, it is

the intention to broaden the focus of the CPF to include projects that are eligible for support under the new land degradation focal area.

VIII. IMPACTS AND BENEFITS

99. Of the major environmental challenges facing the PRC, land degradation is perhaps the most fundamental and the most difficult to address. The scale of the problem is huge and many trends are worsening, especially in dryland environments. International experience strongly suggests that a comprehensive and long term process based on integrated approaches is needed to be successful. The potential benefits of long term success, both locally and globally, are high. The CPF will provide a structured basis for overcoming policy, legislative, and institutional barriers that presently constrain the formulation and implementation of land and natural resources management programs. Overcoming policy contradictions, gradual replacement of duplicative and inadequate laws and ineffective institutional procedures, together with the introduction of coordinated approaches at national, provincial and local levels, will have a significant impact on the goal of restoring ecosystem productivity, and reducing poverty in arid and semi-arid localities. As a country-driven process, the PRC will benefit from the development of a participatory mechanism for implementing activities that will widen community awareness of the need for overcoming land degradation through integrated ecosystem management.

100. Benefits of the program will accrue to a wide variety of stakeholders. These include poor rural communities that are most affected by land degradation, among which are diverse ethnic minority groups. An approach that focuses on the root causes of poverty and which leads over time to improved management of land and natural resources will be to the long term benefit of those most reliant on the natural resource base for their survival. As a result, women and children will benefit from improved ecosystem productivity, since this will reduce their burden for activities such as fuelwood gathering and water collection. Initiatives developed under the program will seek to increase the availability and sustainable use of such natural resources as wood and water. In addition to those directly involved in improved management, downstream beneficiaries, including both rural and urban dwellers, will benefit from improved management of upstream ecosystems, resulting for example in the improved provision of regular supplies of clean water, as well as reduced risks of downstream flooding.

101. National, provincial and county governments will benefit through rationalization of budget expenditures for addressing land and natural resource degradation, which will result in improved efficiencies in resource allocation and thus greater resource availability for those areas most in need. Personnel from government agencies at national and local level will benefit from the introduction of new approaches and capacity building activities under the program. Private sector organizations will benefit from increased opportunities for investment in natural resources management, as well as improved incentives for investment. This could include, for example, private sector investment in biodiversity conservation and protected area management. Infrastructure investments, such as roads and pipelines will increasingly be protected from risks related to land degradation, such as sand encroachment. Finally, the international donor community will benefit from improved coordination and collaboration in addressing land and natural resource degradation, reducing duplications, and enhancing the impacts of individual projects and programs.

102. Global benefits will accrue in three areas. For carbon capture, it is estimated that improved agricultural land management in the western region has the potential to contribute over 25 million tons of carbon storage annually by 2012. In addition, improved forest and

woodland management in the western region has the potential to capture 87 million tons of carbon by 2012. The proposed integrated approach will address both agricultural and forested lands to maximize carbon capture benefits. For biodiversity, the many threatened ecosystems and species of global importance found in the western region will be protected and conserved through targeting of project activities in critical ecoregions and integrating biodiversity conservation into improved ecosystem management. In terms of land degradation, the program has prioritized for intervention those areas most susceptible to desertification including those identified as the source areas of transboundary dust and sandstorms. As a result, such storms are expected to diminish in frequency and severity over the longer term.

A. Sustainability and Replicability

103. Overall program sustainability (including ecological, institutional, financial, and economic sustainability) will be achieved if the identified barriers to improved land and natural resource management are overcome. Ecological sustainability will be achieved through the demonstration and replication of integrated ecosystem management interventions at project sites, the operationalization of legislation, regulations and guidelines that foster sustainable approaches, as well as building capacity for increased understanding of the benefits of integrated ecosystem management and ways of implementing it. The program will support strengthened monitoring of critical ecosystems which will promote ecological sustainability.

104. Institutional sustainability is a fundamental factor to the long term success and is a key element of the program. Developing improved coordination mechanisms at national, provincial and county levels, strengthening linkages between national and local levels and developing effective operational arrangements and mechanisms, particularly at local level are program interventions that directly address institutional sustainability. The program will work with key ministries and bureaus, and the participating provinces/regions to increase capacity for improved resource management, through training, workshops, information sharing and related activities. The program will work closely with the Ministry of Finance, which has an important role in institutional coordination. However, the thrust of the program will be at provincial and local level, where projects will work with a variety of institutions to strengthen capacity. This include government bureaus, the private sector and local resource user groups.

105. Financial sustainability will be promoted by the significant financial resources that the Government has committed to combating land degradation. The overall flow of resources for sustainable development in western PRC will further increase under the WDS. The program is designed to maximize the efficiency and effectiveness of those resources through the rationalization of budgets across government agencies. This will reduce duplication and waste of resources. There will be increased emphasis on monitoring the impacts of government expenditures on land degradation trends. The program will also look at innovative financing mechanisms involving fiscal incentives and increased private sector involvement in natural resource management. Economic sustainability will be achieved through demonstration of direct economic benefits of improved ecosystem management to local communities and land users. Fiscal and other incentives to be studied under the program with the aim of increasing economic returns to improved management will promote economic sustainability.

106. Ultimately, the sustainability of the program will depend on the extent to which benefits are captured by rural land users at the local level. Demonstrated impacts on income levels and poverty will contribute towards community ownership of the process and will support sustainability of outcomes after external donors have withdrawn support from the demonstration

projects. Increasing the ability of local communities to control their own resources and other factors that determine their livelihood opportunities will strengthen sustainability of the program activities. The program will introduce participatory processes to promote local ownership and encourage the development of partnerships for improved management with both local governments and private sector.

107. Replicability is an important focus of the program since policies, institutional reforms, and the adoption of best practices have the potential for far-reaching changes. It is also a key eligibility criterion for demonstration projects (para. 59). The program will promote replicability through (i) identification of ecosystems and sites demonstrating similar characteristics so that adapted practices can be applied; (ii) documentation and dissemination of best practices that can be widely replicated; (iii) monitoring of impacts to evaluate the success of pilot interventions for replicability; (iv) addressing key issues such as policy reform, institutional coordination, participatory processes and incentives and market-based instruments that have high potential for catalyzing widespread change; (v) a learning and adaptive management system, that includes timely information dissemination and feedback processes; and (vi) building capacity to foster replicability. Each demonstration project will be responsible for addressing replicability during project design.

B. Risks

108. Risks associated with the CPF include the risk that the Government will not sustain its commitment to the program in terms of undertaking policy, legal and regulatory reforms, developing appropriate incentives for private sector investment, harmonizing sectoral five year plans and budgets and embracing and pursuing an integrated ecosystem approach. These risks will be directly addressed through the project on strengthening the enabling environment and building institutional capacity (Part 3). Details of project risks can be found in paras. 132-136. A second risk concerns the willingness and ability of Government and donor organizations to provide the necessary funding to develop and implement demonstration projects. This risk will be mitigated by support to continued donor coordination and information sharing and identifying opportunities to build on existing projects. Provincial Governments and the PRC/GEF Coordination Office will play critical roles in identifying and further developing project proposals and the CPF will support these organizations.

109. In addition, appropriate measures must be in place to ensure continuity and commitment to the agreements embodied in the CPF. Conditions are likely to change over the successive phases of CPF implementation. These will present challenges that will be handled on a case-by-case basis in an adaptive and flexible way. Risks and assumptions will be addressed through the learning and adaptive management approach that underpins the program. The CPF has been designed for flexibility in implementation and this will allow for mid-course adjustments, as required. A structured, independent evaluation will be required as part of the CPF to fully examine the process and feed back results and lessons to all agencies involved, as well as the public. This formal evaluation will help to address this potential risk.

PART 3. CPF PROJECT 1 ON STRENGTHENING THE ENABLING ENVIRONMENT AND BUILDING INSTITUTIONAL CAPACITY

I. BACKGROUND AND RATIONALE

110. The Government has accepted that a major systematic effort is needed to combat land degradation in the fragile western region as a national development priority. As a result a PRC-GEF Partnership on Land Degradation in Dryland Ecosystems under GEF Operational Program (OP) 12, Integrated Ecosystem Management has been developed. The overall goal of the ten-year program is to reduce land degradation, alleviate poverty and restore dryland ecosystems in the western region. The Government is committed to a set of reforms and actions to address land degradation problems at national and provincial levels (Box 2). The Partnership will work at a national level with key agencies, but also in priority provinces and autonomous regions. Six provinces/autonomous regions of the western region (Gansu, Inner Mongolia, Ningxia, Qinghai, Sha'anxi, and Xinjiang) contain the vast majority of wind-eroded and desertified land and are the source of all the dust storm activity originating in northern PRC. They also present significant opportunities for the conservation of globally significant biodiversity and carbon capture potential. Therefore, these localities will represent the geographical focus for the project. Each of these localities has indicated high-level political support for the future reforms needed in the enabling conditions (policies, legislative framework, well coordinated institutional arrangements, harmonized plans, and budgets) that are essential for sustained progress in arresting land degradation.³⁰

111. Program activities can be grouped into two inter-related areas. These are (i) activities to address the need for a strengthened enabling environment and increased institutional capacity, at both national and local levels; and (ii) demonstration projects that test integrated ecosystem management approaches in priority areas for widespread adaptation and replication throughout the western region. While it is intended that demonstration projects will test policy, legal, institutional and operational arrangements at local level, it is critical that activities to address the broader enabling environment proceed rapidly for the following reasons: (a) to build on the commitment and maintain the current momentum to address constraints and opportunities to greater harmonization of five-year plans, an improved enabling environment, particularly at national level, including the policy, legal and regulatory framework, and improved institutional coordination; (b) to address policy, legal and institutional issues at national, provincial and local levels and build linkages between levels to provide a framework for testing through demonstration projects; (c) to put in place program implementation arrangements, including a learning and adaptive management system, to enhance the effectiveness and impacts of demonstration projects; and (d) because timely reforms in critical areas will have a potentially far-reaching effect on land degradation prevention and control. The project, therefore, focuses on the key priority measures required to strengthen the enabling environment for sustainably addressing land degradation.

112. The following section details a proposed four-year project for strengthening the enabling environment and building institutional capacity (Appendix 1). This will be the first technical assistance project under the PRC-GEF Partnership. It has six outputs: (i) an improved policy, legal, and regulatory framework; (ii) improved national and provincial coordination; (iii) operational arrangements at provincial and county level; (iv) improved institutional capacity; (v) improved monitoring and evaluation system; and (vi) program implementation arrangements.

³⁰ Part 1, Background, presents a detailed analysis of land degradation in western PRC.

Box 2: Future Reforms and Actions Affecting Land Degradation

<ul style="list-style-type: none"> • Increase budget allocations for environmental protection. Annual environmental budgets will rise to about 1.3 percent of GDP during 2001-05, up from 0.73 percent in 1990-1995, including allocations to address land degradation. Harmonization of the plans and programs for land degradation measures within these budgets is a major reform.
<ul style="list-style-type: none"> • Institutional cooperation. In line with the multisectoral nature of environmental issues, the Government is committed to improving the coordination of environmental management through necessary policy and institutional reforms. This will include establishing a national ecological and environment development coordination body to better coordinate the activities of the different line agencies. The two donor coordination processes of the UNCCD and the PRC-GEF Partnership will be combined. At a subregional level, discussions with Mongolia are ongoing on ways to address cross-border sand storms and desertification.
<ul style="list-style-type: none"> • Legislative and policy framework. This includes (i) enacting the revised Water Law, developing a water permit system, continuing institutional reforms to improve water basin management, water rights, and coordination between surface and groundwater management, and implementing the "Three Compensation Mechanism", e.g., "who consumes pays, who pollutes pays, who damages water ecological environment pays"; (ii) commencing the process of formulating an Integrated Natural Resources Conservation and Management Law to provide a legal basis for introduction of integrated natural resource management; (iii) enacting an Environmental Impact Assessment Law to assess environmental impacts of major policies and programs; (iv) implementing national guidelines for soil and water conservation; (v) amending the necessary laws and reforming the land management system to allow land registration, land user rights, swaps and transfers, thereby promoting sustainable land use; (vi) implementing the 2002 Clean Production Promotion Law to increase public environmental awareness, prevent pollution and reduce environmentally-irresponsible behavior at source; (vii) preparing implementing regulations for the 2001 Anti-desertification Law; (viii) the decision on "Further Promoting Forestry Development" will be considered by the State Council, especially forestry development policies; and (ix) revising the Grasslands Law.
<ul style="list-style-type: none"> • Programs. Implementation of six major anti-desertification programs covering a wide range of areas including, for example, conversion of inappropriate cropland to forests and grassland, protection of natural forests and control and management of sandstorms in northern regions.
<ul style="list-style-type: none"> • Market-based instruments. The Government is committed to allowing the market to play an increasing role in environmental management through development of market-based instruments where the appropriate enabling conditions exist, including resource pricing, fees, and cost recovery mechanisms.
<ul style="list-style-type: none"> • Poverty reduction and stakeholder participation. Government is committed to integration of efforts to address land degradation combined with reducing poverty to pursue both social and sustainable development objectives. This includes greater community participation in design and implementation of local development programs. The village-based comprehensive poverty reduction program in poor villages in "key working counties" follows an integrated and phased approach to reduce poverty in line with multidimensional targets (income and quality of life, infrastructure, social development). Government will annually allocate at least Y25 billion to reduce poverty (half grants, half low-interest loans) during 2003-2005 to the 592 key working counties nationwide, of which 174 (29 percent) are located within the six participating provinces/regions and a total of 375 are located in the western region plus additional counties among three prefectures in Hubei, Hunan and Jilin provinces (which are also included in the Western Development Strategy). Government will also formulate a new system of fiscal transfers for poor counties, and assist these counties to prepare their poverty reduction.

II. THE PROJECT

A. Objectives

113. The goal of this initial four-year project is to help the Government to establish an effective system of integrated ecosystem management to generate both global benefits from enhanced biodiversity conservation and carbon capture, as well as sustainable use and equitable benefit-sharing to reduce poverty. The purpose is to strengthen the enabling environment and develop institutional capacity. The project will not substitute for Government policies and plans but support the evolution of the Government's policy, legal, and institutional frameworks and programs to set up and operationalize an integrated ecosystem management approach to addressing land degradation. The project will work in the six priority provinces and

autonomous regions (Gansu, Inner Mongolia, Ningxia, Qinghai, Sha'anxi, and Xinjiang) that are most affected by land degradation. A project logframe is presented in Appendix 1. The project will seek to overcome the barriers to an integrated approach to combating land degradation identified in para. 25.

B. Outputs and Activities

114. The project has six outputs that correspond to program Components 1-3, described in paras. 49-56. The project outputs are listed below with key activities described for each output. The project will work with key central agencies, including CAS, MLR, MOA, MOF, MWR, SDPC, SEPA, and SFA, as well as the provincial bureaus representing these agencies in the six priority western region provinces/autonomous regions of Gansu, Inner Mongolia, Ningxia, Qinghai, Sha'anxi, and Xinjiang.

1. Output 1: Policy, Legal, and Regulatory Framework Improved

115. At the end of the project, the following will have been achieved:

- (i) An Integrated Natural Resources Conservation and Management Law in place.
- (ii) A revised Water Law, with regulatory provisions favoring improved water conservation and management.
- (iii) Sectoral legislation that is consistent with the Integrated Natural Resources Conservation and Management Law and internally consistent, including, for example, harmonization of the Soil and Water Conservation and Desertification Laws.
- (iv) Implementing regulations for major legislation that are better adapted to the local situation.
- (v) Consistent and incentive-based policies, including the removal of "perverse" incentives.
- (vi) A system for improved monitoring of policies and laws and their impacts.
- (vii) Policy recommendations concerning private sector involvement in combating land degradation, increased participation, land and resource tenure and removal of pricing distortions.

Key activities include:

- (i) Review of policy barriers and opportunities and identification of priority actions for adoption of integrated approaches (including case studies).
- (ii) Recommendations for implementation of identified priorities (e.g., fiscal and other incentives, participation, land, and natural resource use rights).
- (iii) Set up a system for review, monitoring, refinement, and adjustment of policies and laws, based on feedback and improved information.
- (iv) Roadmap for the preparation of Integrated Natural Resources Conservation and Management Law and local enforcement capability.
- (v) Identification of opportunities for harmonization of specific legislation and required actions to effect harmonization of legislation (e.g., Integrated Natural Resources Conservation and Management Law, harmonization of Water and Soil Conservation and Desertification laws).
- (vi) Assistance to the development of implementing regulations adapted to local conditions (e.g., regulations to implement the incentive provisions under the Desertification Law, local level case studies, and demonstration activities).

- (vii) Studies on (a) possibilities of increasing private sector involvement for combating land degradation and management of protected areas; and (b) land-tenure arrangements and customary rights, including gender and minority aspects.
- (viii) Case studies on (a) inclusion of public participation in decision making related to land use management and in conflict resolution, (b) price distortions in land and water charges, and (c) implications of domestic grain policy on land degradation.
- (ix) Recommendations on regulations for the new Water Law (when enacted), water permit system, reforms on river basin management and water rights and coordination.

2. Output 2: National and Provincial Institutional Coordination Strengthened

116. At the end of the project, the following will have been achieved:

- (i) The 11th Five-Year Plans incorporating integrated ecosystem management approaches to land degradation.
- (ii) The 11th Five-Year Plans including greater harmonization of sectoral plans.
- (iii) The 11th Five-Year Plans with more rationalized budgets, reflecting greater cost-effectiveness in Government expenditures.
- (iv) The PRC-GEF Partnership and the CCD-NAP combined in a common framework to address land degradation.
- (v) Structures and mechanisms in place leading to improved coordination among sectoral agencies.
- (vi) Greater private sector involvement in land degradation prevention and control.

Key activities include:

- (i) Review of institutional mandates, roles and responsibilities with recommendations to improve intersectoral integration and coordination.
- (ii) Mainstreaming integrated approaches into 11th Five-Year Development Plan and sectoral Five-Year Plans at provincial and national level.
- (iii) Recommendations for harmonizing sectoral Five-Year Plans.
- (iv) Propose options for budget rationalization for Five-Year Plans.
- (v) Revisiting the *National Action Program to Combat Desertification* (CCD-NAP), and formulating a national action programming process to combat land degradation, that will address all forms of land degradation and that will integrate the work of the various sector ministries concerned with land degradation. It will also involve upgrading the existing coordination arrangements for the CCD so that it can be combined with the PRC-GEF Partnership. Budget, plan, and program harmonization to consistently address land degradation is a key feature of this activity.
- (vi) Analysis of roles and mandates of all participating agencies at the provincial level and time-bound recommended actions to improve institutional coordination.
- (vii) Recommended actions on ways to improve horizontal and vertical co-operation between relevant natural resources management agencies from State to county level.
- (viii) Develop structures and mechanisms for increasing private sector involvement in combating land degradation.
- (ix) Promote opportunities for private sector investors and NGOs in combating land degradation.
- (x) Develop information 'handouts' and a web site information including on investment possibilities in land degradation prevention and control.

3. Output 3: Operational Arrangements Improved at Provincial and County Level

117. At the end of the project, the following will have been achieved:

- (i) A strategic framework and plans for integrated approaches to ecosystem management, including budgetary resources in place and being implemented in six provinces.
- (ii) Location-specific integrated ecosystem management planning guidelines, procedures, and operational manuals for six provinces.
- (iii) Increased number of partnerships between different stakeholder groups.
- (iv) Participatory processes used more frequently.
- (v) Recommendations for improved access to financial resources at provincial and county level, including alternative financing mechanisms.

Key activities include:

- (i) Develop and help implement a strategic framework and plans for integrated approaches to ecosystem management, including budgetary resources, in six provinces. The strategic framework would have the following elements: (i) improvement of the policy, legislative/regulatory and institutional environment; (ii) investment in community based sustainable natural resource management; (iii) development of improved technologies and approaches; (iv) determination of the costs and benefits of controlling land degradation by placing values on the ecological, economic and social impacts; (v) identification of alternative funding mechanisms; and (vi) development of a monitoring and evaluation system. Certain core activities could include: (a) raising awareness of the causal linkage between poverty and land degradation and the need for projects that address them together; (b) using the river basin as a planning unit; (c) conducting a series of workshops and meetings in a representative selection of counties in order to consult with stakeholders; (d) establishing a land and water co-coordinating committee at provincial/regional level, to be chaired by a Vice-Governor, including preparation of a draft mandate and set of operating protocols; (e) institutional capacity building of the advisory support service providers (environment, agriculture, forestry and soil and water conservation) through staff in-service training and study tours; and (f) formulating an agreed strategic action plan detailing the duties and responsibilities of the participating institutions. See footnote 26 for an example from Gansu of how this could be developed.
- (ii) Develop location-specific integrated ecosystem management planning guidelines and their application into procedures and operational manuals for six provinces.
- (iii) Develop approaches and methodologies for strategic plans for integrated ecosystem management. Special emphasis will be placed on strengthening the planning and coordination capacity of provincial and local government agencies, and for improved stakeholder participation.
- (iv) Study on resource generation and allocation at local level, including national-local level budget transfers, direct local access to resources and alternative financing mechanisms.
- (v) Review of existing arrangements between local government and private sector, and local government and natural resources users, with recommendations for improved collaboration.
- (vi) Increase stakeholder involvement, particularly at community level, through improved participatory processes.

4. Output 4: Improved Institutional Capacity

118. At the end of the project, the following will have been achieved:

- (i) Improved understanding of ecosystem management and the need for integrated approaches to combating land degradation among stakeholders.
- (ii) Increased number of stakeholders, including provincial and county government agencies and community groups trained in integrated ecosystem management.
- (iii) Increased application of best practices.
- (iv) Increased knowledge base and awareness on integrated ecosystem management.
- (v) Integrated ecosystem management included in research and educational programs.

Key activities include:

- (i) Hold national and international workshops to establish the principles of integrated ecosystem management and their application.
- (ii) Review and evaluate natural resource management experience in dryland ecosystems in PRC and document best practices.
- (iii) Review need and scope for centers of excellence to establish applied research programs to identify, develop and validate alternative sustainable land management practices, including learning and adaptive management systems.
- (iv) Undertake institutional assessments, including capacity and training needs of provincial and county government agencies and implement capacity building and training programs.
- (v) Train community groups in integration of ecosystem management into development activities.
- (vi) Best practice studies on cultivated land, grassland and forests, run-off control, water-harvesting potential, water use efficiency, wind erosion control and grasslands management.
- (vii) Recommendations on incorporating land tenure/customary rights, gender roles and minorities.
- (viii) Public awareness campaigns and dissemination of lessons learned from demonstration projects.

5. Output 5: Monitoring and Evaluation System Operational

119. At the end of the project, the following will have been achieved:

- (i) More coherent monitoring system, including cross-sectoral, inter-agency network to improve coordination and collaboration in operationalizing the system
- (ii) National system of indicators (biophysical and socioeconomic) adopted and applied to measure the impacts of activities to combat land degradation and reduce poverty.
- (iii) Improved monitoring methodologies adopted.
- (iv) Network of monitoring sites established to assess trends in land degradation and ecosystem restoration.
- (v) Data and information dissemination process operational so that appropriate information can be delivered to users in a timely and useful manner to enable approaches and activities to be refined and adapted to maximize impact.

Key activities include:

- (i) Review current arrangements for monitoring land and ecosystem degradation, including agencies, systems, methodologies and indicators, and develop a proposal for more coherent and unified system.
- (ii) Support the establishment of a coherent national system of monitoring land degradation and restoration indicators, including global dimensions.
- (iii) Monitor socioeconomic impacts of land and ecosystem restoration efforts (rural incomes, farmer/herder participation), including poverty reduction.
- (iv) Establish pilot sites for land degradation/restoration process monitoring in each ecoregion.
- (v) Select a network of monitoring sites.
- (vi) Develop monitoring methodologies for pilot areas in the western region.
- (vii) Replicate successfully tested methodologies in all six dryland provinces in the Western Region.
- (viii) Monitor agreed global and national land degradation/restoration indicators in provinces affected by land degradation/restoration in the Western Region.
- (ix) Design wide-area monitoring methodologies through an inter-agency working group.
- (x) Undertake a land degradation data user needs assessment and establish a system for information collection and dissemination and develop a delivery strategy (including budget) to users of land degradation information.

6. Output 6: CPF Implementation Arrangements Established

120. At the end of the project, the following will have been achieved:

- (i) A fully functioning PRC-GEF Coordination Office with a long-term program for institutionalizing the program, including structures and mechanisms at provincial and county level.
- (ii) Improved donor coordination through established procedures
- (iii) Information on the program, its progress and related issues shared and disseminated on a regular basis, e.g., through website, newsletters, and reports.
- (iv) Program monitoring and evaluation system operational, based on adaptive management, and continually providing feedback and refining the program as it develops.

Key activities include:

- (i) Provide logistical, technical, and financial support to the PRC-GEF Coordination Office in the Ministry of Finance, and provincial coordination offices, as appropriate.
- (ii) Convene meetings with vice-governors of six provinces to confirm plans to implement the CPF.
- (iii) Facilitate PRC-donor coordination and other stakeholder coordination meetings.
- (iv) Develop procedures and methodologies for information collection, analysis, and dissemination for PRC-GEF Partnership, including website development.
- (v) Establish a program monitoring and evaluation system based on learning and adaptive management that can integrate new information from the program and elsewhere and incorporate to modify and refine the program to better achieve its goals.

III. COSTS AND FINANCING ARRANGEMENTS

A. Government Baseline Funding

121. Government expenditure for combating land degradation and related activities in the six provinces in 2002 is estimated at approximately \$1 billion. Policy, legal and institutional reform and rationalizing budget expenditures for combating land degradation and increasing capacity are all priority activities for the Government. The Government baseline costs for this project are estimated at \$ 6.3 million equivalent, and the incremental costs are estimated at \$7.7 million equivalent, a total cost of \$15.0 million equivalent. The project will be implemented over a four year period from 2003-2006. Estimated costs by output are shown in Table 2.

Table 2: Cost Estimates
(\$ million)

Output	Foreign Exchange	Local Currency	Total Cost
1. Policy, Regulatory, and Legal Framework	1.7	1.3	3.0
2. National and Provincial Institutional Coordination Improved	1.1	1.3	2.4
3. Operational Arrangements at Provincial and County Level	1.4	1.7	3.1
4. Improved Institutional Capacity	1.2	1.1	2.3
5. Improved Monitoring System Operational	1.7	1.2	2.9
6. CPF Implementation Arrangements	0.2	1.1	1.3
Total Project Cost	7.3	7.7	15.0
Percentage	49	51	100

Source: ADB estimates.

B. GEF Financing

122. The total cost of the specific activities to be financed under the project is \$15.0 million. On approval of the CPF, \$7.7 million is requested from GEF for the incremental cost of the project over the four-year period. ADB has programmed a TA grant of \$1.0 million in 2003 to support project implementation. An incremental cost matrix is included as Appendix 2. It is anticipated that additional concessional resources will be available from donor agencies. The Financing Plan is shown in Table 3.

Table 3: Financing Plan
(\$ million)

Source	Foreign Exchange	Local Currency	Total Cost	Percent
Asian Development Bank	0.4	0.6	1.0	6.7
Global Environment Facility	6.8	0.9	7.7	51.3
Government	-	6.3	6.3	42.0
Total	7.2	7.8	15.0	100.0

Source: ADB estimates.

C. Donor Financing

123. The international donor community will be invited to support project activities, either through direct financing of activities or through aligning current and planned activities with the approach and direction of this project. Improved donor coordination is an explicit output of this

project and the project will seek to leverage both donor and private sector resources. A number of donors are supporting policy and institutional studies and activities and the project will seek to bring these together in a consistent and coherent manner.

IV. IMPLEMENTATION ARRANGEMENTS

124. This project will provide technical, logistical and budgetary support to the Coordination Office of the Leading Group for the PRC-GEF Partnership in the Western Region, which will be established in the Ministry of Finance (paras. 92-94). It will also support provincial coordinating offices, as these become established. It is anticipated that demonstration projects will assume the role of supporting coordination structures in each province as they come on line, diminishing the need for continued project support in the future. Activities to support the Coordination Office and related structures under this project are included in Output 6 (CPF Implementation Arrangements) as well as under Output 2 (National and Provincial Institutional Coordination). These include establishing a monitoring and evaluation system and disseminating information on the program.

125. The implementation strategy is designed to involve all stakeholders, including government, institutes, academic and research centers, NGOs and donors and foundations. It supports oversight and management on a cross-cutting programmatic basis, as well as line management within the relevant sectors. A stakeholder plan will be developed for the participation of local communities through the mediation of stakeholder groups or citizen advisory committees.

126. The four-year project will cover all of Phase 1 (2003-2005) and the first year of Phase 2 (2006) of the program, which coincides with the last three years of the Government's Tenth Five-Year Plan and the first year of the 11th Five-Year Plan. The project will work with the Government to develop program benchmarks for the three phases of the program. For example, the 11th Five-Year Plans beginning in 2006 will have incorporated integrated approaches and sectoral plans will be harmonized and their budgets rationalized.

127. A monitoring and evaluation system will be developed to monitor the progress of the project. This will include documentation on project implementation information for application into existing or proposed land degradation prevention and control projects. The project will be responsible for helping the PRC-GEF Coordination Office to set up a learning and adaptive management system for the program, to incorporate feedback from field experience and reforms and additional information as it becomes available. This will then be used to inform, modify and refine the program as it develops. This will be linked to an information collection and dissemination process to improve coordination and raise awareness of program-related issues.

V. SUSTAINABILITY AND RISKS

A. Sustainability and Replicability

128. The project is designed to be inherently sustainable, being in large part directed at strengthening the enabling environment and building institutional capacity to overcome barriers to adopting integrated ecosystem management. Institutional sustainability is aimed at improving coordinating mechanisms and strong linkages at national, provincial, and county levels and implementing effective operational arrangements and activities through government bureaus and local resource user groups. Financial sustainability will be promoted by more efficient and effective use of the significant resources committed by the Government to land degradation

prevention and control, and by increased emphasis on monitoring impacts. Economic sustainability will be achieved through demonstration of the benefits of improved ecosystem management to local communities and land users and helping contribute to community ownership and the development of enduring partnerships. Once the enabling conditions to address land degradation are adequately addressed, demonstration investment projects will be far more likely to have significant and sustainable impact.

129. Within the project, replicability of activities and reforms will be an important focus, since policies, institutional reforms and adoption of best practices have the potential to promote and foster far-reaching changes. The learning and adaptive management model that will be formulated by the project will actively seek to disseminate successful activities and incorporate these into planned and ongoing initiatives in the six priority provinces and beyond. Improved donor coordination will lead to successful practices being incorporated into donor projects. Interventions in support of replicability will include training, workshops and the production of operational manuals and procedures across provinces. Experience gained during the implementation of the strategic planning and management, capacity building and monitoring and evaluation components and, more especially, during the formulation and implementation of ecosystem management approaches at the demonstration sites, will promote replication of promising activities. Equally, research centers have a potentially important role in demonstrating the application and benefit of improved approaches to ecosystem management, including models for adoption from other parts of PRC and Asia. Best practice studies on monitoring global and national land degradation/restoration indicators, land tenure/customary rights, gender roles and minorities, and support to the knowledge base will also contribute to promoting replicability.

B. Stakeholder Participation

130. An extensive consultative process was sustained during the preparation of the Partnership through dialogues with central agencies and the governments of the six western region provinces/autonomous regions as well as with academic and research institutes. The participation of multilateral and bilateral organizations has been achieved via donor coordination meetings and will be intensified at central and provincial levels during implementation of the Partnership.

131. However, while the PRC is committed to greater community participation in the design and implementation of development activities, e.g., the village-based comprehensive poverty reduction program in poor villages, public participation has been largely ignored in land degradation control, biodiversity conservation and natural resources management programs. This has led to the recognition of an urgent need to implement guidelines to enable stakeholders, and farmers in particular, to play an active role in local land use decision-making. These guidelines, to be applied in the design and implementation of investments in the CPF, constitute a useful basis on which to develop a stakeholder plan. A starting point would be the formation of stakeholder groups or citizen advisory committees broadly representative of the environmental, social and economic interests of all project participants. Other elements to be considered in the plan include the means to ensure that: public participation is clearly integrated with development activities; government agencies build and maintain strong and direct ties with local communities and other stakeholders (including donors); and adequate funding and human resources are provided to sustain community initiatives in land degradation control and restoration.

C. Risks

132. There are a number of risks associated with the project. These are primarily institutional in character. The CPF and the project have been endorsed by the Government (Appendix 3) and a scientific and technical review has been carried out (Appendix 4). However, a risk exists that the Government will not sustain its commitment to pursue the necessary reforms to overcome institutional, legal, and regulatory barriers or to harmonize programs and budgets. Risk mitigation will be achieved through the strong coordinating role of the Ministry of Finance as executing agency, the incorporation of reforms into the Eleventh Five-Year Plan and sensitization of decision-makers to best international practices and the importance of awareness raising to overcome institutional and regulatory barriers at all levels of government. The project provides a mechanism and resources to achieve this.

133. Second, there is a risk that the results of policy and legislative reforms will not be in place in time to influence effective implementation of demonstration projects. This risk is mitigated by the development and implementation of the project specifically to strengthen the enabling environment and build institutional capacity at the beginning of the program, and by continually emphasizing the importance of timely reforms to key decision-makers. In addition, it may be possible to put in place certain reforms, particularly at local level, on an experimental case-by-case basis, and carefully monitor the impacts.

134. Third, a risk exists that integrated ecosystem management cannot be effectively developed, tested and demonstrated in high priority localities, because of lack of acceptance among stakeholders. Risk mitigation will be achieved through the development of a mechanism for testing and demonstrating in simple, practical and convincing terms the benefits of an integrated approach based on sound ecological principles. This may include incentive and compensation provisions.

135. Fourth, a risk exists that enduring and effective cooperation between concerned agencies at all levels of government is unable to be achieved for implementation of the project. This risk is addressed by involving all stakeholders through national and local leading groups and coordination offices. It will also involve training and workshops aimed at increasing awareness of the need for cross-sectoral cooperation and the improved mechanisms required to achieve it. The coordinating role of the Steering Committee and Ministry of Finance will facilitate cooperation and provincial and county governors have expressed commitment to the program, an important factor in facilitating local-level cooperation. As the project evolves, additional mechanisms for improved coordination will be explored. Local leaders will be targeted for training and awareness building under the project.

136. Fifth, a lack of ability to develop appropriate incentive arrangements to attract national and international private investment, or secure support from international NGOs for the development and implementation of public/private partnerships is a project risk. This risk is addressed through support of incentive schemes and policy development. Furthermore, the project will support the development and implementation of a proactive information system to inform the private sector and NGOs of opportunities and to encourage their support.

PROJECT LOGICAL FRAMEWORK

Design Summary	Performance Indicators and Targets	Monitoring Mechanisms	Key Assumptions and Risks
Goal			
Effective system of integrated ecosystem management (IEM)	<ul style="list-style-type: none"> • Sustainable practices that are ecologically sound, socially acceptable, and economically viable are adopted. • Enhanced global benefits including biodiversity conservation; increased carbon capture; and land, water, and forest resources management in selected ecoregions. • Stakeholder participation and adoption of community-based and environmentally sustainable approaches to improved management practices and reduced poverty. 	<ul style="list-style-type: none"> • Regionwide land restoration surveys • Regionwide socioeconomic surveys • Regionwide ecological and biodiversity surveys • Baseline and annual surveys • Monitoring reports 	<ul style="list-style-type: none"> • Base line funding can be secured from budget allocations and other sources (e.g., loans and grants). • Implementation capacity exists in provincial & local governments. • Results of policy reform have been implemented in time to influence the effective implementation of demonstration projects.
Purpose			
Strengthen the enabling environment and develop institutional capacity	<ul style="list-style-type: none"> • A more coherent, logical, flexible and responsive framework of policies, legislation, and regulations in place, including improved incentives for investment in combating land degradation. • The 11th Five-Year Development Plans will reflect a more integrated approach to combating land degradation, including greater harmonization of sectoral plans and rationalized government budget expenditures. • Improved coordination between government agencies, national and provincial governments, donors, and other stakeholders in land degradation. • Local-level strategic plans for combating land degradation will be operational in six provinces, including improved institutional arrangements, increased budgets and participatory processes. • Greater awareness, acceptance, and practice of integrated ecosystem management among stakeholders, including the developing of tools, best practices and research programs. • An effective and harmonized system of land and ecosystem monitoring and evaluation system in place. 	<ul style="list-style-type: none"> • National and provincial Five-Year plans • Expenditure reviews • Revised policies, laws, and regulations • Surveys • Guidelines • Policy and research papers • Minutes of coordination meetings • Evaluation reports • Training reviews 	<ul style="list-style-type: none"> • Government willingness to implement reforms • Sustained donor commitment

Design Summary	Performance Indicators and Targets	Activities	Monitoring Mechanisms	Key Assumptions and Risks
<p>Output1.</p> <p>Policy, legal and regulatory framework improved</p>	<ul style="list-style-type: none"> • National and sector level policies harmonized • Legislation revised and harmonized • Adapted and flexible implementing regulations adopted for key laws • Improved, more logical linkages between policies and legislation • More flexible and responsive policy, legal, and regulatory framework in place • Improved incentives and market-based instruments to encourage private sector involvement 	<ul style="list-style-type: none"> • Review of policy barriers and opportunities and identification of priority actions for adoption of integrated approaches (including case studies); • Recommendations for implementation of identified priorities (e.g., fiscal and other incentives, participation, land and natural resource use rights) • Identification of opportunities for harmonization of specific legislation and required actions to effect harmonization of legislation (e.g., Integrated Natural Resources Conservation and Management Law, harmonisation of Water and Soil Conservation and Desertification laws) • Assistance to development of implementing regulations adapted to local conditions (e.g., Regulations to implement the incentive provisions under the Desertification Law, local level case studies, and demonstration activities) • Set up a system for review, monitoring, refinement, and adjustment of policies and laws, based on feedback and improved information • Studies on (i) possibilities of increasing private sector involvement for combating land degradation and management of protected areas; and (ii) land-tenure arrangements and customary rights, gender, and minority studies • Case studies on (i) inclusion of public participation in decision making related to land use management and in conflict resolution; (ii) price distortions in land and water charges; (iii) implications of domestic grain policy on land degradation • Recommendations on regulations for the new Water Law (when enacted), water permit system, reforms on river basin management, and water rights and coordination • Roadmap for the preparation of Integrated Natural Resources Conservation and Management Law and local enforcement capability. 	<ul style="list-style-type: none"> • Revised policies, laws and regulations published • Budget & Expenditure reviews • Study reports • Circulation of reports to relevant agencies • Guidelines and policy papers 	<ul style="list-style-type: none"> • Political will exists at State level to discontinue 'perverse incentives' and to empower local governments with land-management authority. • Cooperation between sectoral agencies exists at State and provincial levels. • Governmental support and funding is assured. • Inter-agency support is sustained.

Design Summary	Performance Indicators and Targets	Activities	Monitoring Mechanisms	Key Assumptions and Risks
Output 2. National and provincial institutional coordination strengthened	<ul style="list-style-type: none"> • PRC-GEF Partnership, CCD-NAP, BCAP, and related action plans better integrated • Increased private sector involvement in combating land degradation • 11th Five-Year Development Plan harmonizes sectoral plans and rationalizes budgets and expenditures • Improved donor coordination • Improved intersectoral integration and coordination 	<ul style="list-style-type: none"> • Review of institutional mandates, roles, and responsibilities with recommendations to improve intersectoral integration and coordination. • Mainstreaming integrated approaches into 11th Five-Year Development Plan and sectoral Five-Year Plans at provincial and national level. • Recommendations for harmonizing sectoral Five-Year Plans. • Propose options for budget rationalization for Five-Year Plans. • Develop structures and mechanisms for increasing private sector involvement in combating land degradation. • Promote opportunities for private sector investors and nongovernment organizations (NGOs) in land degradation control. • Develop information 'handouts' and a web site on land degradation control. • Revisiting the <i>National Action Program to Combat Desertification</i> (CCD-NAP), and formulating a national action programming process to combat land degradation, that will address all forms of land degradation and that will integrate the work of the various sector ministries concerned with land degradation. It will also involve upgrading the existing coordination arrangements for the Convention to Combat Desertification (CCD) so that it can be combined with the PRC-GEF Partnership. Budget, plan, and program harmonization to consistently address land degradation is a key feature of the work to be done. • Analysis of roles and mandates of all participating agencies at the provincial level and time-bound recommended actions. • Recommended actions on ways to improve horizontal and vertical cooperation between relevant natural resources management agencies from State to county level. 	<ul style="list-style-type: none"> • Reviews of provincial sectoral plans • Reviews of Annual and Five-Year Development Plans • Expenditure reviews • Half-yearly Program Progress Reports • Government / donor reviews • Minutes of donor coordination meetings • Study reports • Timely availability of information material and web site-based information system 	<ul style="list-style-type: none"> • Support across institutional boundaries is maintained • Provincial Governors direct programs to address land degradation • Sectoral cooperation improves • Donor commitment is sustained

Design Summary	Performance Indicators and Targets	Activities	Monitoring Mechanisms	Key Assumptions and Risks
Output 3. Operational arrangements at provincial/autonomous region and county level improved	<ul style="list-style-type: none"> Local level strategic framework in place Local level strategic plans implemented in six provinces. Plans supported by adequate budget provisions at provincial and county level. Institutional arrangements for stakeholder involvement in place at local level. Participatory processes adopted at local level as part of integrated approaches 	<ul style="list-style-type: none"> Develop and help implement a strategic framework and strategic plans for integrated approaches to land and natural resources management, including budgetary resources, in six provinces. Develop approaches and methodologies for strategic plans for integrated land and natural resources management. Special emphasis will be placed on strengthening the planning and coordination capacity of provincial and local government agencies, and for improved stakeholder participation. Develop location-specific integrated ecosystem management planning guidelines and their application into procedures and operational manuals for six provinces. Study on resource generation and allocation at local level, including national-local level budget transfers, direct local access to resources and alternative financing mechanisms Review of existing arrangements between local government and private sector, and local government and natural resources users, with recommendations for improved collaboration Increase stakeholder involvement, particularly at community level, through improved participatory processes 	<ul style="list-style-type: none"> Provincial and county level reports Revisions of guidelines and implementation orders of central funding programs Progress reports Operational case studies Evaluation reports of case studies Training needs assessment and training plan Progress reports Training evaluation reports 	<ul style="list-style-type: none"> Governors of provincial/regional governments assume leadership for coordinating integrated land and natural resource management. Support for mainstreaming integrated land management and national funding is sustained Inter-agency availability of staff Local government cooperation Availability of funds
Output 4. Improved institutional capacity	<ul style="list-style-type: none"> Operational guidelines, manuals, and procedures adopted, reflecting best practices. Provincial and local agencies capable of identifying, formulating, and implementing IEM projects. Improved knowledge base on integrated ecosystem management. Adaptive management incorporated into research and operational programs. Local centers of excellence in integrated ecosystem 	<ul style="list-style-type: none"> Hold national and international workshops to establish the principles of IEM and their application. Review need and scope for centers of excellence to establish applied research programs to identify, develop and validate alternative sustainable land management practices, including learning and adaptive management systems. Undertake institutional assessments, including capacity and training needs of provincial and county government agencies and implement capacity building and training programs. Train community groups in integration of ecosystem management into development activities. Review and evaluate natural resource 	<ul style="list-style-type: none"> Manuals and guidebooks Project proposals Project reports IEM documents Research reports Prospectuses of research organizations Courses in IEM Study reports Circulation of reports to relevant agencies Workshop reports 	<ul style="list-style-type: none"> Government accepts improved approaches Government agrees to best practices

Design Summary	Performance Indicators and Targets	Activities	Monitoring Mechanisms	Key Assumptions and Risks
	management established	<p>management experience in dryland ecosystems in PRC and document best practices.</p> <ul style="list-style-type: none"> • Best practice studies on cultivated land, grassland and forests, run-off control, water-harvesting potential, water use efficiency, wind erosion control, and grasslands management. • Recommendations on incorporating land tenure/customary rights, gender roles and minorities. • Public awareness campaigns and dissemination of lessons learned from demonstration projects. 		
Output 5. Monitoring and evaluation system operational	<ul style="list-style-type: none"> • More coherent monitoring system in place • National system of indicators (biophysical and socioeconomic) adopted and applied. • Improved monitoring methodologies adopted. • Cross-sectoral/inter-agency network for monitoring operational. • Network of monitoring sites established. • Data and information dissemination process operational 	<ul style="list-style-type: none"> • Review current arrangements for monitoring land and ecosystem degradation, including agencies, systems, methodologies and indicators and develop proposal for more coherent and unified system • Establish a coherent national system of monitoring land degradation and restoration indicators, including global dimensions • Monitor socioeconomic impacts of land restoration efforts (rural incomes, farmer/herder participation), including poverty reduction • Establish pilot sites for land degradation/restoration process monitoring in each ecoregion • Select network of monitoring sites. • Develop monitoring methodologies for pilot areas in the western region • Replicate successfully tested methodologies in all 6 dryland provinces in the western region. • Monitor agreed global and national land degradation/restoration indicators in provinces affected by land degradation/restoration in the western region. • Design wide-area monitoring methodologies through inter-agency working group. • Undertake a land degradation data user needs assessment and establish a system for information collection and dissemination and develop a delivery strategy (including budget) to users of land degradation information 	<ul style="list-style-type: none"> • Published guidelines and orders of participating agencies • Workshop reports • Budget allocations • Reports, summaries, & evaluations of lessons learned • Review reports • Ecological monitoring reports • Indicator mapping. • Resource mapping • Remote sensing reports • Information needs report • Strategy papers 	<ul style="list-style-type: none"> • Cooperation between concerned sectoral agencies exists at State and provincial levels • Availability of Government funds • Intersectoral ministry/agency cooperation exists • Sectoral agencies and research institutes cooperate • Consensus is reached on methodologies and indicator set

Design Summary	Performance Indicators and Targets	Activities	Monitoring Mechanisms	Key Assumptions and Risks
Output 6. CPF implementation arrangements established	<ul style="list-style-type: none"> • PRC/GEF Coordination Office operational • Improved donor coordination • Monitoring and Evaluation system in place • Improved knowledge base and dissemination of information 	<ul style="list-style-type: none"> • Provide logistical, technical and financial support to the PRC/GEF coordination office in the Ministry of Finance, and provincial coordination offices, as appropriate. • Convene meetings with vice-governors of 6 provinces to confirm plans to implement the CPF. • Facilitate PRC-donor coordination and other stakeholder coordination meetings. • Develop procedures and methodologies for information collection, analysis and dissemination for PRC-GEF Partnership, including website development. • Establish a program monitoring and evaluation system. 	<ul style="list-style-type: none"> • PRC/GEF Coordination Office reports, meeting summaries, budget records • Donor coordination meeting minutes with recommended actions • Progress reports 	<ul style="list-style-type: none"> • Availability of trained staff • Donor commitment is sustained • Government continues to assure coordination

PROJECT INCREMENTAL COST MATRIX

Incremental Costs and Global Environmental Benefits

Project	Baseline (B)	Alternative (A)	Increment (A-B)
Component Output 1			
<u>Policy, legal and regulatory framework improved</u>	<p>Outputs include:</p> <ul style="list-style-type: none"> National and sector level policies harmonized. Legislation revised and harmonized. Adapted and flexible implementing regulations adopted for key laws. 	<p>Outputs to ensure global benefits are generated will include:</p> <ul style="list-style-type: none"> Improved, more logical linkages between policies and legislation. More flexible and responsive policy, legal and regulatory framework in place. Improved incentives and market-based instruments to encourage private sector involvement. 	
Global Environmental Benefits	Global benefits will result from the strategic planning and legislative changes, but there are missed opportunities for a comprehensive review of the current situation that will target potential global benefits.	Increased awareness of land use, legal, & institutional issues relating to land degradation and need to integrate them into national policy and legislation. Improved opportunities integrated natural resources projects that effectively address land degradation, facilitate carbon capture, and strengthen globally significant biodiversity conservation.	
Domestic Benefits	Improved enabling environment to address land degradation at national and regional levels within a framework of integrated natural resources management.	Improved and more effective allocation of resources, integrated approach leads to less duplication and overlap across sector agencies, land degradation control activities more sustainable.	
Cost (\$ million)	1.07	2.94	1.87
Component Output 2			
<u>National and provincial institutional coordination strengthened</u>	<p>Outputs include:</p> <ul style="list-style-type: none"> Improved intersectoral integration and coordination. Improved private sector involvement. 	<p>Outputs to ensure global benefits are generated will include:</p> <ul style="list-style-type: none"> PRC/GEF Partnership, CCD-NAP, BCAP and related action plans better integrated. Increased private sector involvement in combating land degradation. 11th Five-year Development Plan harmonizes sectoral plans and rationalizes budgets and expenditures. 	
Global Environmental Benefits	Global benefits will result from improved coordination and revised NAP-CCD framework, but there are missed opportunities for fully integrated approaches that will target potential global benefits.	11th Five year plan reflects enhanced possibility of developing integrated natural resources projects that effectively address land degradation, facilitate carbon capture, and strengthen globally significant biodiversity conservation. Integration of private sector opportunities into overall development process	
Domestic Benefits	Improved donor coordination results in increased efficiency in resource allocation, while improved intersectoral integration improves efficiency of resource use.	Improved and more effective allocation of resources, integrated approach leads to less duplication and overlap across sector agencies, and greater cooperation between provinces.	

Project	Baseline (B)	Alternative (A)	Increment (A-B)
		Improved sustainability of land degradation control activities.	
Cost (\$ million)	1.25	2.45	1.20
Component Output 3			
<u>Operational Arrangements at provincial and county level improved</u>	<p>Outputs include:</p> <ul style="list-style-type: none"> Local level strategic framework in place Local level strategic plans implemented in six provinces. Stakeholder involvement at local level. Participatory processes operational. 	<p>Outputs to ensure global benefits are generated will include:</p> <ul style="list-style-type: none"> Plans supported by adequate budget provisions at provincial and county level. Institutional arrangements for stakeholder involvement in place at local level. Participatory processes adopted at local level as part of integrated approaches 	
Global Environmental Benefits	Some global benefits will result from the adoption of integrated natural resources management procedures, but there are missed opportunities for a comprehensive evaluation of the global benefits of integrated natural resources management	Increased awareness of the global benefits of integrated natural resource management particularly with respect to controlling land degradation, facilitating carbon capture, and biodiversity conservation.	
Domestic Benefits	Strengthened institutional capacity at provincial and county level to plan and implement integrated natural resources management projects aimed at land degradation control.	Improved and more effective allocation of resources, integrated approach leads to less duplication and overlap across sector agencies, land degradation control activities more sustainable. Enhanced capacity to implement integrated natural resources management projects.	
Cost (\$ million)	1.36	3.10	1.74
Component Output 4			
<u>Improved Institutional Capacity</u>	<p>Outputs include:</p> <ul style="list-style-type: none"> Operational guidelines, manuals and procedures adopted, reflecting best practices. Provincial and local agencies capable of identifying, formulating and implementing integrated ecosystem management projects. 	<p>Outputs to ensure global benefits are generated will include:</p> <ul style="list-style-type: none"> Improved knowledge base on integrated ecosystem management. Adaptive management incorporated into research and operational programs. Local centers of excellence in integrated ecosystem management established. 	
Global Environmental Benefits	Some global benefits will result from the adoption of best practices and improved capacity of local agencies, but missed opportunities for a comprehensive evaluation of global benefits of integrated natural resources management	Increased awareness of best practices and the global benefits of integrated natural resource management particularly with respect to controlling land degradation, facilitating carbon capture, and biodiversity conservation.	
Domestic Benefits	Improved capacity at provincial and local levels to plan and implement integrated natural resources management projects aimed at land degradation control. Enhanced capacity to further develop integrated natural resources management projects.	Improved and more effective allocation of resources, land degradation control activities more sustainable. Increased international awareness of and cooperation in control of land degradation. Lessons learned from international experience.	
Cost (\$ million)	0.97	2.28	1.31

Project	Baseline (B)	Alternative (A)	Increment (A-B)
Component Output 5			
<u>Monitoring and evaluation system operational</u>	Outputs include: <ul style="list-style-type: none"> • More coherent monitoring system in place • National system of indicators (biophysical and socioeconomic) adopted and applied. • Improved monitoring methodologies adopted. 	Outputs to ensure global benefits are generated will include: <ul style="list-style-type: none"> • Cross-sectoral/inter-agency network for monitoring operational. • Network of monitoring sites established. • Data and information dissemination process operational 	
Global Environmental Benefits	Limited global benefits through improved quality of land degradation, biodiversity and carbon capture information for policy-making and investment decisions.	Improved international awareness of land degradation issues in PRC. Accurate information on globally significant indicators available for study by international organizations. Increased state of knowledge regarding ecosystems and sustainable development in western PRC.	
Domestic Benefits	High quality information can be used for extensive national debate on land degradation, biodiversity and carbon capture. Improved inter-agency cooperation. Development of a shared information system and national reporting system with more reliable indicators.	Improved acceptance of land degradation information for decision-making. Investment projects more accurately defined due to access to more accurate land degradation information. Management and technical staff use improved methodologies.	
Cost (\$ million)	1.48	2.91	1.43
Component Output 6			
<u>CPF Implementation Arrangements established</u>	Outputs include: <ul style="list-style-type: none"> • PRC/GEF Coordination Office operational • Improved donor coordination • Monitoring and Evaluation system in place • Improved knowledge base and dissemination of information 	Outputs to ensure global benefits are generated will include: <ul style="list-style-type: none"> • Donor projects incorporate global benefits to a greater degree • Donor projects more effectively coordinated • Improved knowledge base on integrated approaches 	
Global Environmental Benefits	Some global benefits through raising the profile of global environmental issues and improved donor coordination	Development of Monitoring and Evaluation system includes learning and adaptive management to enhance timely implementation of program.	
Domestic Benefits	Coordination Office situated in MOF has strong coordinating function that can influence the direction of Government and donor programs and projects	Increased communications and dissemination of information will support increased number of improved initiatives and provide public support for integrated approaches	
Cost (\$ million)	1.17	1.32	0.15

INTERNATIONAL DEPARTMENT

中华人民共和国财政部

MINISTRY OF FINANCE

MOF

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August 1, 2002

To: Nessim Ahmad
Senior GEF Coordinator
Asian Development Bank

China: Strategic Partnership on Land Degradation in Dryland Ecosystems

Dear Mr. Ahmad:

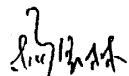
The Government of China initiated a Western Region Development Strategy, which aims to develop the poorest areas of the country. Incidentally, this is one of the most environmental vulnerable areas. Some of the provinces within the region experienced serious land degradation in past decades. In order to mitigate land degradation and rehabilitate ecosystem, an effective management approach is taken as an important element in the Strategy.

The Government places high emphasis on the improvement of ecosystem management in this region. Due to the natural characteristics of the region, a better ecosystem will not only benefit local people, but also benefit the global environment. In this context, PRC-GEF long-term partnership program with participation of all potential players from both foreign and domestic partners will contribute to address the issue of land degradation. Additionally, the existing and upcoming operational program of GEF provides a solid framework for the design and implementation of this Partnership Program.

I believe that this program assisted by ADB will create an effective platform to pursue a sound solution for land degradation in the country. It is also expected that experiences and lessons from this Program will help other countries and other sectors to address similar issues.

Best regards.

Sincerely yours,



(Jinlin Yang)

Operational Focal Point for China

STAP REVIEW AND RESPONSE

A. STAP Reviewer Comments

Independent Technical Review of FRAMEWORK BRIEF FOR THE PRC/GEF PARTNERSHIP ON LAND DEGRADATION IN DRYLAND ECOSYSTEMS

By Hu Tao

**Senior Fellow and Director of Environmental Economics Program
Policy Research Center of SEPA, China**

REVIEW OF KEY ISSUES

General speaking, it's a great report that reveals the realities of current ecosystem management problems in China and designs future programmatic framework with excellent innovativeness. It's the first time in China to have such a study on integrated ecosystem management related to climate change, biodiversity, rural development, poverty alleviation, rural environmental protection as well as other wide social and environmental significances. The project, having both global benefits and regional benefits, is a well-designed win-win project.

1.1 Scientific and technical soundness of the project

For component 2: demonstration projects, from the viewpoint of ecology, the 7 demonstration projects designed should be sound enough. The technologies for dryland ecosystem recovery have been studied for many years in China and applied in Israel, Australia as well as other countries. For instance, water saving agriculture technology is widely used in Israel; grassland ecosystem recovery methods are adapted in Australia.

The attentions of soundness of designed project should be paid on Component 1: Enabling Conditions to Support Land Degradation Control and Management and Component 3: Land Degradation Monitoring and Evaluation. The critical issue of integrated ecosystem management is management itself but natural scientific and technical issues. Thus, management science, institutional economics should be more used in the project. The key of integrated ecosystem management is, personally I think, the proper institutional design and arrangements. No proper institutional arrangements, no success.

1.2 Identification of the global environmental benefits and/or drawbacks of the Project

Obviously the global environmental benefits of the project, as clearly described in the report, are biodiversity conservation and carbon sequestration as sink. One more global benefit, which is mentioned in the report but I want to stress, is sand and dust storm control in the dry

areas. The tiny dusts of sand storm could affect not only China but also neighboring countries and even North America as well.

1.3 How the Project fits within the context of the goals of the GEF, as well as its operational strategies, program priorities. GEF Council guidance and the provisions of the relevant conventions

The project targets carbon sequestration and biodiversity protection, which are exactly the goals of GEF. The project, as described in the report, is to directly focus on OP12 integrated ecosystem management and related to CBD, CCD and UNFCCC.

At the same, I think the project also links to other operating programs, such as OP6 promoting and adoption of renewable energy by removing barriers and reducing implementation costs. The functional dryland ecosystem is also a sustainable biomass source as energy resource for local people.

1.4 Regional context

The project, as clearly stated in the report, is of significance for regional soil and wind erosion control, improving air and water quality, poverty alleviation, regional development balance and economic development etc. The project, as a well-designed win-win project, has both global benefits and regional benefits.

Here I want to stress the project's national significance of air quality. Taking Beijing as an example, every spring its air quality is very bad. Normally its API is over 100 and even the highest is about 500. The reason of so bad air quality in spring is just because of sand storm from degraded dryland ecosystems in Northern China. The similar situation happens in other cities in China as well every year.

The project even more significant for China is to learn management experience. Through the project implementation, the six western regions of China could learn how to manage the integrated ecosystems among several sectors and different administrative levels. The international donor's management experiences are even more important than investments. There are some ongoing domestic projects for natural resources and environmental protection. However, the effectiveness and efficiency of projects are not satisfied enough due to poor project managements, failed policy instruments and wrong institutional arrangements.

1.5 Replicability of the Project (added value for the global environmental beyond the Project itself)

Beside the global environmental benefits, the project has considered many regional aspects. The project is a well-designed win-win project both for global and regional benefits. If the designed project is successful after overcoming the barriers mentioned in the report, the project could be replicable in places with technical, economic and social similarities to the project. So, the project could be possibly expanded to other provinces of China, especially in the poor remote and mountain areas where they need more integrated ecosystem management as

well. For example, an expanded project in the future could be Integrated Wetland Ecosystem Management in Southwestern China.

The project also could be followed by other developing countries that have similar conditions with China, such as India, African countries, especially Central Asian countries nearby China.

1.6 Sustainability of the Project

The sustainability of the project depends on the conditions. Only if all of the necessary conditions are met, the project could be sustained. There is no doubt that top leaders of China have understood the importance of natural resources and environmental protection in western China, which are river and wind upstream areas for eastern part of China. Chinese Central Government's decision of ensuring natural resources management stated in Western Development Strategy has provided the most important substantial necessary condition to sustain the project.

The other important necessary conditions to sustain the project are legislation, institutional arrangement, policy reforming etc, which are recognized by the report. Among the necessary conditions, personally I think the institutional arrangement for an integrated government management mechanism corresponding to integrated ecosystem management is the most important.

1.7 In the case of target research projects, it will be necessary to address the issue of the extent to which the project will contribute to the improved definition and implementation of GEF strategies and policies, thus paving the way for more effective international technical cooperation, assistance and investment projects

This project mainly targets land degradation, associated with climate change, biodiversity etc. However, the global benefits of sand and dust storm control in the dry areas are also very obvious. The tiny dust particles of sandstorms could affect not only China but also neighboring countries and even North America as well. Thus, the establishment of project could contribute experiences to help GEF setup a new operating program on land degradation, focusing on the global environmental impacts of sand and dust storms.

Review of secondary issues

1.8 Linkages to other focal areas

There are 4 focal areas of GEF: global warming, biodiversity loss, ozone layer depletion, and international waters. For this project, the focus is on climate change and biodiversity and has almost no direct linkages with the ozone issue. On international waters issue, a few rivers in the project locations are international rivers, for example Ertix River in Xinjiang flows through China, Kazakhstan, and Russia. If the demonstration project in Xinjiang used too much water, it would affect the neighboring countries. The project linkage with international waters should be also paid attentions due to its potential long-term impact.

1.9 Linkages to other program and action plans at regional or sub-regional level

The project has many linkages with other programs and action plans at regional level, sub-regional level and national level.

At international level, the report has mentioned a couple of project funded by GEF, ADB, WB as well as other bilateral donors.

At national level, the report has also mentioned WDS, the 10th five-year plan as well as other programs related to CPF. Additionally, I just add more programs in the following.

- Sustainable Development strategy and Agenda 21 of China by SDPC/MOST
- Ecological Agriculture County Program by MOA
- Green Food Program by MOA
- Organic Food program by SEPA
- Micro-financing by Poverty alleviation by PA Office of State Council and MOA
- Ecological Demonstration Area by SEPA
- Green Accounting Study by State Statistics Bureau
- Provincial level 10th five-year plan at 6 provinces/autonomous regions

1.10 Other beneficial or damaging environmental effects

The project can gain other national environmental benefits, beside for the benefits of protecting biodiversity, carbon sequestration and combating desertification mentioned above.

The project can also contribute to improve air quality. For example, in Beijing every spring its air quality is very bad. Its API could be as high as 500 sometimes. The reason of the bad air quality in spring is just because of sand storm from degraded dryland ecosystems in Northern China. The similar situation happens in other places in China as well every year.

Generally speaking, the project can gain the following environmental benefits:

- Soil erosion control
- Wind erosion control
- Local air ambient benefit

1.11 Degree of involvement of stakeholder in the Project

There are many stakeholders involved in the project at different degrees and scales:

- ADB: loan lender for the project in the future
- GEF: grant provider of project for global environmental benefits
- MOF: playing a key role as national focal point as well as coordinator for the project
- SDPC: playing a key a role of developing national economy
- SFA, SEPA, MWR, MOA: playing roles as parts of integrated ecosystem management at central government level
- MOST, SETC, MOFTEC: all related to the sustainability of project

- 6 provinces/regions governments: the demonstration projects implementers
- Local County/municipality governments: playing key roles of organizing the farmers to implement the project
- Peasants/farmers: playing critical roles of the project implementation
- NGOs: should play a role but very weak in China
- And others

China traditionally is a fragment Authoritarianism, according to political science. Normally the institutional reform is top-down model but bottom up model. Among the stakeholders above, it seems one critical role of making institutional arrangements should be played either by State Council or by one of the existing powerful stakeholders, such as MOF or SDPC. Otherwise, integrated ecosystem management couldn't be integrated together.

The most difficult stakeholders for the project implementation, I think, are peasants/farmers who are money-driven. They are the real implementers. To keep their interests is the key to carry out the project.

For different stakeholders, they play different roles and have their own niches in the project system.

1.12 Capacity building aspects

The project would be definitely helpful for capacity building of the 6 provinces/autonomous regions as well as central government bodies in the following aspects beside the contents mentioned in the project report:

- To increase the capacities of integrating different sectors and co-coordinating different level governments
- To learn how to manage the project at the local level. The local projects normally have very low efficiency and corruption problems.
- To learn how to value the environment and integrate environment value into economy.
- To strengthen the natural and environmental management in rural area. So far, environmental management in rural area is very weak with few staff, little budget, and less equipped.

Personally I think the capacity building contribution is even more important than the financing support from ADB/GEF. China could find money to support projects but don't have enough capabilities to manage the project.

1.13 Innovativeness of the Project.

I found two great innovativeness of the project.

- Integrating: it's the first time in Western China to have such an integrated project combining carbon sequestration, biodiversity protection, local environmental benefits, poverty alleviation and local economy development as well as other social aspects. There are several existing programs in China related to land degradation

and combating desertification. This project could help the relevant ministries and provinces as well as international bodies to work together for promoting the land degradation program further.

- Institutional reforming: the project is trying to integrate the relevant institutions together to setup a kind of mechanism to manage an integrated ecosystem. It will change the existing independent institutions toward more integrating.

Additional point.

China's accession to WTO will change China's economy structure and agriculture structure. China is going to import more wheat, beans and other land-intensive products and to export more vegetables, fruits and other labor-intensive products by taking its comparative advantage and avoiding comparative disadvantage. According to my study, this trend will dramatically help China at macro economy level to easily implement the combating desertification programs. Otherwise, China has to heavily use the land for producing foods to feed the people, in order to implement its traditional food-self sufficiency policy.

Therefore it will be very helpful for the 6 provinces/regions to implement the demonstration projects if they enlarge imported livestock products from Kazakhstan, Uzbekistan, and Mongolia etc. For China, it directly imports livestock products and indirectly imports environmental quality by releasing environmental pressures in drylands.

B. Bank Project Team Response

ISSUE AND RESPONSE	Reference in Programming Brief
A. Review of key issues	
SCIENTIFIC AND TECHNICAL SOUNDNESS	
<p><i>The attentions of soundness of designed project should be paid on Component 1: Enabling Conditions to Support Land Degradation Control and Management and Component 3: Land Degradation Monitoring and Evaluation. The critical issue of integrated ecosystem management is management itself but natural scientific and technical issues. Thus, management science, institutional economics should be more used in the project. The key of integrated ecosystem management is, personally I think, the proper institutional design and arrangements. No proper institutional arrangements, no success.</i></p> <p>We agree with the observation that the institutional arrangements are critical, as well as the importance of applying the latest scientific knowledge and experience. It is for this reason that institutional arrangements are at the core of the project, this is especially true of establishing coordination at provincial and county levels and ensuring cross-sectoral integration. In addition, we have included studies of best practices, including technical, policy and legal, and institutional dimension, as a means of application at provincial and county levels.</p>	Part 2, Section IV.A,B and Part 3, Section II
IDENTIFICATION OF THE GLOBAL ENVIRONMENTAL BENEFITS AND/OR DRAWBACKS	
<p><i>One more global benefit, which is mentioned in the report but I want to stress, is sand and dust storm control in the dry areas. The tiny dusts of sand storm could affect not only China but also neighboring countries and even North America as well.</i></p> <p>We agree on the importance of dust and sandstorms in generating adverse impacts beyond PRC's borders. This is a legitimate global issue that the program is designed to address through systemic interventions in the source areas of these storms, i.e. North-West PRC. One of the indicators at the global level is the reduction in the frequency and occurrence of dust and sandstorms.</p>	Part 1, Section VI
HOW THE PROJECT FITS WITHIN THE CONTEXT OF THE GOALS OF THE GEF, AS WELL AS ITS OPERATIONAL STRATEGIES, PROGRAM PRIORITIES. GEF COUNCIL GUIDANCE AND THE PROVISIONS OF THE RELEVANT CONVENTIONS	
<p><i>I think the project also links to other operating programs, such as OP6 promoting and adoption of renewable energy by removing barriers and reducing implementation costs. The functional dryland ecosystem is also a sustainable biomass source as energy resource for local people.</i></p> <p>The program supports linkages and complementarities with other Operational Programs (OPs) of GEF, including OP1, Biodiversity of Arid and Semi-Arid Zones and OP13, Conservation and Sustainable Use of Biodiversity Important to Agriculture, as well as OP6. Upon approval, an OP on Land Degradation will also apply. Improved donor coordination is a key element of the program and should help further promote close cooperation with ongoing and planned projects under related OPs.</p>	Part 1, Section VI and Part 2, Section VII.E and Part 3, Section II.B.6
REGIONAL CONTEXT	
<p><i>The project even more significant for China is to learn management experience. Through the project implementation, the six western regions of China could learn how to manage the integrated ecosystems among several sectors and different administrative levels. The</i></p>	Part 2, Section IV.A,B and part 3, Section II

<p><i>international donors' management experiences are even more important than investments. There are some ongoing domestic projects for natural resources and environmental protection. However, the effectiveness and efficiency of projects are not satisfied enough due to poor project managements, failed policy instruments and wrong institutional arrangements.</i></p> <p>The points made here confirm the rationale and priorities of the program as laid out in the Framework Summary. The program seeks to improve the efficiency and effectiveness of domestic programs and expenditures to combat land degradation by overcoming barriers to sustainable resource management. Institutional arrangements, policy and legal instruments, management capacity, improved coordination and best practices from domestic and international experience are all critical areas targeted by the program.</p>	
<p align="center">REPLICABILITY OF THE PROJECT (ADDED VALUE FOR THE GLOBAL ENVIRONMENTAL BEYOND THE PROJECT ITSELF)</p>	
<p><i>Beside the global environmental benefits, the project has considered many regional aspects. The project is a well-designed win-win project both for global and regional benefits. If the designed project is successful after overcoming the barriers mentioned in the report, the project could be replicable in places with technical, economic and social similarities to the project. So, the project could be possibly expanded to other provinces of China, especially in the poor remote and mountain areas where they need more integrated ecosystem management as well. For example, an expanded project in the future could be Integrated Wetland Ecosystem Management in Southwestern China.</i></p> <p>The program has developed criteria for demonstration project selection, of which replicability is a key criterion. It is very important, given the vast areas of PRC that are subject to land degradation, that replicable approaches are developed that can be adapted and applied throughout western PRC. While the projects focus on dryland ecosystems, the approaches developed will be applicable for other ecosystems, since they will address common barriers to integrated ecosystem management.</p> <p>In terms of other countries, regional cooperation with Mongolia is already ongoing to combat dust and sandstorms. Exchange of experience, with countries also undergoing severe dryland degradation will be valuable and information sharing, including website development, is planned under the program.</p>	<p>Part 2, Section III and Section IV.D and Section VIII.A</p>
<p align="center">SUSTAINABILITY OF THE PROJECT</p>	
<p><i>The other important necessary conditions to sustain the project are legislation, institutional arrangement, policy reforming etc, which are recognized by the report. Among the necessary conditions, personally I think the institutional arrangement for an integrated government management mechanism corresponding to integrated ecosystem management is the most important.</i></p> <p>We agree that institutional arrangements are critical and need to be addressed along with related policy and legislative issues to maximize the likelihood of program success. Much of the program is focused on ensuring the implementation of integrated management.</p>	<p>Part 2 Section IV.A,B and Part 3, Section II</p>
<p align="center">IN THE CASE OF TARGET RESEARCH PROJECTS, IT WILL BE NECESSARY TO ADDRESS THE ISSUE OF THE EXTENT TO WHICH THE PROJECT WILL CONTRIBUTE TO THE IMPROVED DEFINITION AND IMPLEMENTATION OF GEF STRATEGIES AND POLICIES, THUS PAVING THE WAY FOR MORE EFFECTIVE INTERNATIONAL TECHNICAL COOPERATION, ASSISTANCE AND INVESTMENT PROJECTS</p>	
<p><i>This project mainly targets land degradation, associated with climate change, biodiversity etc. However, the global benefits of sand and dust storm control in the dry areas are also very obvious. The tiny dust particles of sandstorms could affect not only China but also</i></p>	<p>Part 1, Section VI and Part 2, Section VII.E</p>

<p><i>neighboring countries and even North America as well. Thus, the establishment of project could contribute experiences to help GEF setup a new operating program on land degradation, focusing on the global environmental impacts of sand and dust storms.</i></p> <p>The program will operate under OP12, but as and when a new OP on land degradation is developed, it is hoped that experience gained under this program can be useful in developing the details of the OP.</p>	
B. Review of secondary issues	
LINKAGES TO OTHER FOCAL AREAS	
<p><i>There are 4 focal areas of GEF: global warming, biodiversity loss, ozone layer depletion, and international waters. For this project, the focus is on climate change and biodiversity and has almost no direct linkages with the ozone issue. On international waters issue, a few rivers in the project locations are international rivers, for example Ertix River in Xinjinag flows through China, Kazakhstan, and Russia. If the demonstration project in Xinjiang used too much water, it would affect the neighboring countries. The project linkage with international waters should be also paid attentions due to its potential long-term impact.</i></p> <p>Opportunities to address international waters issues, such as in the indicative Xinjiang project, will be incorporated into demonstration projects. Given that water resources management is such a critical element of ecosystem management in the western region, it will be a major focus of the program.</p>	Part 1, Section VI and Part 2, Section IV
LINKAGES TO OTHER PROGRAM AND ACTION PLANS AT REGIONAL OR SUB-REGIONAL LEVEL	
<p><i>At national level, the report has also mentioned WDS, the 10th five-year plan as well as other programs related to CPF. Additionally, I just add more programs in the following.</i></p> <ul style="list-style-type: none"> • Sustainable Development strategy and Agenda 21 of China by SDPC/MOST • Ecological Agriculture County Program by MOA • Green Food Program by MOA • Organic Food program by SEPA • Micro-financing by Poverty alleviation by PA Office of State Council and MOA • Ecological Demonstration Area by SEPA • Green Accounting Study by State Statistics Bureau • Provincial level 10th five-year plan at 6 provinces/autonomous regions <p>The Framework Summary has highlighted some of the major Government programs, but those mentioned above are important and will be taken into consideration as the program gets underway. A key aim of the program is to review the various government programs and plans with a view to promoting more integrated approaches that build on the strengths of existing programs. The provincial five-year plans are of critical importance and will be an area of particular focus.</p>	Part 1, Section III, Part 2, Section I,IV and Part 3, Section II
OTHER BENEFICIAL OR DAMAGING ENVIRONMENTAL EFFECTS	
<p><i>The project can gain other national environmental benefits, beside for the benefits of protecting biodiversity, carbon sequestration and combating desertification mentioned above.</i></p> <p>We agree that these are additional environmental benefits under the program. This is the particular value of adopting an integrated ecosystem approach to capture synergies and derive multiple benefits.</p>	Part 2, Sections I, and IV and Part 3, Section II
DEGREE OF INVOLVEMENT OF STAKEHOLDER IN THE PROJECT	
<p><i>China traditionally is a fragment Authoritarianism, according to political science. Normally the institutional reform is top-down model but bottom up model. Among the stakeholders above, it seems one critical role of making institutional arrangements should be played either by</i></p>	Part 1, Section IV,V and Part 2 Section VIII, and

<p><i>State Council or by one of the existing powerful stakeholders, such as MOF or SDPC. Otherwise, integrated ecosystem management couldn't be integrated together.</i></p> <p><i>The most difficult stakeholders for the project implementation, I think, are peasants/farmers who are money-driven. They are the real implementers. To keep their interests is the key to carry out the project.</i></p> <p><i>For different stakeholders, they play different roles and have their own niches in the project system.</i></p> <p>Stakeholder involvement is built into the program at several levels. At a coordination level, MOF and SDPC will play a key role. MOF will house the Coordination Office of the Leading Group for the program and will also play a key role in coordination at the provincial level through provincial finance bureaus. Local land users are critical to the success of the program and addressing their concerns must be a top priority. The program proposes to do this through (i) the development of integrated natural resource management approaches that result in improved returns to land users; (ii) improved incentive measures (such as fiscal and tenure issues; (iii) involvement of local land users in the planning, implementation and monitoring of demonstration projects and (iv) increased capacity building measures.</p>	<p>Part 3, Section V.B</p>
<p align="center">CAPACITY BUILDING ASPECTS</p>	
<p><i>Personally I think the capacity building contribution is even more important than the financing support from ADB/GEF. China could find money to support projects but don't have enough capabilities to manage the project.</i></p> <p>Capacity building is fundamental to program success and is built into the program through targeted activities related to awareness raising for integrated approaches, information sharing, training and workshops and demonstration projects. Capacity building will especially focus on the interface at local level between government agencies, land users and other stakeholders.</p> <p align="center">INNOVATIVENESS OF THE PROJECT</p> <p><i>I found two great innovativeness of the project.</i></p> <ul style="list-style-type: none"> <i>Integrating: it's the first time in Western China to have such an integrated project combining carbon sequestration, biodiversity protection, local environmental benefits, poverty alleviation and local economy development as well as other social aspects. There are several existing programs in China related to land degradation and combating desertification. This project could help the relevant ministries and provinces as well as international bodies to work together for promoting the land degradation program further.</i> <i>Institutional reforming: the project is trying to integrate the relevant institutions together to setup a kind of mechanism to manage an integrated ecosystem. It will change the existing independent institutions toward more integrating.</i> <p>We agree on the importance of these two issues.</p>	<p>Part 2, Section IV.A,B and Part 3, Section II</p>
<p>C. Additional point</p>	
<p><i>China's accession to WTO will change China's economy structure and agriculture structure. China is going to import more wheat, beans and other land-intensive products and to export more vegetables, fruits and other labor-intensive products by taking its comparative advantage and avoiding comparative disadvantage. According to my study, this trend will</i></p>	<p>Part 2, Section IV,A and Part 3, Section II</p>

<p><i>dramatically help China at macro economy level to easily implement the combating desertification programs. Otherwise, China has to heavily use the land for producing foods to feed the people, in order to implement its traditional food-self sufficiency policy.</i></p> <p><i>Therefore it will be very helpful for the 6 provinces/regions to implement the demonstration projects if they enlarge imported livestock products from Kazakhstan, Uzbekistan, and Mongolia etc. For China, it directly imports livestock products and indirectly imports environmental quality by releasing environmental pressures in drylands.</i></p> <p>As the program addresses key policy issues and develops improved approaches to natural resource management, the implications of WTO accession needs to be carefully examined for its implications. For example, should the northwestern region be targeted for it's comparative advantage in livestock production, what will be the impacts on grassland management? This issue will be further examined as Component 1 (Enabling conditions to support integrated natural resources management in dryland ecosystems) activities are designed.</p>	
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