



PROJECT EXECUTIVE SUMMARY
GEF COUNCIL INTERSESSIONAL WORK PROGRAM SUBMISSION

AGENCY'S PROJECT ID: 3998-PRC
GEFSEC PROJECT ID: 1126
COUNTRY: The People's Republic of China (PRC)
PROJECT TITLE: Sanjiang Plain Wetlands Protection
GEF AGENCY: Asian Development Bank (ADB)
OTHER EXECUTING AGENCY(IES): Heilongjiang Provincial Government (HPG)
DURATION: 5 years
GEF FOCAL AREA: Biodiversity conservation
GEF OPERATIONAL PROGRAM: OP2: Coastal, Marine and Freshwater Ecosystems
GEF STRATEGIC PRIORITY: BD-1. Catalyzing Sustainability of Protected Areas; BD-2. Mainstreaming Biodiversity in Production Landscapes and Sectors; and BD-4. Generation and Dissemination of Best Practices for Addressing Current and Emerging Biodiversity Issues

Pipeline Entry Date: 22 October 1999
ESTIMATED STARTING DATE: 1 July 2005
EA FEE: \$872,920


FINANCING PLAN (US\$)	
GEF PROJECT/COMPONENT	
Project	12,142,000
PDF A	
PDF B	330,000
PDF C	
Sub-Total GEF	12,472,000
<i>CO-FINANCING</i>	
ADB loan	15,019,000
Government	22,787,000
Bilateral	
NGOs	
Others(State Forest farms)	4,440,000
<i>Sub-Total Co-financing:</i>	<i>42,246,000</i>
<i>Total Project Financing:</i>	<i>54,718,000</i>
FINANCING FOR ASSOCIATED ACTIVITIES IF ANY*: 1,350,000	
LEVERAGED RESOURCES IF ANY:	

*Details provided under the Financial Modality and Cost Effectiveness section

CONTRIBUTION TO KEY INDICATORS OF THE BUSINESS PLAN: The Project contributes to (i) improvements in management effectiveness of 470,000 ha of Protected Areas (PAs; in 6 reserves) for sustainable conservation and protection; (ii) improvements measured against baseline scenario for management capacity and budgets; (iii) replication of model wetland restoration approach; and (iv) improved knowledge and dissemination of successful demonstrations on wetlands watershed management approach for over 150,000 ha wetland Nature Reserve areas by 2010.

RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT(S):
WANG BING Date: 19 July 2004
Deputy Director, International Department,
Ministry of Finance

Approved on behalf of the Asian Development Bank. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for work program inclusion

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I. PROJECT SUMMARY

1. The wetlands in the Sanjiang Plain are an important nesting and stopover location at the northern end of the East-Asian-Australian Flyway for migratory waterfowls, most notable of which are the white-naped and red-crowned cranes. Over the last five decades, both forest and wetlands in Sanjiang Plain have been reduced to a fifth of their original size.¹ Globally significant migratory birds have been disappearing, and less than 10% of them can now be observed in the Sanjiang wetlands. The current problems in the Sanjiang wetlands are the result of intricately interrelated economic activities, competing for the use of scarce natural resources. Draining wetlands for farming, expanding farmland to feed growing populations, exploiting forests, channeling floodwaters to protect these economic activities—all have contributed to today's hydrologic and climatic changes in the Sanjiang Plain, desiccating and degrading wetlands. The problems are complex, and the geographical area involved is huge. A continuing, systematic approach is therefore needed.

2. Thus, the Project takes a holistic model approach aimed at replication, and consists of closely interlinked measures to remove threats to wetland biodiversity as an integrated watershed management package, by (i) rehabilitating and protecting degraded forests in the upper watershed areas; (ii) restoring and protecting wetland Nature Reserves (NRs) in the downstream areas; (iii) providing alternative livelihoods to farmers in and around NRs; and (iv) strengthening the capacity of the local agencies in charge of watershed wetland and NR management. About 13 counties in the Sanjiang Plain will undertake forest improvement and convert farmland back to legally required forest use, as part of the integrated watershed management approach. Six key NRs in the five contiguous watersheds (in these 13 counties) will be the focus of habitat and wildlife protection and wetland restoration activities. Xinhkaihu NR is one of the sites listed in the Ramsar Convention, and the others are all part of national NRs. By developing and testing a model framework to protect wetland biodiversity while promoting the sustainable development of the areas, the Project is expected to lead to a much larger farmland-to-wetland restoration program (over 150,000 ha), which has been already initiated and implemented by Heilongjiang Provincial Government (HPG) in 2003.

3. The proposed Project is in many ways innovative. Instead of directly addressing the foregoing problems, it deals with their underlying causes and provides a holistic model framework for wider replication. Overall, the government will, first of all, learn new ways of managing watersheds and wetlands; second, build the technical capacity to protect NRs; and, third, involve both government staff and communities in promoting environment-friendly practices. These measures are to build up long-term sustainability. The Project will also provide innovative financial frameworks. The Village Development Fund (VDF) will (i) provide alternative livelihoods for farmers; (ii) compensate village collectives for their lost land-lease incomes; and (iii) ultimately lower the government's financial burden by turning sunk costs of land compensation into profitable investment opportunities. Also, forest development will involve financial model functions besides improving watershed management. It will (i) provide additional income for forest workers through intercropping; (ii) lead to economically viable forest development; and (iii) allow revenue from forest yields to be shared with NRs. The proposed Project is thus designed to promote an environmental conservation framework that is not only replicable and sustainable, but also financially viable.

4. To address the underlying causes of environmental problems arising from social economic development, the Project emphasizes a socially sustainable consultative development approach. As an environmental project, most of its subcomponents include environmental benefit monitoring activities, as part of an adaptive planning approach. The documentation of implementation, workshops, and information dissemination to share learning experiences are all aimed at systematic replication of the model. The Project approach is based in all respects on the policies and plans of the government. As the government itself has started a wetland restoration program, it has already made substantial commitments for replicating the proposed model. The conservation of soils, forests, and wetlands and the management of water resources are increasingly recognized as critical environmental interventions in the People's Republic of China (PRC). The Project is therefore highly consistent with the operation of the Asian Development Bank (ADB) and fits well with the strategic priorities under GEF OP2.

¹ Wetlands currently cover a total of about 10,278 sq. km and forestlands coverage is about 11,000 sq. km.
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II. COUNTRY OWNERSHIP

A. Country Eligibility

5. The PRC ratified the Convention on Biological Diversity on 5 January 1993; notification of its participation in the restructured GEF was made on 16 May 1994.

B. Country Drivenness

6. The PRC gives high priority to wetland biodiversity conservation, watershed protection, and sustainable management of natural resources. The country has 1,757 NRs covering 130 million ha, including 12 million ha of wetlands, and there are plans to expand the total area to 155 million ha by 2010. Heilongjiang Province has 58 NRs with 1.9 million ha of wetlands; 28 of these are in the Sanjiang Plain. The PRC ratified the Ramsar Convention on 31 July 1992, and three wetland NRs (Honghe, Sanjiang, and Xingkaihu NRs) in the Sanjiang Plain are already listed as wetlands of international importance (Ramsar sites). The PRC's Biodiversity Conservation Action Plan (BCAP; 1994) identified the biodiversity conservation of Sanjiang wetlands as the highest priority. In 1995, the Committee of Environmental and Resources Protection of the National People's Congress strongly urged the central and local governments to protect wetlands in the Sanjiang Plain, and in 1998, the HPG issued a decree suspending wetland development in the province and preventing further conversion to farmland. This was reinforced in June 2003 with the adoption of the Regulation on Wetland Conservation of Heilongjiang Province, which took effect on 1 August 2003. To address losses, HPG developed plans for the restoration of over 150,000 ha of farmland to wetlands within wetland NRs in the Sanjiang Plain, and in 2003 the Heilongjiang Province Forestry Department (HPFD) began implementing this wetland restoration program (funded by the National Development and Reform Committee, NDRC). HPG also plans to reverse loss of forest cover by restoring farmland and wasteland (secondary scrubland and denuded areas) to forest area by replanting 68,500 ha annually from 2006 to 2010. The conservation and sustainable management of Sanjiang Plain wetland resources are a listed priority in strategic government documents including BCAP; National Wetland Conservation Action Plan; National and Provincial Protected Area System; Agenda 21 White Paper on China's Population, Environment, and Development in the 21st Century; and 2003 Regulation on Wetland Conservation of Heilongjiang.

III. PROGRAM AND POLICY CONFORMITY

A. Consistency with GEF Operational Program and Strategic Priority

7. The objective of the Project is fully consistent with OP2, which is aimed at the conservation and sustainable use of biological resources in coastal, marine, and freshwater ecosystems. The activities of the Project support significant populations of globally threatened species by improving habitat and wildlife management, and are thus eligible for GEF funding support under OP2. The Project provides a holistic model approach. As a result, the global benefits from biodiversity conservation can be achieved effectively as the activities are supported by complementary sustainable development activities, such as improving the management of local water resources, forest areas, and local economic development.² As an integrated package, the Project will make a substantial contribution primarily with respect to OP2, Biodiversity.

8. The Project conforms to GEF Strategic Priority BD-1, Catalyzing Sustainability of Protected Areas, because it will (i) demonstrate alternative financial mechanisms to compensate for lost income, (ii) offer alternative livelihoods that are conducive to biodiversity protection, and (iii) catalyze community-indigenous initiatives by providing a village development planning mechanism. The Project also advances the objectives of BD-2, since it will mainstream biodiversity in the water sector by (i) establishing interagency working groups for water resources management, and (ii) developing model watershed water allocation plans that incorporate the impact of flood control measures in wetland protection. In addition, the Project contributes to the operational objectives of BD-4: Generation and Dissemination of Best Practices for Addressing Current

² Though the Project includes programs for the improvement of watershed, forest, and land management, their contribution to other GEF OPs (OP3: Forest Ecosystem, OP12: Integrated Ecosystem Management, and OP15: Sustainable Land Management) is minimal as individual programs, and their impacts are mainly local. As an integrated package, their overall outcome supports conservation of globally significant wetland biodiversity, and fits best under the objectives of OP2.

and Emerging Issues in Biodiversity, by supporting the dissemination of innovative model approaches and tools developed as part of training. Further details regarding the contribution of the Project to key indicators of the business plan are provided in [Annex A](#).

B. Project Design

1. Project Rationale, Objectives, Outputs/Outcomes, and Activities

9. The Sanjiang Plain (with about 8 million people living on 108,900 km of land) is one of the PRC's richest in globally significant flora and fauna, supporting about 37 ecosystems, 1,000 species of plants, and 528 species of vertebrate fauna.³ The Sanjiang Plain supports a rich biological diversity, including 23 species listed by IUCN/ the World Conservation Union as globally threatened. Of these, 10 species are waterfowl such as cranes, storks, and swan geese, which require extensive, undisturbed wetlands during their migration and breeding seasons. The Sanjiang Plain wetlands are an important nesting and stopover location at the northern end of the East-Asian-Australian Flyway for migratory waterfowls. The transformation of the Sanjiang Plain into a major grain production field over the last five decades was therefore achieved at considerable cost to the environment. Immense networks of drainage channels, pumping stations, and flood control dikes destroyed millions of hectares of natural marshes and wet meadows, and altered the water cycle of entire watersheds. The use of flood control dikes to protect farmlands prevented wetlands from being naturally recharged, thus dehydrating and reducing the wetland habitats. Large portions of the uplands were deforested,⁴ further upsetting the water balance in the watersheds. As the altered water cycle in the wetlands reduced their habitat size and self-cleaning capacity, plant and animal biodiversity of global significance has declined. Large wildlife such as the northeast tiger, red deer, and bear were exterminated, and formerly abundant ducks, geese, cranes, and other waterfowls nearly disappeared. Key wetlands and globally threatened species are now primarily found in NRs, but the management of these areas is beset with challenges. Rather than simply addressing the sustainability of localized environmental issues in selected NRs, the Project is aimed at developing a model framework for replication that provides direct examples for ongoing HPG wetland and forestland restoration programs.

10. Twenty-eight of Heilongjiang's 58 wetland NRs are in this plain; of these, six are key NRs⁵ providing a habitat for all 23 globally threatened species, and harboring significant populations of 14 of these species. Thus, these six NRs with the greatest concentration of biodiversity in five contiguous watersheds—Anbang, Dajiahe, Naoli, Muling, and Zhanbaodao watersheds—will be the focus of protection/restoration models. Thirteen counties, where these five watersheds are found, would strengthen the watershed approach through reforestation interventions in the Sanjiang watersheds.

11. The threats analysis identified four main threats to globally significant biodiversity in the Sanjiang Plain wetlands. These are (i) changes in hydrology/desiccation; (ii) conversion to farmland; (iii) inappropriate resource use; and (iv) limited conservation capacity of NR staff and low awareness of adjacent communities. Key underlying causes contributing to biodiversity loss are (i) unsound local planning of water resources allocation; (ii) poor understanding of nonstructural flood mitigation and floodplains management; (iii) lack of alternative livelihoods, leading to exploitation of NR resources; (iv) weak inter-agency coordination for integrated watershed management; (v) weak technical capacity in NR management; (vi) lack of a replicable financing model for replacing arable farmland; (vii) low public awareness of wetland values and biodiversity conservation; and (viii) incorrect interpretation of legislation regarding experimental zones. These threats, and possible interventions to address them, are detailed in [Annex B](#).

12. The overall goal of the Project is the sustainable management of natural resources to protect globally significant biodiversity and to promote economic development. The immediate objective of the Project is the

³ A detailed review and analysis is included in the full Project Document-Supplementary Appendix A: Profile of Wetlands Biodiversity in the Sanjiang Plain.

⁴ Over the last five decades, the forest cover has shrunk from 49% at the turn of the century to only 10% (about 11,000 sq km).

⁵ The six target NRs are in Anbanghe, Dajiahe, Naolihe, Qixinghe, Xingkaihu, and Zhenbaodao. Xingkaihu NR is one of the three Ramsar sites included in the present Project. In the other two Ramsar sites (Honghe and Sanjiang NRs), the UNDP-GEF project is undertaking activities that are entirely different from those envisaged under the present Project. To avoid overlaps, these two sites were not included in the present Project. Details of site selection and a description of the six NRs are in the full Project Document-Supplementary Appendix C: Site Selection and the Selected Six Nature Reserves.

protection of the natural resources of the Sanjiang Plain wetlands and their watersheds (biodiversity, water resources, forests) from continued threats, and the promotion of their sustainable use through the integrated conservation and development of selected wetlands and forest areas of the Sanjiang Plain, and the improved well-being of local communities. The logical framework for the Project is presented in **Annex C**.

13. Following from the threat analysis and from the logical framework, the four main threats (and their underlying causes) are targeted by the following four closely linked project components.

14. **Component 1: Watershed Management.** Outcome: improved NR watershed management. The Project will enhance watershed-level water resource management, and improve forest management (to reduce surface runoff, and increase soil water retention and groundwater recharging). Activities include planting 10,000 ha of indigenous poplar and larch plantations on denuded slopes or farmlands to return these to legally required forest use; establishing interagency working groups among stakeholders at the local level for water resource management in targeted watersheds in and around NRs; and developing a model for water resource management in NRs, developing model watershed-level water allocation plans incorporating flood control impact and wetland protection aspects, and institutionalizing this process.

15. **Component 2: Wetland Nature Reserve Management.** Outcome: enhanced biodiversity protection in wetland NRs. The Project will develop models and capacity for scientific wetland NR conservation management, and embed component outputs in NR management plans. Activities include the establishment of reliable information baselines and a GIS; management planning; pilot restoration of 3,342 ha (using a balance of restoration/habitat types); capacity building for the farmland-to-wetland restoration program; development of a monitoring program; production of a manual on farmland-to-wetland restoration; reduction of unsustainable resource use; and development and implementation of species recovery programs. The model wetland restoration approach will include alternative livelihoods (under component 3), to compensate for lost access to farmland and other resources.

16. **Component 3: Alternative Livelihoods.** Outcome: developed and sustained alternative livelihoods. The Project will develop and implement programs for sustainable livelihood in villages affected by the reforestation program (under component 1) and farmland-to-wetland restoration (under component 2).⁶ This is to ensure that these restoration programs have a lasting beneficial effect. Villages affected by the forestry program will receive investments in agroforestry, intercropping, non-timber forest products (NTFPs), and apiculture. Villages affected by NR wetland restoration will be targeted by a VDFs program, whereby villages submit development plans for approval; “green” investment plans (as listed by the Project) will be readily accepted and applicable for grant co-funding; and a separate “black list” will serve to eliminate unacceptable proposals. An ecotourism subcomponent will target NRs, and will include master planning for sustainable tourism, development of tourism guidelines, and pilot projects (capacity building and construction of basic NR infrastructure such as signboards).

17. **Component 4: Education and Capacity Building.** Outcome: increased conservation awareness and capacity for sustainable management of wetland NR biodiversity. The Project will develop and implement conservation education at local schools, public awareness programs for State Farms and communities in and around NRs; and a targeted training program for NR staff and other stakeholders, including water resource managers. A Project website will be established to facilitate information exchange and general awareness. The training program will include short-term on-the-job and long-term formal training, exchanges, study tours, and workshops. The training will be directly linked to component 2; for example, the development of the NR management plan and species recovery plans will be incorporated into the long-term training program.

18. The Project differs significantly from other wetland conservation and sustainable management projects in the PRC. First, it closely links integrated watershed management with the management of wetland NRs, and establishes measures for replicating and mainstreaming this approach in other watersheds. The model approach for wetland restoration will guide wetland restoration in more than 150,000 ha in NRs in

⁶ No physical resettlement of people will be involved, but there will be compensation for loss of access to farmland in the wetland NRs. Because of the reallocation of the village’s remaining land, village collectives rather than individuals will be affected.

Heilongjiang Province, and throughout the country. Second, the Project will also provide innovative financial frameworks. While restoring farmland back to wetlands, VDFs (using compensation funds made available by the government) will (i) provide alternative livelihoods for farmers; and (ii) ultimately lower the government's financial burden by turning sunk costs of land compensation into profitable investment opportunities. Third, forest development enhances the financial sustainability of wetland NRs management, as it allows the sharing of revenues from forest yields to cover the operation and maintenance costs of NRs. Finally, overall legal responsibility for coordinating integrated watershed management is placed under one provincial government; therefore, the Project has a strong advantage over inter-institutional coordination across sectors, as all activities are within the province. Interagency coordination between State Farms and HPG has already been occurring through the conversion of 333 ha in Xingkaihu Lake as a pilot site for the proposed Project, allowing lessons and learning from inter-institutional coordination to be further refined and replicated. The Project provides a valuable ground for mainstreaming inter-institutional coordination across sectors for wetland biodiversity protection.

2. Key Indicators, Assumptions, and Risks

19. Key indicators of Project success are expansion in the Sanjiang Plain NR wetlands area, increase in wildlife populations, economically viable forestry investments, and absence of adverse effects on communities from farmland-to-wetland and farmland-to-forest restoration programs. Key assumptions are that the HPG's regulation prohibiting wetland conversion will be enforced, and that HPG's program to compensate farmers in the Project area with NDRC funds for farmland-to-wetland and farmland-to-forest restoration will be implemented. Key risks that may affect Project implementation and may affect Project success include (i) the level of cooperation in integrating inter-agency water resource management; (ii) the HPFD's capacity to manage wetland ecosystems; (iii) the presence of mutually beneficial relationships between protected areas and surrounding communities in undertaking the restoration program; and (iv) government counterpart financing for the Project. First, the Project will address the risks by nurturing good cooperation between agencies by establishing working groups at the county level for effective geographical and institutional distance from the target wetlands. Second, to address the matter of HPFD's capacity to manage wetland ecosystem, the Project supports technical expert inputs early on to build up necessary basic knowledge and to acquire equipment for basic functions (such as field surveys, long-term monitoring, data analysis, and enforcement), and develops exit strategy to sustain the capacity. Third, the Project also induces mutually beneficial relationships with the communities, by providing incentives for eco-friendly development and a community awareness program to increase appreciation of the value of wetlands protection. Finally, regarding counterpart financing, the HPG has confirmed the earmarking of funds in its annual budget program for the wetland restoration program. To further reduce the risks associated with government counterpart financing, innovative approaches to alternative livelihoods for forest workers and the adoption of the VDF as an investment alternative rather than sunk cost have been introduced. As NR management is within the purview of the Forest Department, HPG is also expected to demonstrate a high level of commitment to improve the economic potential of forest development, and thus share state forest revenues for the daily operation of NRs. Government financial commitments for the Project have been obtained through a Memorandum of Agreement, and will be further assured through a loan agreement with ADB.

3. Global Environmental Benefits and Incremental Cost Estimates

20. Global benefits from the Project will be derived from the (i) protection of globally endangered species, (ii) conservation of ecosystems that are under threat, and (iii) improvements in watershed management and wetlands habitat quality, leading to an increase in the number of wildlife. The replication of the Project model framework throughout the Sanjiang Plain will enhance these global environmental benefits.

21. Incremental cost estimates are based on the three levels of development inputs: business as usual (BAU), sustainable development (SD), and GEF alternative approach. The BAU baseline assumes continued investment by the government and donor agencies in watershed and water resource management, nature conservation, and further expansion of the protected area system. However, wetlands NRs continue to be operated without management plans and to use approaches that have proved to be less effective at stemming

the decline of globally important species. The SD alternative adds to the BAU baseline investments by the government (including the ADB loan) in reforestation, and investments in economic development in villages affected by both the farmland-to-forest and farmland-to-wetland restoration programs. These investments will improve environmental management and conditions, but will mainly benefit the entire country. The GEF alternative scenario adds to both the BAU baseline and SD alternative activities that are designed to achieve the Project's global biodiversity objectives and are expected to generate significant global benefits. The cost of wetland restoration, for instance, will largely be borne by the PRC Government, and not by GEF. Physical interventions (GEF funded) amount to \$171 per ha, while associated farmland-to-wetland compensation (Government funded) amounts to \$3,000 per ha. GEF inputs largely go toward activities that reap global (46%) or shared (48%) benefits, and only a small percentage (6%) will go toward activities where national benefits are largely accrued. The estimated cost of the BAU baseline is \$39,850,000, that of the SD alternative \$ 79,495,000, and that of the GEF alternative \$90,540,000, resulting in an incremental cost of \$11,045,000. Intensive consultations have taken place during the Project preparation stage with the government stakeholders to jointly estimate incremental costs (**Annex D: Incremental Cost Analysis**).

C. Sustainability (including financial sustainability)

22. Sustainability of benefits and achievements beyond the completion of the GEF Project will be positively affected by: (i) Promulgation the "Regulation on Wetland Conservation of Heilongjiang Province," which took effect on 1 August 2003, and lays a solid foundation for long-term improvement in wetland conservation in the Sanjiang Plain; (ii) Financial commitments confirmed by the HPG for the implementation of the farmland-to-wetland and farmland-to-forest restoration programs; (iii) Availability of already on-going financial assistance by NDRC for affected communities from farmland-to-wetland program, rather than the simple provision of funds directly as compensation; (iv) Strong commitment of the PRC Government to improve water resource management flood protection, among others, by improving watershed management; (v) Development of practical/ workable models for wetland restoration (including restoration of local livelihoods) that are targeted to the local situation in the Sanjiang Plain; (vi) Strong emphasis of the Project on capacity building; this is included in each of the components, especially Component 4, which is entirely focused on education, awareness education, and training, along with development of training modules and curricula; (vii) Focusing on a single province (taking lessons from the current UNDP-GEF project on Wetlands Biodiversity and Sustainable Use in China) to bring decision-making closer to local stakeholders, facilitating bottom-up processes and inter-agency collaboration, communication and empowerment of local communities. Sanjiang plains are of tremendous importance to global biodiversity conservation and the project's focus on this region under a single province enhances sustainability.

23. Capacity developed under the project will be sustainable, as this is embedded in the following government commitments: (i) The model approach for wetland restoration will guide wetland restoration in more than 150,000 ha in NRs in Heilongjiang province, in the farmland-to-wetland restoration program funded by SFA-NDRC and implemented by HPFD. The Project is planned for implementation during the next 5-year period at an estimated cost to the PRC Government of over 7 billion yuan. A list of restoration sites and an outline of possible restoration methodologies have already been completed by FDHP. There will be a continued need for capacity building for wetland restoration and water resources management. (ii) NR management is a mandated function of HPFD. The provincial government's general budget sharing is the committed mechanism for continued funding, and is included as a covenant under the loan agreement with ADB. (iii) Individual VDF will establish revolving funds (at least 30% of the total), which will remain functional, operating along guidelines established during the Project. Capacity developed under the VDF programs will therefore remain operational.

D. Replicability

24. HPG has agreed to replicate wetland restoration models (including livelihood restoration) developed by the Project in its farmland-to-wetland restoration program, under which over 150,000 ha will be restored in wetland NRs in the Sanjiang Plain alone. Funds have been allocated for this replication by NDRC and HPG. The Project will facilitate this program by providing much-needed examples of how this can be achieved successfully, and maximizing benefits to biodiversity conservation. The watershed-level water

resources management approach will provide a model for water resources management (and allocation for conservation) to the Song-Liao Water Resources Commission, allowing replication in subcatchments throughout the entire Songhua River basin and much of northeast PRC. The production of training manuals and development of training curricula will facilitate the further replicability of the model framework. In particular, the Project will be led by one provincial government, facilitating inter-agency coordination of water, forestry, agriculture, and environmental protection departments. Thus, lessons learned will be of great value in the course of replication in other contexts under the broader framework of river basin management.

E. Stakeholder Involvement

25. During Project formulation, stakeholders were identified at the local and provincial level and actively involved in Project formulation. The HPFD prepared a proposal for reforestation and improved forestry in June 2003, forming the basis for component one of the project, and consolidating plans produced by individual Sanjiang Plain counties. Meetings were held with NR management and staff, and with provincial agencies involved in NR management (especially State Forestry Administration/ SFA, State Environmental Protection Agency/ SEPA) in assessing reserve management requirements. Field work included social assessments, discussions with local community members, and assessments of local needs and constraints. Several provincial workshops were held in Harbin with key stakeholder agencies. Multi-stakeholder meetings have been held at the county level to discuss wetland NR resource management issues.

26. A Public Participation Plan (PPP, included in the Project Document: Supplementary Appendix J) has been formulated to promote the active participation of the affected populations (especially the poor and women) in Project implementation, monitoring, and evaluation, so that their problems, needs, and concerns can be addressed. The PPP will include Project stages of preparation, design, planning, implementation, monitoring and evaluation, and post-Project action. For each of these stages, the plan will lay out the type, purpose, and methods of participation, and assign responsibilities for accomplishing participation. Effective involvement of stakeholders, including local authorities, community members, and NR management, will be embedded in the PPP as part of Project implementation arrangements, i.e., working groups at the local level, and would continue during Project implementation.

F. Monitoring and Evaluation

27. ADB-GEF will monitor Project performance in line with the performance indicators included in the logical framework matrix⁷, and as outlined in the Project review plan of the full Project proposal. The Project will be overseen by the Project Steering Committee, and be subject to regular tripartite review by representatives from HPG, ADB, and GEF (national focal point) at least once every 12 months. The Executing Agency will be responsible for ensuring that 6-monthly and annual Project reports are prepared, translated, and submitted to members of the tripartite review panel well in advance of meetings. The Project Director of the Executing Agency is responsible for preparing, translating, and submitting bimonthly, semi-annual, and annual Project reports to ADB, GEF, and HPG, and will for preparing Project implementation reviews as required by GEF. About \$450,000 has been allocated for overall environmental monitoring and evaluation, excluding M&E planned directly under each subcomponent activity. At the Project inception stage, baseline indicators for environmental benefit monitoring and Project performance management system will be refined on the basis of the latest information.

IV. FINANCIAL MODALITY AND COST-EFFECTIVENESS

28. The total cost of the Project is \$54.39 million, including a GEF grant of \$12.14 million, \$15.02 million in co-financing from an ADB loan, in-kind contributions of \$4.44 million from the beneficiaries, and counterpart contribution of \$22.78 million from the government. The government contribution will consist primarily of inputs from the State Forest Farms, HPG funding for livelihood support and land compensation, and labor input. Given the high degree of replicability anticipated under the farmland-to-wetland and farmland-to-forest restoration programs, and the drive to expand the total area under the NRs, this investment

⁷ At present, a Project Information Form for Biodiversity (PIFB) is being developed by GEF as a tool for monitoring and evaluation of project results. It is expected that the form will make use of the same targets and indicators as described in the logframe, as the Project has already taken these indicators into consideration in anticipation of the PIFB.

is regarded as being highly cost-effective.

29. Also, the amount of associated financing (\$1,350,000) includes (i) ADB grant of \$250,000 for the poverty and environment fund to assist alternative livelihood development in three poverty counties in the Project area, (ii) ADB grant of \$500,000, for the PRC's Flood Management Strategy Study to incorporate wetland protection as part of flood management, and (iii) ADB grant of \$600,000 for Support for Environmental Legislation to strengthen laws and regulations on NR management and protection.

Co-financing Sources				
Name of Co-financier (Source)	Classification	Type	Amount (US\$)	Status*
GEF Agency (ADB)	EA	Loan	15,019,000	Confirmed MoU
Government	EA/Government	Grant	22,787,000	Confirmed MoU
State Forest Farms	Beneficiaries	In kind	4,440,000	Confirmed MoU
Subtotal Co-financing			42,246,000	

* Reflects the status of discussions with co-financiers.

V. INSTITUTIONAL COORDINATION AND SUPPORT

A. Core Commitments and Linkages

30. The proposed GEF-funded intervention forms an integral part of the ADB loan program negotiated with the government, and is entirely consistent with the ADB's Country Strategy and Program (CSP). The CSP places strong emphasis on the following strategic areas: (i) pro-poor economic growth; (ii) enabling conditions for private sector expansion; (iii) financial sector reform; and (iv) environmental improvement, including land and water degradation issues. The sector and geographic areas of focus of ADB's lending in the 2003-2007 CSP deal with three areas: (i) agricultural and rural development, including land degradation, and soil and water management; (ii) transport and energy; and (iii) the environment, including water supply/wastewater/non-point pollution improvements. Green environment issues are of critical importance to the ADB in the PRC, especially where they relate to agriculture. Conservation of soils, forests, wetlands, and abatement of water pollution are recognized as critical environmental interventions with a positive economic impact. In this context, the proposed Project strongly supports ADB's principal strategic concerns. Also, PRC-GEF Partnership implemented by ADB on Land Degradation in Dryland Ecosystems is closely linked as it emphasizes institutional framework and capacity building for combating land degradation over 10 years at estimated investment of \$1.5 billion. This will facilitate forward linkages to strengthening capacity at national government level for overall ecosystem management.

B. Consultation, Coordination, and Collaboration Between IAs, and IAs and EAs, If Appropriate

31. ADB and HPG have worked together closely in the preparation of the Project proposal, and have held regular tripartite meetings to discuss and guide development of the proposal. In addition, there have been regular meetings for the exchange of information, data, reports, and ideas that have contributed to overall Project development. It is fully anticipated that this close cooperation will continue during Project implementation, and has been embedded in the Project Review Plan.

32. Close collaboration between UNDP, UNEP, and ADB during the preparatory phase has forged harmony in approaches adopted by each IA. The ongoing UNDP/GEF/SFA project will emphasize ecological principles and a technical approach, and continue its limited geographic focus, while technical advice on hydrological principles will be provided by this Project. UNEP has recently secured GEF PDF-B funds to prepare a full-size project: "Integrated Management of the Heilong/Amur River Basin" under OP9. This UNEP/SEPA project will provide an overall regional framework for transboundary river basin management, and cooperation among Russia, Mongolia, and PRC in broader institutional cooperation. Key differences between the UNEP/SEPA and ADB/HPG projects lie in the learning experiences and implications for wetlands protection policy: the proposed Project will provide knowledge and lessons in managing globally significant biodiversity protection under a provincial government for inter-sectoral coordination, while the UNEP project would elicit lessons for international cooperation in transboundary water issues at the national level. Other lessons learned from various biodiversity projects under PRC/GEF have been fully reflected and incorporated in the Project design. Further details concerning other relevant

GEF assistance to the PRC are presented in **Annex E**.

C. Project Implementation Arrangements

33. A Project Management Office (PMO) will be responsible for implementing the Project. The PMO will be composed of professional and administrative staff assigned from existing agencies and hired specifically for the Project. It will have the capacity to administer funds from grant, loan, and local government counterpart funding sources and execute Project activities in coordination with HPG Financial Bureau and its line agencies. The PMO will be responsible for managing all Project activities and funds in accordance with requirements and guidelines of HPG, ADB, and GEF. It will be based in the provincial capital (Harbin), attached to HPG, and report to a Project Steering Committee. A field office will be based in Baoqing county, near the center of the Sanjiang Plain, to support field activities.

34. The four components of the project are integrated in order to accomplish the Project's intended outcomes, and basic implementation arrangements are:

- (i) Component 1: Under the Watershed Management component, forestry plantation and treatment activities financed by the ADB loan will be implemented by County Forestry Bureaus using their staff and forest farm workers, with supervision from the Project Forestry Plantations Specialist. The NR Water Resource Management subcomponent will be implemented by the Wetlands Biodiversity Specialist and NR managers, with substantial assistance from consultants. The basin-level water resource allocation study and management will be carried out by the Provincial Department of Water Resources (led by the Heilongjiang Project Management Office team involved in Songhua Flood Management Project financed under ADB fund), in coordination with HPFD.
- (ii) Component 2: Wetlands Nature Reserve Management component will be implemented by the NR managers and staff, with substantial technical assistance from the Wetlands Biodiversity Specialist and consultants, including the International Wetlands Expert. The Reduction of Resource Exploitation subcomponent will be implemented by the Community Participation Specialist in coordination with local communities and NR managers.
- (iii) Component 3: The Alternative Livelihoods component will be implemented in two ways. First, the intercropping and NTFP investments under the ADB loan are to be implemented by the County Forestry Bureaus with the forest farm workers; the NTFP Specialist will provide supervision and technical assistance. The VDF and Ecotourism subcomponents will be implemented by the Community Participation Specialist, in coordination with local communities and NR managers.
- (iv) Component 4: Education and Capacity Building component will be implemented by the PMO's Education and Capacity Specialist, with substantial help from consultants and provincial universities (e.g. Northeast Forestry University or Northeast Agricultural University).
- (v) Project Management Office will overview, coordinate, and supervise overall project implementation in coherent manner, and conduct integrated environmental monitoring program.

List of Annexes:

- Annex A: Project Contribution to Operational Programs and Key Indicators of GEF Business Plan
- Annex B: Threats Analysis
- Annex C: Logical Framework for Sanjiang Plain Wetland Protection Project
- Annex D: Incremental Cost Analysis
- Annex E: Other GEF Assistance Relevant to the Project
- Annex F.1: STAP Expert Review on 20 June 2004 and IA/ExA Response
- Annex F.2: GEF Secretariat Review on 15 July 2004 and IA/ExA Response
- Annex F.3: World Bank Review on 15 July 2004 and IA/ExA Response
- Annex F.4: Convention Secretariat Comments on 23 July 2004 and IA/ExA Response
- Annex G: MOF Endorsement Letter for GEF

ANNEX A : PROJECT CONTRIBUTION TO OPERATIONAL PROGRAMS AND KEY INDICATORS OF GEF BUSINESS PLAN

1. **Operational Programs.** The objective of the Project is protection of natural resources in Sanjiang Plain wetlands and their watersheds (biodiversity, water, forests), from continued threats, and the promotion of their sustainable use, through the integrated conservation and development of selected wetlands and forest areas of the Sanjiang Plain, and improved well being of local communities. This objective is fully consistent with OP#2 *Coastal, Marine and Freshwater Ecosystems*, which aims at conservation and sustainable use of the biological resources, among others in freshwater ecosystems.
2. The project may further have linkages with the following Ops as sustainable development activities;
 - OP#3 *Forest Ecosystems*, as a total of 10,000 ha of new forest plantations will be planted on degraded, unproductive farmland and deforested/eroding areas. In addition, 36,900 ha of existing forestry plantations will be subjected to improved management and upgrading.
 - OP#12 *Integrated Ecosystem Management*, as it takes an integrated, basin wide approach to the management of water and other natural resources, and will establish an institutional framework (based on existing structures) to achieve this, and
 - OP#15 *Sustainable Land Management*, as management of catchments will be upgraded and vastly improved via the forestry program (see point above), and also assist with identifying, developing, and promoting sustainable land management in areas adjacent/near the wetland protected areas.
3. Efficiencies are achieved in the project by combining complementary baseline and incremental activities together as an integrated package. Individual program alone would only contribute to local and national benefits. But when integrated, these linkages provided by sustainable development activities will further enhance the global incremental benefits, which largely contribute to the objectives of OP#2.
4. **GEF Strategic Business Planning: Direction and Targets.** The GEF Business Plan (GEF Council document GEF/C.21/Inf.11) of 17 April 2003 aims to maximize global environmental impacts by directing application of its resources where maximum results are achieved. The overall strategic approach for the Biodiversity focal area includes an increased emphasis on: (i) Sustainability of results and the potential for replication; (ii) Moving beyond the current projects-based emphasis where appropriate, to more strategic approaches that systematically targets country enabling environments to address biodiversity conservation over the long-term; (iii) Inserting biodiversity within other sectors through mainstreaming it in the wider sustainable development context; and (iv) Improve dissemination of tools, lessons learned and best practices among broader audiences.
5. The project is designed to target these four strategic approaches, by:
 - (i) Sustainability will be achieved by i) Continued funding of the NRs is guaranteed by the Provincial Government, via its general budget sharing agreement, which is included as a covenant under the loan agreement with ADB. NR management capacity developed under the project will therefore continue to function. ii) Individual Village Development Funds(VDF) will establish revolving funds (out of at least 30% of the total financial input), which will remain functional, operating along guidelines established during the project. Capacity developed under the VDF programs will therefore remain operational. Replicability. Wetland restoration is to be carried out in more than 150,000 ha in NRs throughout the province in the farmland-to-wetland restoration program funded by SFA-NDRC (i.e. the central government) and implemented by HPFD. This will be implemented for the next 5 years at an estimated cost of over ¥7 billion to the Chinese government, and a list of restoration sites has been completed. The project will implement pilot restoration on 3,433 ha of (former) wetland, but given the national program, there will therefore be a continued need for capacity for wetland restoration and water resources management.
 - (ii) Move from project-based approach to strategic approach. The project will develop models for restoration, including innovative ways for financing resettlement of persons affected by this program. The model will be applicable and promoted for use in 150,000 ha of (former) wetland.
 - (iii) Inserting biodiversity in other sectors. The project will mainstream biodiversity in the water sector, by means of two project sub-components: i) establishing interagency working groups among stakeholder at local level for water resource management in targeted watersheds in/around NRs, and

developing a model for water resource management in NRs, and ii) developing model watershed-level water allocation plans by incorporating flood control impact and wetland protection aspects, and institutionalizing this process. At both levels, justified and agreed to water allocation for biodiversity conservation will be the key achievement.

- (iv) *Dissemination of tools, lessons learned and best practices*. One of the four project components focuses on awareness and capacity building. This will include public awareness programs for State Farms and communities in/around NRs; and a targeted training program for NR staff and other stakeholders, including water resource managers. A project website will be established to facilitate information exchange and general awareness. The training program is to include short-term on-the-job and long-term formal training, exchanges, study tours, and workshops. This will be directly linked to component 2; for example, development of the NR management plan and species recovery plans will be incorporated into the long-term training program. Tools developed – especially the models for wetland restoration (including financial models) and water resources management will be widely used in these training programs, and embedded in curricula.

6. **Strategic priorities** identified in the GEF Business Plan for the Biodiversity focal area are: *BD-1*: Catalyzing sustainability of protected areas; *BD-2*: Mainstreaming biodiversity in production landscapes and sectors; *BD-3*: Capacity building for the implementation of the Cartagena Protocol on Biosafety, and *BD-4*: Generation and dissemination of best practices for addressing current and emerging biodiversity issues. The project will significantly contribute to BD-1, BD-2 and BD-4, as is outlined in i-iv under point 5, above.

7. The project aims at sustainable management of key nature reserves in the Sanjiang Plain, by means of: (i) watershed level water resources management; (ii) strengthening reserve management and creating sustainable land use in/adjacent reserves; (iii) developing alternative livelihoods to replace losses incurred by communities affected by restoration programs; and (iv) capacity building for conservation. 470,000 ha of Protected Areas (PAs; in 6 reserves) will be under improved management for conservation protection. However, rather than simply addressing sustainability in the six pilot NRs, the Project aims at developing models for replication that slot directly into ongoing HPG programs, and a comprehensive capacity building program that includes curriculum development. This approach is fully compatible with the objectives of *Strategic Priority BD-1* Catalyzing Sustainability of Protected Areas, as clarified in the GEF Business Planning: Directions and Targets document (GEF/C.21/Inf.11, April 17 2003)

8. In addition, under *BD-1*, the project will contribute to various *operational initiatives* considered by the GEF, including: (i) The demonstration and implementation of innovative financial mechanisms. These include i) the alternative model approach to compensate for lost income in relation to restoration of wetlands by means of establishing village development funds. ii) Compensation through alternative livelihoods that is conducive to wetland management. It names just a few (NTFP, Eco-tourism, Forestry, Inter-cropping); (ii) Capacity building. This includes institutional capacity building, both in the provincial forestry department, and in the water resources management department, and individual capacity building, and (iii) Catalyzing community-indigenous initiatives. The Village Development Plans are designed to support local initiatives, which will be funded by the VDF provided that they meet environmentally friendly criteria embedded in the Environmental Management Plan (i.e. are 'green projects').

9. The project also contributes to the *operational objectives of BD-2*, mainstreaming biodiversity in production landscapes and sectors. As mentioned in 5.c, biodiversity will be mainstreamed within other sectors by inserting biodiversity issues in the wider sustainable development context. Specifically, water resources will be allocated according to biodiversity needs, which will be balanced with needs for the other sectors, including agriculture, forestry and industry. At the same time, the contribution of the project to *strategic priority BD-4* generation and dissemination of best practices for addressing current and emerging biodiversity needs are outlined in point 5.(iv) above.

ANNEX B : THREATS ANALYSIS

1. Global Environment Facility (GEF) project design has been based on threats analysis to remove underlying causes of the problems identified. To facilitate project design, an analysis was carried out in which the immediate threats to biodiversity were identified, along with underlying and root causes and possible avenues for addressing them. The outcome of this analysis is illustrated in Figure on Threats to biodiversity and the Project conceptual model. The indicative threats analysis is summarized in Table.

2. The indicative threats analysis identified the four main threats to globally significant biodiversity in the Sanjiang Plain as (i) changes in hydrology/desiccation; (ii) conversion to farmland; (iii) inappropriate use practices of resources (overexploitation of resources, disturbances, and habitat degradation); and (iv) limited conservation awareness and capacity of nature reserve (NR) staff and adjacent communities. Underlying causes of water pollution are closely related to incorrect or overuses of agricultural fertilizers, which are interrelated with their farming activities and farmers' awareness on conservation. Following from this analysis and from the logical framework, the four main threats (and their underlying causes) are targeted by four closely linked project components, each with a set of sub-components that address various aspects of the underlying causes.

3. Some of the underlying causes will not be addressed by the present Project, as they are already the focus of another project or beyond the scope of a GEF intervention. One of the unaddressed underlying causes pertains to nature reserve legislation, regulations and zoning, and differences in how these are applied or interpreted at national and provincial levels. This will be the focus of an Asian Development Bank (ADB) technical assistance (TA),¹ being developed at present that will address environmental legislation. The underlying cause of pressures on natural resources due to increases in the human population is regarded as being outside the scope of a GEF intervention. A more extensive account of the history of these threats, and an account of current threats are provided in the Supplementary Appendix I of the full Project Document.

Table: Threats Analysis and Project Response Matrix

Threats/Constraints	Root Cause	Required Response	Proposed Project Intervention
<p>Increasing Wetland Dehydration</p> <ul style="list-style-type: none"> • surface water drainage, diversion and/or storage systems • deforestation changing water balance 	<ul style="list-style-type: none"> • government crop production policy and practice • limited understanding of water requirements of various users, including wetland NR • road construction • flood management • irrigation supply 	<ul style="list-style-type: none"> • forestry investments in watershed • integrated watershed-level water resource planning 	<ul style="list-style-type: none"> • Subcomponent 1.1 reforestation of 10,000 hectares (ha) • Subcomponent 1.2 for local-level (NR) water management • Subcomponent 1.3 for watershed-level water resources management
<p>Wetland Conversion</p> <ul style="list-style-type: none"> • State Farm cropland expansion • leasing of farmland within Nature Reserves • expansion of road, rail transport corridors 	<ul style="list-style-type: none"> • pressure to increase incomes by expanding crop production • some farmland existed prior to NR establishment • need for lease income for NR operations • incorrect interpretation of legislation regarding experimental zones 	<ul style="list-style-type: none"> • government farmland to wetland restoration with compensation • policy, regulation, and enforcement to prohibit conversion & do land use planning • increased financial allocation to NRs • integrated transport development planning 	<ul style="list-style-type: none"> • Subcomponent 2.1 Management Planning to 'guide' transport development • Subcomponent 2.2 on pilot wetland restoration, including development of model, & development of manual. • Subcomponent 3.2 establishing of village development funds for maintaining livelihoods of villages affected by wetland

¹ ADTA-PRC. Support for Environment Legislation for \$600,000, programmed for 2004. One of the focal areas of this to-be-approved TA will be legislation related to protected area management.

Threats/Constraints	Root Cause	Required Response	Proposed Project Intervention
		& engineering • review of Protected Area legislation (focus of TA on environmental legislation currently being formulated)	restoration program. • Subcomponent 3.3 will stimulate sustainable ecotourism development. • Subcomponent 4.3 wetland management training to include capacity building in wetland restoration.
Overexploitation of Wildlife and Plants • overfishing • overhunting • excessive plant product harvest • excessive medicinal herb harvest • excessive reed harvest	• increase household food supply • income generation • paper production • roofing material needs • fuel needs • construction material needs • few economic alternatives	• alternative income sources • improved enforcement of existing regulations and training • reduce exploitation to sustainable levels • education & training of NR staff in enforcement, management and wildlife conservation	• Subcomponent 2.4 Reduction of overuse, to focus on achieving sustainability and eliminating unsustainable use forms. • Subcomponent 3.2 establishing of village development funds for maintaining livelihoods affected by resource use reduction program. • Subcomponent 4.2 focuses on awareness raising of farmers and State Farm staff
Human Disturbance of Wildlife During Sensitive Periods (Nesting, Rearing, Migration) • households in wetlands • farms in wetlands • fishermen in wetlands • hunters in wetlands • tourists in wetlands • capturing wildlife for display in NR visitor centers	• existed prior to NR establishment • to increase crop production • to increase household income • to obtain food supply • recreation • low awareness of wildlife biology and general conservation needs	• enforcement of existing regulations on use of NR zones • resettlement of households & removal of farmland from NRs • development of tourism management plans • conservation education among villagers • education & training of NR staff	• Subcomponent 2.2 pilot wetland restoration, including development of model, and development of manual • Subcomponent 2.4 Reduction of overuse, to focus on achieving sustainability and eliminating unsustainable use forms • Subcomponent 3.3 ecotourism development of master plans & guidelines • Subcomponents 4.1 (education), 4.2 (awareness) & 4.3 (training)
Habitat Degradation (Other Than Related To Conversion) • anthropogenic fire • overgrazing	• forage improvement • livestock industry development • “controlled burns” as precaution against catastrophic fire • untrained NR personnel	• relocation & compensation of grazers • husbandry programs for grazing, hay, fire • education and training of NR staff	• Subcomponent 2.4 Reduction of overuse, to focus on achieving sustainability and eliminating unsustainable use forms. • Subcomponent 4.2 awareness of local farmers and State Farms • Subcomponent 4.3 training of NR staff
Water Pollution • agricultural fertilizers & pesticides • sedimentation • sewage	• to increase crop production • excessive use of agrochemicals due to poor user practice • no facilities for treatment of effluents	• increase public/ State Farm awareness • water resource planning for water quality • development of best management practice	• Subcomponent 1.2 local-level (NR) water resources management • Subcomponent 4.2 awareness of local farmers and State Farms

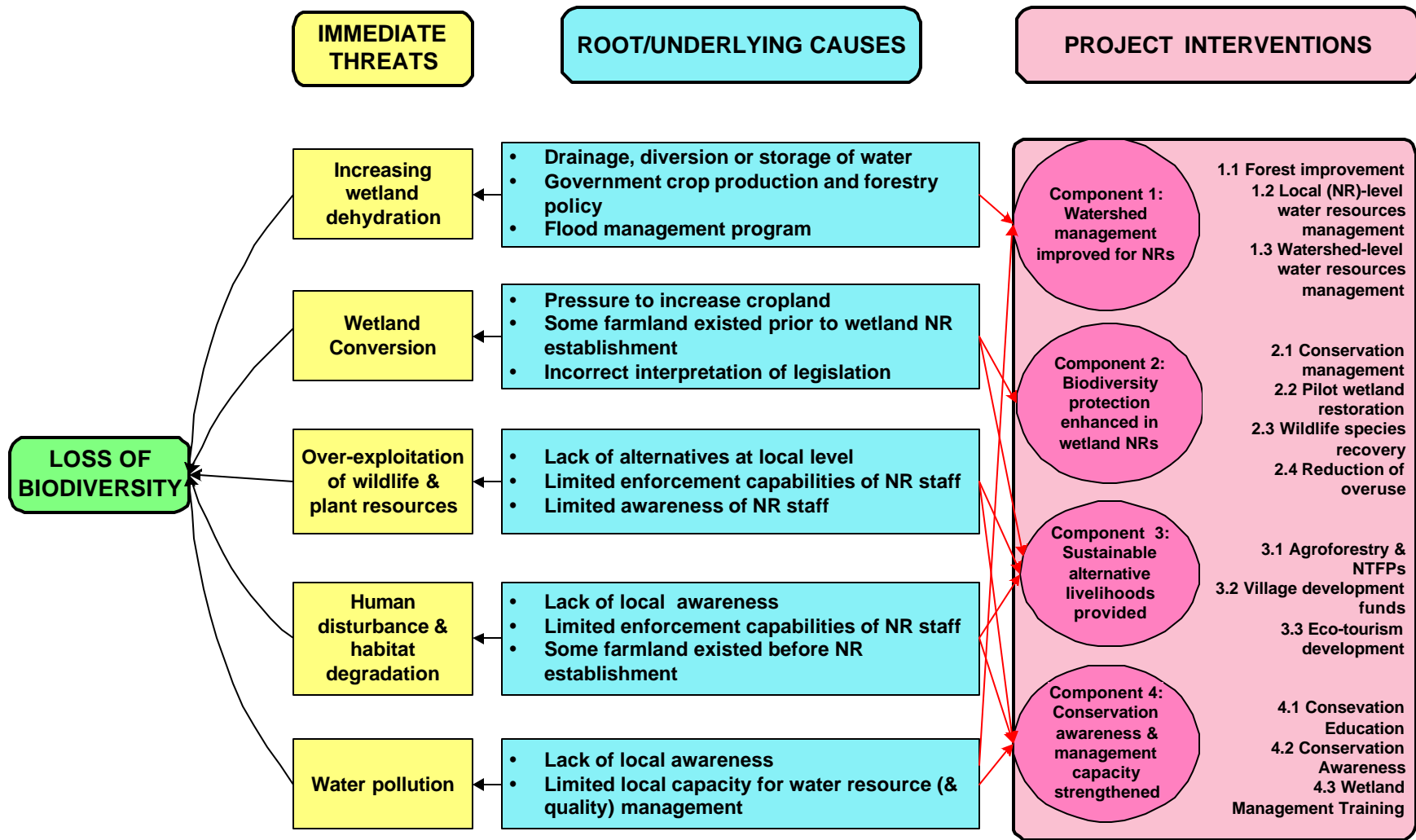


Figure: Threats To Biodiversity and the Project Conceptual Model

ANNEX C: LOGICAL FRAMEWORK

Performance Targets:	Key Performance Indicators	Monitoring Mechanisms	Assumptions/Risks
GOAL:			
Sustainable management of natural resources to protect globally significant species and promote economic development.			
PURPOSE:			
The protection of the natural resources of the Sanjiang Plain wetlands and their watersheds (biodiversity, water, forests), from continued threats, and the promotion of their sustainable use, through the integrated conservation and development of selected wetlands and forest areas of the Sanjiang Plain, and the improved well being of local communities.	<ul style="list-style-type: none"> • Sanjiang Plain NR wetlands expand • Wildlife populations increase • Forestry investments are economically viable Communities are not adversely affected by farmland to wetland or farmland to forest restoration programs 	<ul style="list-style-type: none"> • Inventory of wetland area • Wildlife censuses • Economic assessment of forestry program • Per capita income at community level measured by surveys 	<ul style="list-style-type: none"> • Provincial regulation preventing further wetland conversion in NRs is enforced • Provincial program to compensate farmers with SDRC funds for farmland to wetland restoration is implemented
COMPONENT OUTCOME:			
1. Watershed Management Improved			
1.1 Forestry Investment	<ul style="list-style-type: none"> • Increased forest cover • Increased income • Improved stand health and performance 	<ul style="list-style-type: none"> • Monitor project inputs • Per capita income at community level measured by periodic surveys • Surveys of plantation forests • planted or improved by Project 	<ul style="list-style-type: none"> • Government forestry sector and resettlement investments carried out
1.2 Local (NR) Level Water Resource Planning	<ul style="list-style-type: none"> • Improved water resources management at the local level, relative to the baseline situation. • Management of water resources at local level carried out in coordinated way among local stakeholder agencies. • 	<ul style="list-style-type: none"> • Review of NR management plans for inclusion of water issues • Monitor water quality improvements 	<ul style="list-style-type: none"> • Agencies increase cooperation in water resource management
1.3 Watershed Level Water Planning	<ul style="list-style-type: none"> • Ecological water requirements of NRs are met • Management of water resources at watershed level incorporating wetland protection criteria 	<ul style="list-style-type: none"> • Models available for targeted watersheds • Water balance estimates used in NR management plans • Systematic recording of water flows and levels, and assessment if these agree with allocation plans 	<ul style="list-style-type: none"> • Ministry of Water Resources takes the lead • Agencies cooperate in watershed water resource management
2. Wetland Nature Reserve Management improved			
2.1 Conservation Management	<ul style="list-style-type: none"> • Condition of wetland habitats and wildlife species numbers improves relative to baseline. 	<ul style="list-style-type: none"> • Systematic census of key wetland species and assessments of habitats. 	<ul style="list-style-type: none"> • Government provides adequate NR staff, salaries and operational budget • External (to NR) causes of decline in wildlife or habitats

Performance Targets:	Key Performance Indicators	Monitoring Mechanisms	Assumptions/Risks
2.2 Pilot Wetland Restoration	<ul style="list-style-type: none"> Farmland area in core and buffer zones decreases; total wetland area in NRs increases. 	<ul style="list-style-type: none"> Annual inspection of restored wetland sites, and assessment of their functioning and condition. 	<ul style="list-style-type: none"> Government provides adequately for resettlement, and resettlement funds used for economic development rather than provided as direct compensation Farmland to wetland conversion program continues
2.3 Wildlife Species Recovery	<ul style="list-style-type: none"> Numbers of key species increase in the six pilot NRs 	<ul style="list-style-type: none"> Species recovery plans for globally threatened species in each reserve Periodic systematic survey of population numbers 	<ul style="list-style-type: none"> Local and regional survival of target species
2.4 Reduction of Overuse	<ul style="list-style-type: none"> Reduction in NR wildlife and plant utilization, relative to the baseline situation Recovery of populations of key exploited species 	<ul style="list-style-type: none"> Annual survey and quantification of natural resource use in and around NRs Annual census of key indicator species & habitats 	<ul style="list-style-type: none"> Trained and fully competent staff, able to carry out reduction program and census NR and local support for enforcement of existing legislation on Core and Buffer zones, and on protected species.
3. Alternative Livelihoods provided and incomes maintained			
3.1 Intercropping (agroforestry) and Non-timber Forest Products (herbs/fungi/fruit)	<ul style="list-style-type: none"> Incomes of villages affected by farmland to forest restoration program remains at least the same or improves relative to the baseline. 	<ul style="list-style-type: none"> Per capita income surveys at beginning and towards end of Project Surveys of types of economic activity Survey of area under NTFPs, agro-forestry/intercropping 	<ul style="list-style-type: none"> Market intelligence No market saturation
3.2 Village Development Funds (VDFs)	<ul style="list-style-type: none"> Incomes of villages affected by farmland to wetland restoration program remains at least the same or improves relative to the baseline. 	<ul style="list-style-type: none"> Per capita income surveys at beginning and towards end of Project Surveys of types of economic activity, and results of VDF investments 	<ul style="list-style-type: none"> Government resettlement funds available, and can be (mainly) used for village development funds rather than provided as direct compensation. Villages choose economic development projects and green projects
3.3 Ecotourism	<ul style="list-style-type: none"> Ecotourism opportunities developed for community and NRs, and not having adverse effects on wetland habitats or key species 	<ul style="list-style-type: none"> Census of key indicator species, assessment of area and health of wetland habitats Survey presence of improved tourism infrastructure and human capacity for tourism. Surveys of community participation in tourism activity 	<ul style="list-style-type: none"> Market not saturated NR management and local community receptive to alternative, low key ecotourism Environmental impacts of tourism managed.
4. Conservation management Capacity increased			
4.1 Conservation education	<ul style="list-style-type: none"> Increased knowledge about conservation issues and the local NR among school children, relative to the baseline. 	<ul style="list-style-type: none"> Review of school curricula: do they include wetland nature conservation program. Review involvement of school children in conservation projects in and around NRs 	<ul style="list-style-type: none"> Cooperation and interest from local school systems Teachers are interested in this extra task

Performance Targets:	Key Performance Indicators	Monitoring Mechanisms	Assumptions/Risks
		<ul style="list-style-type: none"> Interviews with teachers 	<ul style="list-style-type: none"> Local community interest Reserve managers are not transferred in the short-to medium-term
4.2 Conservation Awareness	<ul style="list-style-type: none"> Increase in knowledge of conservation in general, and local NRs in particular, relative to the baseline situation. 	<ul style="list-style-type: none"> Surveys of attitudes and knowledge at beginning and towards end of Project 	<ul style="list-style-type: none"> Local communities and State Farms support wetland NRs
4.3 Wetland Management Training 4.3.1 Short-term Technical 4.3.2 Long-term Professional	<ul style="list-style-type: none"> Staff at six NRs and leaders (including women leaders) of local community with enhanced conservation knowledge & skills. Nature reserve Managers in NE China with enhanced natural resource management capacity. 	<ul style="list-style-type: none"> Performance review of NR personnel Survey use of best management practices in neighboring agricultural areas Annual NR Evaluation: Inventory & evaluation of management plans (including water resource plans), species recovery plans, monitoring programs 	<ul style="list-style-type: none"> Staff stability in NR
COMPONENT OUTPUT			
1. Watershed Management 1.1 Forestry Investments New Forestry Plantations 10,000 ha of new forestry plantations: 8,700 ha of larch and 3,200 ha of poplar Treatment of Existing Forestry Plantations 40,000 ha of existing forestry plantations treated: 33,000 ha of larch and 7,000 ha of poplar	<ul style="list-style-type: none"> Planting operations proceed per county schedules over 5-year period Treatment operations proceed per county schedules over 5-year period 	<ul style="list-style-type: none"> Monitor area planted annually per operations plan Monitor area treated annually per operations plan 	<ul style="list-style-type: none"> Human resources available for operation at State Forest
1.2 Local (NR) Level Water Resource Planning <ul style="list-style-type: none"> Working groups established among stakeholders Programs established for water supply monitoring, water use studies, policy development and problem solving Annual monitoring workshops Water management plan input to overall NR Management Plan 	<ul style="list-style-type: none"> Improved water resources management at the local level, relative to the baseline situation. Management of water resources at local level carried out in coordinated way among local stakeholder agencies. 	<ul style="list-style-type: none"> Assessment of local level water resource allocation plans Review of NR management plans for inclusion of water issues Monitor water quality improvements 	<ul style="list-style-type: none"> Stakeholders are interested in identifying and solving problems Cooperation increases between official authorities and stakeholders
1.3 Watershed Level Water Allocation Plan <ul style="list-style-type: none"> developing estimate of water supply needs & availability for wetlands improve wetland protection aspects of regional 	<ul style="list-style-type: none"> Ecological water requirements of NRs are met Management of water resources at watershed level incorporating wetland protection criteria 	<ul style="list-style-type: none"> Models available for targeted watersheds Water balance estimates used in NR management plans Systematic recording of water flows and levels, and assessment if these agree with allocation plans 	<ul style="list-style-type: none"> Ministry of Water Resources takes the lead Agencies cooperate in water resource management Provincial Forest Department staff have increased capacity for water resources management

Performance Targets:	Key Performance Indicators	Monitoring Mechanisms	Assumptions/Risks
<ul style="list-style-type: none"> • flood control planning • develop and calibrate numerical models of water • use and availability for two watersheds • provide capacity-building to the Provincial & County governments 			
2. Wetland Nature Reserve Management			
<p>2.1 Conservation Management</p> <ul style="list-style-type: none"> • Water, wildlife & habitat monitoring programs in NRs, & manual on monitoring programs • Annual monitoring reports & workshops • GIS established for six NRs • Adaptive Management Plan drafted for all six NRs 	<ul style="list-style-type: none"> • Condition of wetland habitats and numbers of key species improves relative to baseline; overall condition of NRs improves relative to the baseline. 	<ul style="list-style-type: none"> • Annual evaluation of NR performance based on operating plans • Field assessment of habitats, wetland 'health' (species diversity, habitat diversity, area of wetland), and regular census of key species 	<ul style="list-style-type: none"> • Qualified personnel in sufficient numbers and equipment maintained in operating condition • Trained staff are not transferred to another NR site. • NR managers use Management Plans as policy & action guides
<p>2.2 Pilot Wetland Restoration</p> <ul style="list-style-type: none"> • 3,433 ha of farmland to wetland restoration model sites in 6 wetland NRs • Development of model for wetland restoration (including input from 3.2) • Input to NR Management Plan 	<ul style="list-style-type: none"> • Area of (semi-) natural wetland in the six NRs increases relative to the baseline. • Development of replicable wetland restoration technologies 	<ul style="list-style-type: none"> • Annual inspection of restored wetland sites, and assessment of their functioning and condition. • Progress according to detailed restoration plans, activity schedules and quality standards 	<ul style="list-style-type: none"> • Government provides for resettlement adequately and in a timely fashion, and resettlement funds can be used for promoting economic development in affected villages • Qualified personnel, equipment and necessary permits available in a timely fashion
<p>2.3 Wildlife Species Recovery</p> <ul style="list-style-type: none"> • Targeting and protection of selected globally threatened species and preparation and implementation of recovery plans • Input to Species Recovery Plan and NR Management Plan 	<ul style="list-style-type: none"> • Increased population of target species in Project NRs • Publications on Project species recovery experiences • Networking with other species recovery activities in northeastern China and abroad 	<ul style="list-style-type: none"> • Annual census of key indicator species • Peer and authority review of species recovery plans • Quarterly and annual reports on species recovery 	<ul style="list-style-type: none"> • Critical number of qualified personnel committed to the task
<p>2.4 Reduction of Overuse</p> <ul style="list-style-type: none"> • Inventory of types and levels of exploitation • Development and implementation of plan for • Reduction of usage • Monitoring of effects, and adjustment of approach • Input to NR Management Plan 	<ul style="list-style-type: none"> • Reduction in NR wildlife and plant utilization, relative to the baseline situation • Recovery of populations of key exploited species 	<ul style="list-style-type: none"> • Annual survey and quantification of natural resource use in and around NRs • Annual census of key indicator species and habitats 	<ul style="list-style-type: none"> • Trained and fully competent staff, able to carry out reduction program and census • NR and local support for enforcement of existing legislation on Core and Buffer zones, and on protected species.
3. Alternative Livelihoods			
<p>3.1 Intercropping (agroforestry) and Non-timber Forest Products (herbs/fungi/fruit)</p> <ul style="list-style-type: none"> • 1,476 ha of NTFPs, focusing on wild grapes, other wild fruit, 	<ul style="list-style-type: none"> • Incomes of villages affected by farmland to forest restoration program remains at least the same or improves relative to the baseline. 	<ul style="list-style-type: none"> • Per capita income surveys at beginning and towards end of Project • Monitor area planted annually per operations plan • Plantations and monitoring system established 	<ul style="list-style-type: none"> • Markets and marketing channels are available • Financing for small farmers is available • FDHP interested in pursuing and supporting the experiment

Performance Targets:	Key Performance Indicators	Monitoring Mechanisms	Assumptions/Risks
mushrooms and potherbs in all 13 counties <ul style="list-style-type: none"> Studies focusing on markets, prices, yields and costs to assess expansion opportunities for NTFPs 		<ul style="list-style-type: none"> Plantation intercropping/NTFP performance documented and disseminated 	
3.2 Village Development Funds <ul style="list-style-type: none"> Screening process developed VDF plans developed by affected villages Projects screened, cleared, and implemented Monitoring of effectiveness Input to Wetland Restoration Manual and the NR Management Plan 	<ul style="list-style-type: none"> Incomes of villages affected by farmland to wetland restoration program remains at least the same or improves relative to the baseline. 	<ul style="list-style-type: none"> Per capita income surveys at beginning and towards end of Project Surveys of types of economic activity, and results of VDF investments 	<ul style="list-style-type: none"> Government resettlement funds available, and can be (mainly) used for village development funds rather than provided as direct compensation. Villages choose economic development projects and green projects
3.3 Ecotourism <ul style="list-style-type: none"> Tourism Master Planning: determining potential demand and opportunities; pilot project options Tourism guidelines for environmental planning, carrying capacity and safety Ecotourism pilot projects: capacity building of local community and NR staff; investment in basic NR infrastructure (demarcation, signboarding) 	<ul style="list-style-type: none"> Ecotourism opportunities developed for community and NRs, and not having adverse effects on wetland habitats or key species 	<ul style="list-style-type: none"> Census of key indicator species, assessment of area and health of wetland habitats Survey presence of improved tourism infrastructure and human capacity for tourism. Surveys of community participation in tourism activity 	<ul style="list-style-type: none"> Market not saturated NR management and local community receptive to alternative, low key ecotourism Environmental impacts of tourism managed.
4. Capacity Building			
4.1 Conservation Education (schools) <ul style="list-style-type: none"> Selection of pilot schools Preparation of teaching kits Training of teachers NR outreach/extension programs for schools 	<ul style="list-style-type: none"> Increased knowledge about conservation issues and the local NR among school children, relative to the baseline. 	<ul style="list-style-type: none"> Surveys of school curricula at beginning and towards end of Project Attendance records of teachers at training events Frequency of NR presentations at local schools 	<ul style="list-style-type: none"> Support from educational and NR authorities/staff Teachers are interested in this extra task
4.2 Conservation Awareness (communities and State Farms) <ul style="list-style-type: none"> Training of farmers and State Farm staff Participation in national and international events (e.g. Earth Day, World Wetland Day) Development of promotional materials Training of NR wardens and tour guides 	<ul style="list-style-type: none"> Increase in knowledge of conservation in general, and local NRs in particular, relative to the baseline situation. 	<ul style="list-style-type: none"> Project records NR and State Farm annual reports Public awareness surveys 	<ul style="list-style-type: none"> Strong involvement of public authorities at all levels in promoting awareness of environmental policies
4.3 Wetland Management Training <ul style="list-style-type: none"> Short-term training courses for technical NR 	<ul style="list-style-type: none"> Staff at six NRs and leaders (including women leaders) of local community with enhanced conservation knowledge & skills. 	<ul style="list-style-type: none"> Official records reflecting improvements in law enforcement in NRs Surveys of participants in 	<ul style="list-style-type: none"> Provincial support for professional quality improvements at NRs through staffing plans and

Performance Targets:	Key Performance Indicators			Monitoring Mechanisms	Assumptions/Risks
staff and other stakeholders • Formal higher level courses for professional level NR staff and other stakeholders • Exchanges, study tours, internships, workshops	• Nature reserve Managers in NE China with enhanced natural resource management capacity.			training programs • Performance reviews of NR staff • Review by provincial authorities of NR management and species recovery plans	incentives • Commitment to maintaining high standards for training programs
ACTIVITIES & INPUTS:	Foreign	Local	Total \$ million		
1.1. Forest improvement	0.04	22.17	22.21	Implementation schedule and work plans • Consultants' progress reports • Disbursement of ADB loan funds • Annual progress reports • Project review missions • PCR disbursement of ADB loan and GEF grant funds.	• Good coordination among the Government, consultants, PMO, and PIUs • Timely allocation of local counterpart funds
1.2. Local (NR) water resource management	0.00	0.33	0.33		
1.3. Watershed level water resource planning	0.00	0.67	0.67		
2.1. Conservation management	0.54	1.24	1.78		
2.2. Pilot wetland restoration	0.59	1.36	1.96		
2.3. Wildlife species recovery	0.44	1.03	1.47		
2.4. Reduction of resource exploitation	0.06	0.13	0.19		
3.1. Agro-forestry	0.00	4.34	4.34		
3.2. Village Development Fund	0.00	10.44	10.44		
3.3. Sustainable ecotourism	0.33	0.65	0.98		
4.1. Conservation education	0.15	0.30	0.45		
4.2. Public awareness	0.08	0.16	0.24		
4.3. Wetlands management training	0.97	1.96	2.94		
5. Project Implementation	0.30	2.40	2.70		
Base Cost	3.51	47.18	50.69		
Contingencies	0.54	1.89	2.43		
IDC/Financial charges	1.26	0.00	1.26		
Total	5.32	49.07	54.39		

ANNEX D: INCREMENTAL COST ANALYSIS

A. BROAD CONTEXT AND DEVELOPMENT GOALS

1. The Government of China's development program was set out by the 16th Party Congress in 2002, the 10th National People's Congress of 2003, and the Tenth Five-Year Plan (2000-2005). The major focus of national economic policy has gradually shifted in the last few years from hard economic indicator targets towards quality of growth and sustainable development. In addition to continuing the strong emphasis on market-related reforms and non-state sector development, the Government is increasingly emphasizing protection of the environment and improving quality of life by reducing poverty.
2. Economic priorities include programs to increase rural incomes, reduce poverty in rural areas, improve income distribution and enable the private sector to create employment. One of the strategies for agricultural reform is to allow farmers to exit from the sector through selling land-use rights or taking advantage of government land conversion programs (e.g., farms to forests program).
3. The agricultural sector has been increasingly emphasizing environmental protection and sustainable farming since the Agenda 21 Agriculture Action Plan in 1998. This document mentions the need for biodiversity conservation and wise use of farmland, grassland, and fishery ecosystems, as well as monitoring and control of agricultural pollution. It sets a goal for "strengthening the conservation of wildlife resources in the agricultural/pasture/fishery areas," and for "establishing 160 conservation zones to cover a total area of 25 million hectares, including 100 key fishery water body conservation zones (including wetland)" so as to form a network of natural conservation zones (to include monitoring and research) in agricultural/pasture/fishery areas.
4. The PRC's Biodiversity Conservation Action Plan (BCAP) was promulgated on 13 June 1994. The BCAP lists and describes priority projects for biodiversity conservation. Project 18 is the "Establishment of Integrated Nature Reserve [Network] in the Sanjiang Plain, Heilongjiang Province." This has been accomplished in part by establishment of more than 50 national, provincial, and local NRs. Project 18 also requires "an integrated approach to conservation in the Sanjiang Plain."
5. The PRC's National Wetland Conservation Action Plan (NWCAP) was published in September 2000. It complements BCAP, and is the key guidance document on conservation, use, management, and exploitation of wetlands in China. The NWCAP lists among "important wetlands in the PRC" several that are to be included in the Project, i.e., the Sanjiang Plain in general, and the Qixing-Naoli River basin, the lower reaches of the Muling River, and Xingkai and Small Xingkai Lakes, specifically. Specific actions called for in the NWCAP include many activities for inventory and study of wetlands, as well as "comprehensive management of wetland and hydrologic basins," and specifically, in Project 20, "wetland conservation and sustainable use of the Sanjiang Plain."
6. These National policy initiatives set the stage for the Sanjiang Plain Wetland Protection project, establishing its priority in relevant national conservation programs, and the compatibility of its basic purpose with national government interests. The legal and regulatory framework for the Project is elaborated further at the Provincial level.

B. GLOBAL BIODIVERSITY BENEFITS

7. The Project outputs listed in Table 1 will improve habitat and wildlife management at nature reserves and will result mainly in global benefits. This is because the six Project nature reserves (NRs) were selected on basis that they support significant populations of globally threatened species, whose conservation would benefit from interventions to remove threats to global survival. The benefits of these interventions – predominantly conservation activities – therefore, accrue mainly to the global community.
8. Activities financed include:
 - Output 2.1: Develop models and capacity for wetland NR conservation management, and embed component outputs in NR Management Plans. Activities include monitoring program (for wildlife, habitats) development; establishing reliable information baselines and a GIS; and developing management plans.

- Output 2.2: Design and implementation of farmland-to-wetland restoration pilot projects in six Project NRs to develop technologies for guidance of the larger government restoration project currently in planning; publication and dissemination of restoration manuals. Involves capacity building for the farmland to wetland restoration program, production of a manual on farmland to wetland restoration, and providing inputs to the NR Management Plans. Pilot wetland restoration will include replacing livelihood losses incurred by communities losing access to farmland and other resources (under component 3.2).
- Output 2.3: Development and implementation of recovery plans for globally threatened species; publication and dissemination of results; participation in regional and international conservation initiatives for globally threatened species; and incorporation of recovery plans into NR management plans.
- Output 2.4: Design and implementation of programs to reduce unsustainable use of natural resources through cooperation with communities surrounding NRs, and provision of training in enforcement. Includes production and distribution of guidance manuals to ensure replication at other protected areas, and providing inputs to NR Management Plans.

Table 1. Project outputs that result in global benefits.

Project Output	Global Benefits	
	GEF Contribution (US\$ millions)	Other Contribution (US\$ millions)
Output 2.1: Models and capacity developed for scientific monitoring of natural resources	1.364	0.419
Output 2.2: Models and capacity developed for farmland-to-wetland restoration	1.792	0.163
Output 2.3: Globally threatened species recovery plans drafted, implemented, and incorporated into NR management plans	1.280	0.192
Output 2.4: Reduced exploitation of globally threatened species and their habitats and prey	0.094	0.094
TOTAL	4.530	0.868

C. SHARED GLOBAL AND NATIONAL BIODIVERSITY BENEFITS

9. The Project outputs listed in Table 2 will yield global benefits by removing threats to globally threatened species and contributing to restoration of their local populations, while also yielding national benefits. These are summarized below:

- Output 1.2: The six Project NRs lie in watersheds in which the Project will develop cross-sectoral working groups for the purpose of integrating water resource and wetland biodiversity management. The working groups will bring together representatives from the range of natural resource and economic development interests surrounding each NR. These groups will be charged with integrating and addressing the broad range of issues around the NR. The main goal of the working group will be to ensure that wetland biodiversity conservation receives consideration, particularly in terms of local-level water allocation but will also pertain to other resources. The resulting benefits will accrue globally in terms of removal of threats to wetland-dependent species. National benefits will include restored wetland functions such as flood management, water supply and water purification.
- Output 1.3: Watershed-level models will be developed for integration of water resource management to ensure allocation of required water supplies to NRs required to maintain ecological functions. The resulting benefits will accrue globally in terms of enhanced migration and breeding habitats for globally threatened waterbirds. National benefits will include restored wetland functions such as flood management, water supply, and water purification, but also an improved water resource planning mechanism for other users.
- Output 3.3: Assessment of the potential for tourism development and drafting of development plans will yield national benefits in terms of potential for employment in an emerging tourism industry. Global and

national benefits will accrue from establishing ecotourism guidelines that will help reduce impacts and inappropriate development, and tourism revenues that help fund NR conservation activities for which the Government allocations have been historically inadequate.

Table 2. Project outputs that result mainly in both global and national benefits.

Project Output	Shared Benefits	
	GEF Contribution (US\$ millions)	Other Contribution (US\$ millions)
Output 1.2: Local (NR)-level water resource planning enhanced	0.181	0.150
Output 1.3: Watershed-level water allocation planning enhanced	0.349	0.319
Output 3.3: Sustainable tourism opportunities created	0.977	0.000
Output 4.1: Conservation education program developed and implemented	0.290	0.163
Output 4.2: Conservation awareness program developed and implemented	0.207	0.036
Output 4.3: Wetland conservation management capacity enhanced	2.675	0.262
TOTAL	4.679	0.561

- Output 4.1: Conservation education in the local school systems will yield national benefits through increased awareness of environmental and ecological issues, and consequently increased capability to protect and restore natural resources. Global benefits will accrue from the impacts of these changes on NRs and populations of wild plants and animals, especially those under global threat.
- Output 4.2: Benefits of conservation awareness are similar to those of conservation education. The targets here are the farm communities and State Farms surrounding the Project NRs. The objective is to enable farmers, farm managers, and villagers to coexist with protected areas and threatened wildlife in ways that remove existing threats. Leading examples are the use of agricultural chemicals, and understanding the need for water allocation for wetland NRs.
- Output 4.3: Enhanced capability for natural resource management at the technical and managerial levels is critical to the long-term success of the Project. National benefits will accrue from increased educational and employment opportunities, increased wildlife abundance, and higher quality NRs that attract more visitors. Global benefits will accrue from improved NR management that enables protection and recovery of globally threatened species.

D. NATIONAL BENEFITS

10. The Project outputs listed in Table 3 will yield mainly national benefits. Examples are described below:

- Output 1.1: Forests will be restored as plantations of indigenous species on upland farmlands and degraded areas, and poorly managed plantation forests will be improved through targeted treatments. Sites for plantations and forest treatment have been selected in the watersheds of the six target NRs. National benefits will be slope stabilization, reduced sedimentation, improved hydrologic regimes, and increased economic opportunities due to increased timber production. A reduction in pressures on remaining natural forest will provide some global benefits. Carbon sequestration and increased surface water infiltration benefiting globally significant wetlands will accrue some global benefits as well, but these will be minor in contrast to the national benefits. Although the total area of new forest plantations is modest, the beneficial effect on watershed protection is disproportionately large as almost two-thirds will involve establishing larch plantations on denuded (moderately) steep slopes.
- Output 3.1: Increased incomes from NTFPs and agroforestry will yield mainly national benefits. Reduced reliance on crop farming will yield environmental benefits including reduced runoff and erosion, but these will be largely national benefits.
- Output 3.2: The village development funds will aim to replace or increase local incomes affected by the farmland to wetland restoration program. This will yield mainly national benefits in the form of local

economic development. GEF inputs are for stimulating ‘green development’ under the village development fund. Global benefits will be the sustainability of the farmland to wetland restoration program, and an increased sustainability of conservation area management programs aimed at reducing impacts to globally threatened species due to over-exploitation.

Table 3. Project outputs that result mainly in national benefits.

Project Output	National Benefits	
	GEF Contribution (US\$ millions)	Other Contribution (US\$ millions)
Output 1.1: Plantation forest cover increased and degraded forests improved	0	22.209
Output 3.1: Livelihoods improved based on NTFPs & agroforestry	0	4.340
Output 3.2: Village economic development project implemented	0.489	9.950
TOTAL	0.489	36.499

E. THE PROCESS OF ESTIMATING INCREMENTAL COST

11. Estimation of the incremental cost of the project flowed from the threats analysis, and the logical framework matrix, guided by the GEF document GEF/C.20/6 on “Co-financing” (GEF 2002). Based on the threats analysis, the Project’s objectives, outputs, activities and their associated costs were defined and activities were categorized in terms of their potential for generating global and/or national benefits. Most activities generated at least some benefits in both categories, but were assigned to global, shared, or national on the basis of the proportion of benefit. For example, forest plantations will result in increased water infiltration and soil stabilization that are primarily of national benefit, but will also result in (limited) global benefit by improving water supply and quality in wetland NRs. While this would benefit globally threatened fish and piscivorous birds, the global benefit was considered relatively minor, therefore the entire benefit was considered national.

1. Incremental Cost Analysis

1.1 Baseline Scenario

12. The ‘Business as Usual’ (BAU) baseline situation is what would have occurred in the ‘without project’ situation, and for the purpose of this calculation has been based on existing programs and budgets, for example, the operational budgets of NRs as they appear in the annual work plans produced for the reserves.

13. The BAU baseline scenario includes reforestation of upland farmlands and management of existing plantations, but selection of sites under the baseline would not be linked to wetland NR watersheds. There would be an established network of wetland NRs and annual government allocations of funds to manage them. They would, however, continue to operate without management plans and use approaches that have proved to be less effective at stemming the decline of globally important species. Recovery of globally threatened species would not be accelerated by projects specially designed for that purpose. Two programs would restore some farmlands to wetlands, but compensation payments to displaced farmers would not be designed to yield long-term economic benefits, nor would there be any incentives for adopting environmentally friendly approaches in economic development. Water resources would be allocated first to municipalities, then to industry and agriculture, and then, if a surplus remained, it would be available for NR use. Tourism facilities would be developed, but this would come at a cost in terms of wetland habitat. NR personnel would continue to be hampered in performance of their duties by lack of training and education. Communities surrounding NRs would not become involved in conservation management. Populations of globally threatened species would continue to decline or at best show only marginal recovery.

14. The present farmland to wetland and farmland to forest restoration programs will provide compensation to farmers as directed by the Government resettlement guidelines. Current practice is to provide compensation in kind (rice) or by direct payment for loss of income. These are sunk costs, however, and do not contribute to economic development. The long-term effect is that farmers remain dependent on handouts to maintain their

income or still have the need to replace lost farmland.

15. The Government has identified wetland biodiversity as a top priority for conservation action in its National Wetland Conservation Action Plan and Biodiversity Action Plan. The Agenda 21 White Paper and Agricultural Action Plan emphasize the importance of nature and wetland conservation and eco-friendly agriculture. Activities covered by these plans are substantive and are supported by a Heilongjiang Province ban on conversion of wetlands in NRs. Other baseline actions include the improvement of the legal framework, institutional reform, and research and monitoring by institutes and universities. Government efforts to expand the protected area system have been impressive but efforts to fund NR operations and upgrade reserve management have lagged behind the pace of expansion. The Government recognizes this shortcoming and is making efforts to correct it. In addition to the Government's own resources, many multilateral aid projects have contributed expertise and funding to enhance the protected area network and establish bases of information for wetland and biodiversity management.

16. In the BAU baseline situation sufficient funds would not be allocated and trained personnel would not be available to fully protect wetland biodiversity or carry out the mandates of the various conservation action plans. Nor would models be available to demonstrate environmentally sound and economically viable programs for long-term sustainable use of natural resources, restoration of wetlands, and integrated water resource management that takes wetland NR requirements into account. Taking only the Government contributions into account, the cost of the baseline scenario has been calculated at US\$ 39,850,000 (Table 4).

1.2 Sustainable Development (SD) Alternative

17. The Sustainable Development (SD) Alternative alternative adds to the BAU baseline investments by the government and beneficiaries (including the ADB loan) in reforestation, and investments in economic development in villages affected by both the farmland to forest and the farmland to wetland restoration programs. These investments will improve environmental management and conditions, but will be mainly aimed for financial viability, and thus for national benefit. The total cost of the SD Alternative is US\$ 79,495,000, excluding contingencies and interest (Table 4).

1.3 GEF Alternative

18. In contrast, the GEF alternative will establish mechanisms for restoring and protecting natural resources at the watershed scale while integrating the needs of diverse stakeholders including government agencies, state farms and farmers, and nearby municipalities. The Project will increase the tree cover in fragile uplands to protect soils, slopes and watersheds, while providing profitable crops and alternative employment opportunities to low-income farmers and villagers. The GEF alternative will promote increased ecosystem and economic productivity through better land use. This will enable local, regional, and global stakeholders to derive benefits from recovery of lost ecosystem functions. The alternative will provide much needed models for wetland restoration (that includes maintaining local livelihoods), watershed level water resources management, and species and habitat recovery and management. The GEF alternative will lead to enhanced knowledge and awareness of conservation issues, and a significantly increased capacity for sustainably managing wetland NRs. The GEF alternative is calculated to be US\$ 90,540,000.

19. Costs: The difference between the GEF alternative and the Sustainable Development baseline amounts to US\$ 11,045,000, which represents the incremental cost of achieving sustainable global environmental benefits. The GEF is therefore requested to fund US\$ 11,045,000 of the Project cost. If contingencies (\$1,110,000) are included, the amount requested from GEF is US\$ 12.14 million. Details are in Tables 4 & 6.

20. Table 5 gives a breakdown of BAU baseline, SD Alternative, GEF Alternative and Incremental Costs by component and output. It also provides the agreed fee rates and 10% contingencies.

21. Table 6 gives a breakdown of the SD Alternative, identifying the sources of funding for the SD Alternative by component and output. The inputs for the SD Alternative include US\$15.02 million in co-financing from an ADB loan, in-kind contributions of \$4.44 million from the beneficiaries, and a counterpart contribution of US\$22.78 million from the Government. The latter will consist primarily of inputs from the County Bureaus, HPG funding for livelihood support and land compensation, and labor input.

Table 4. Incremental Cost Matrix for the Sanjiang Plain Project.

Area relevant to the Project	Cost category	Cost (\$million)	Domestic Benefit	Global Benefit
Component 1: Watershed management improved for NRs.				
A. Reforestation under present program, and flood management	Business as usual (BAU) baseline	29.960	Increase in area under trees, and increased employment. Flood and drainage management	Increase of carbon storage in wood and forest soils.
B. Added investment in reforestation, and water resources management.	Sustainable development (SD) alternative	52.638	Better watershed protection. Technological & profit improvement. Replenished ground and surface water.	Some increase in biodiversity; limited effect on wetland water resources.
C. Local level (NR) and watershed water resources management incorporating wetland protection.	GEF alternative	53.168	Reduced risk of flood and drought. Improved water allocation and planning. Improvement in water allocation may reduce water shortages.	Water resources ensured for wetlands supporting globally significant biodiversity.
	Increment	0.530		
Component 2: Biodiversity protection enhanced in wetland NRs.				
A. Network of wetland NRs and annual government allocations of funds to manage them. No management plans, and applying ineffective approaches.	BAU baseline	6.300	Conservation efforts yield some national and economic benefits.	Losses of globally significant species occurs at slower rate than if network did not exist.
B. Reducing unsustainable resource use.	SD alternative	7.168	Economic benefits are more sustainable.	Rate of decline of globally significant species is reduced.
C. Models management of wetland NRs, embedded in management plans. Monitoring programs, pilot restoration, & guidelines for future restoration; species recovery programs.	GEF alternative	11.698	No change.	Rate of loss of migrant and globally significant species reduced. Prerequisites for rebounding of significant populations.
	Increment	4.530		
Component 3: Sustainable alternative livelihoods provided.				
A. Direct compensation payments to displaced farmers in farmland to wetland restoration program.	BAU baseline	3.050	Incomes are guaranteed, but economic benefit limited.	No change.
B. Investments for economic development programs (NTFPs, intercropping; village development funds).	SD alternative	17.340	Incomes guaranteed, along with increased economic development.	No change.

Area relevant to the Project	Cost category	Cost (\$million)	Domestic Benefit	Global Benefit
C. Stimulation of 'green investments' and appropriate forms of ecotourism	GEF alternative	18.806	No change.	Reduction of negative impacts on globally significant species.
	Increment	1.466		
Component 4: Conservation awareness and management capacity of wetland NR biodiversity strengthened.				
A. NR programs for staff training, extension and education continue.	BAU baseline	0.540	Conservation efforts yield some national social and environmental benefit.	Losses of globally significant species occurs at slower rate than if this program did not exist.
B. Increased extension, to reduce inappropriate use of agrochemicals.	SD alternative	1.001	Environmental and economic gains, due to improved water quality and reduced pesticide use.	Losses of globally significant species occurs at slower rate than if this program did not exist.
C. Education, awareness, outreach and extensive training programs.	GEF alternative	4.173	Limited gains.	Significant improvement of management of key wetlands; reduction of impacts on/ recovery of populations of globally significant species
	Increment	3.172		
Project Management				
	SD alternative	1.348		
	GEF alternative	2.695		
	Increment	1.347		
Totals	BAU baseline	39.850		
	SD alternative	79.495		
	GEF alternative	90.540		
	Increment	11.045*		

Note: * Excludes US\$ 0.33 million Project Development Fund Block B grant for project preparation this does not include \$1.10 million for 10% contingencies

Table 5. Cost Components by Outputs and Activities (US\$ million)

	Business as Usual Baseline (C)	Sustainable Development Alternative (B)	GEF Alternative (A)	Incremental Cost (A-B)
Component 1. Improved Watershed Management				
Output 1.1a Increased forest cover	28.272	34.872	34.872	0.000
Output 1.1b Improved forest management	1.588	17.197	17.197	0.000
Output 1.2 Enhanced local water resource planning	0.000	0.150	0.331	0.181
Output 1.3 Enhanced watershed-level water resource planning	0.100	0.419	0.768	0.349
<i>Subtotal</i>	<i>29.960</i> ✓	52.638	<i>53.168</i> ✓	0.530
Component 2. Wetland Nature Reserve Management				
Output 2.1 Enhanced conservation management	5.000	5.419	6.783	1.364
Output 2.2 Models and capacity development for wetland restoration	0.240	0.403	2.195	1.792
Output 2.3 Wildlife species recovery	0.560	0.752	2.032	1.280
Output 2.4 Reduction of overuse of natural resources	0.500	0.594	0.688	0.094
<i>Subtotal</i>	<i>6.300</i> ✓	7.168	<i>11.698</i> ✓	4.530
Component 3. Alternative livelihoods				
Output 3.1 Improved livelihoods based on NTFPs and agroforestry	0.050	4.390	4.390	0.000
Output 3.2 Village development fund	0.000	9.950	10.439	0.489
Output 3.3 Sustainable ecotourism opportunities created	3.000	3.000	3.977	0.977
<i>Subtotal</i>	<i>3.050</i> ✓	17.340	<i>18.806</i> ✓	1.466
Component 4. Conservation education & capacity building				
Output 4.1 Conservation education program developed & implemented	0.120	0.283	0.573	0.290
Output 4.2 Conservation awareness program developed & implemented	0.120	0.156	0.364	0.208
Output 4.3 Wetland management capacity developed	0.300	0.562	3.236	2.674
<i>Subtotal</i>	<i>0.540</i> ✓	1.001	<i>4.173</i> ✓	3.172
Components Subtotal	39.850 ✓	78.147	87.845 ✓	9.698
Project Management				
Project Management Office	0.000	0.976	2.248	1.272
Environmental Management	0.000	0.372	0.447	0.075
<i>Subtotal</i>		1.348	<i>2.695</i> ✓	1.347
<i>Total cost of alternatives</i>		79.495	90.540	
<i>Project costs (minus contingencies & management fees)</i>		39.645	50.690	11.045
Contingency (including contingency@10%)		1.338	2.438	1.100
Interest charges		1.263	1.263	0.000
Overall Project Cost		42.246	94.241	12.145

Table 6. Contribution to SD Alternative

Units = US\$ million

	Business as Usual Baseline (C)	Sustainable Development Alternative (B)	Contribution to SD Alternative	
			ADB	GoC
Component 1. Improved Watershed Management				
Output 1.1a Increased forest cover	28.272	34.872	3.260	3.340
Output 1.1b Improved forest management	1.588	17.197	8.413	7.196
Output 1.2 Enhanced local water resource planning	0.000	0.150	0.000	0.150
Output 1.3 Enhanced watershed-level water resource planning	0.100	0.419	0.000	0.319
<i>Subtotal</i>	<i>29.960</i>	<i>52.638</i>	<i>11.673</i>	<i>11.005</i>
Component 2. Wetland Nature Reserve Management				
Output 2.1 Enhanced conservation management	5.000	5.419	0.000	0.419
Output 2.2 Models and capacity development for wetland restoration	0.240	0.403	0.000	0.163
Output 2.3 Wildlife species recovery	0.560	0.752	0.000	0.192
Output 2.4 Reduction of overuse of natural resources	0.500	0.594	0.000	0.094
<i>Subtotal</i>	<i>6.300</i>	<i>7.168</i>	<i>0.000</i>	<i>0.868</i>
Component 3. Alternative livelihoods				
Output 3.1 Improved livelihoods based on NTFPs and agroforestry	0.050	4.390	1.410	2.930
Output 3.2 Village development fund	0.000	9.950	0.000	9.950
Output 3.3 Sustainable ecotourism opportunities created	3.000	3.000	0.000	0.000
<i>Subtotal</i>	<i>3.050</i>	<i>17.340</i>	<i>1.410</i>	<i>12.880</i>
Component 4. Conservation education & capacity building				
Output 4.1 Conservation education program developed & implemented	0.120	0.283	0.000	0.163
Output 4.2 Conservation awareness program developed & implemented	0.120	0.156	0.000	0.036
Output 4.3 Wetland management capacity developed	0.300	0.562	0.000	0.262
<i>Subtotal</i>	<i>0.540</i>	<i>1.001</i>	<i>0.000</i>	<i>0.461</i>
Components Subtotal	39.850	78.147	13.083	25.214
Project Management				
Project Management Office	0.000	0.976	0.304	0.672
Environmental Management	0.000	0.372	0.294	0.078
<i>Subtotal</i>		<i>1.348</i>	<i>0.598</i>	<i>0.750</i>
<i>Project costs (minus contingencies & management fees)</i>		39.645		
Contingency (including contingency@10%)		1.338	1.338	0.000
Interest charges		1.263	0.000	1.263
Overall Project Cost		42.246	15.019	27.227

ANNEX E: OTHER GEF ASSISTANCE RELEVANT TO THE PROJECT

1. China has been a major recipient of GEF funding, being the focus of 47 single country GEF projects and a co-recipient on 22 regional GEF projects. Of these, 16 (12 single country, and 4 regional) focus on biodiversity. GEF-supported projects that either directly or indirectly support wetland biodiversity conservation are listed below in Table, while the most relevant projects are discussed in greater detail below.

Project name Operational Program Date of approval GEF grant (US\$ million) Project cost (US\$ million)	Donor, Cooperating, Implementing, and Recipient Agencies/ Institutions	Wetland Biodiversity Conservation Objectives & Geographic Coverage
Conserving and Sustainably Utilizing Biodiversity in China. OP#1 Approval date: still in pipeline GEF grant: US\$ 40 Project cost: US\$ 203.5	GEF, UNDP, Ministry of Finance, State Environmental Protection Administration	Development of a national approach to biodiversity conservation and sustainable use, and towards fuller integration of biodiversity and development at all levels. Country-wide, but mainly in dryland ecosystems.
Integrated Management of the Amur-Heilong River Basin OP#9 Approval date: still in pipeline GEF grant: US\$ 6.65 Project cost: US\$ 14.65	GEF, UNEP, World-wide Fund for Nature, International Lake Environment Committee	Joint management of the river basin, integrated RBM, address threats to resources and biological diversity. Regional: China, Russian Federation and Mongolia.
Integrated Management of Peatlands for Biodiversity and Climate Change: The Potential of Managing Peatlands for Carbon Accumulation and Protecting Biodiversity. OP#12 Approved: 20 th November 2002 GEF grant: US\$ 0.997 Project cost: US\$ 2.581	GEF, UNEP, Wetlands International, Global Environment Center	Investigating techniques for conserving peat areas, for carbon accumulation and enhancement of biodiversity. Global: China, Russian Federation and Indonesia. In China focusing on the Ruoergai marshes in Sichuan and Gansu provinces.
Development of a Wetland Site and Flyway Network for Conservation of the Siberian Crane and Other Migratory Waterbirds in Asia. OP#2 Approved: 15 th October 2002 GEF grant: US\$ 10.35 Project cost: US\$ 22.708 Wetland Biodiversity Conservation and Sustainable Use Project OP#2 Approved: 1 st January 1999 GEF grant: US\$ 12.026 Project cost: US\$ 35 million	GEF, UNEP, State Forestry Administration (China), International Crane Foundation GEF, UNDP, State Forestry Administration, Wetlands International	Conserve a network of critical wetlands needed for the survival of the Siberian Cranes, other threatened cranes, and numerous waterbirds. Regional: China, Iran, Kazakhstan, Russian Federation. Wetland biodiversity conservation at a national level, and in four geographically different settings in China, including the Sanjiang Plan. The approach is centralized and technical, and dependent on external experts.
Nature Reserves Management Project Approved: 1 st February 1995 (completed) OP#3 GEF grant: US\$ 19.58 Project cost: US\$ 25.28	GEF, IBRD, UNDP, Division of Natural Resources of the Ministry of Forestry	Prepare and implement management plans in five priority protected areas in China. The five areas do not include any in the Sanjiang Plain, nor do they include substantial wetlands (they are mainly in forested ecosystems).
Biodiversity Data Management Capacitation in Developing Countries and Networking Biodiversity Information. OP: EA Approved: 1 st June 1994 GEF grant: US\$ 4.00 Project cost: US\$ 5.390	GEF, UNEP, national biodiversity institutions	Enhancing the capacity of recipient countries in data and biodiversity information management to support implementation of the CBD. Global: Bahamas, Chile, China, Costa Rica, Egypt, Ghana, Kenya, Papua New Guinea, Poland, Thailand.

2. **UNDP-GEF Wetland Biodiversity Conservation and Sustainable Use in China Project.** In the Sanjiang Plain this 5-year, US\$35 million project focuses on:

- capacity building through provision of equipment and training;
- development of a management plan for Honghe NNR;
- review of the management plan for Sanjiang NNR;
- demonstration of biodiversity-friendly land use planning through preparation of biodiversity overlays from database and GIS applications;
- restoration of the surface water hydrologic regime at Honghe NNR; and
- a strategic overview of wetland biodiversity conservation in the Sanjiang Plain.

3. The proposed Project preselected eight target NRs in the Sanjiang Plain because they support the largest numbers of globally threatened species. Two of those NRs, Honghe and Sanjiang NNRs, were later removed from consideration because they were the focus of the UNDP-GEF project. Whereas the UNDP-GEF project took an engineering approach to restoration of the hydrologic regime at Honghe NNR, this Project will take a watershed management approach that seeks to involve all local water users working in cooperation. Whereas UNDP-GEF undertook nature reserve management planning using international technical assistance, the proposed Project seeks to develop capacity at nature reserves to develop their own management plans through participation in long-term professional training programs. This Project also seeks to complement the government's planned farmland-to-wetland restoration projects by simultaneously developing wetland habitat restoration demonstration efforts projects and associated long-term monitoring programs. Also, the proposed Project takes lessons from the UNDP-GEF project by (i) dealing the barriers of wetland protection from water resources and watershed management scale holistically, not simply focusing on a NR site level, and (ii) by focusing HPG to bring decision-making closer to local stakeholders, facilitating bottom-up processes and inter-agency collaboration all under a single responsibility.

4. **UNEP-UNDP-GEF Siberian Crane Project.** A UNEP/UNDP/GEF project entitled "Development of a Wetland Site and Flyway Network for Conservation of the Siberian Crane and Other Migratory Waterbirds in Asia." started in 2003. The project will continue for six years, and will focus in China on the eastern flyway of the Siberian Crane in the Song-Nen Plain. The project is to be jointly executed by SFA and the International Crane Foundation (ICF).

5. The proposed Project will not focus on the Song-Nen Plain, which is the primary use area of Siberian Cranes in northern China. Rather, the Project will focus on the central and southeastern Sanjiang Plain, which is known to support breeding and migrating Red-crowned and White-naped Cranes. Lessons learned from the Siberian Crane Project with respect to water management and capacity building in nature reserves will be applicable to the proposed Project.

6. **UNEP-GEF Integrated Management of the Amur/Heilong River Basin.** An application has been submitted to the GEF council for a US\$1.075 million PDF-B grant for development of the UNEP Integrated Management of the Amur/Heilong River Basin project, for which a US\$ 6.65 million grant has been proposed. This project is classified in the GEF focal area entitled International Waters, and Operational Program 9 (OP 9), Integrated Land and Water Multiple Focal Area. The Amur/Heilong project is to be executed by the State Environmental Protection Administration (SEPA), the Russian Federation Ministry of Natural Resources, the Mongolia Ministry for Nature and the Environment, the Worldwide Fund for Nature (WWF), and the International Lake Environment Committee Foundation.

7. The Amur/Heilong project will develop a basin-wide regional framework for the integrated management of the Amur/Heilong Basin and associated continental and Sakhalin Island coastal areas. The Regional Framework includes: (i) a strategic action program to address land-based threats to the aquatic environment of the basin and associated continental and Sakhalin Island coastal areas, and (ii) an effective multi-national institutional mechanism to address transboundary effects of human land-based threats.

8. One site in the Amur/Heilong River basin that has transboundary environmental issues and requires regional cooperation, is the Lake Xingkai/Khanka basin where important wetland ecosystems are under threats due to pollution, reclamation and insufficient transboundary coordination. This basin was chosen as a demonstration site in the Amur/Heilong basin for integrated land and water management. Activities will be developed and implemented: (i) to establish a common understanding of the baseline environmental conditions; (ii) to create enabling capability to develop and implement the Strategic Action Programme for

the Lake Xingkai/Khanka basin; (iii) to develop and implement pilot activities that can address land-based threats; and (iv) to enhance capacity of the riparian countries to integrate land, water and biodiversity management into economic development planning.

9. The proposed Project will complement UNEP efforts at Xingkaihu NNR by focusing on capacity building through training and provision of equipment, pilot projects for restoration of farmlands to wetlands, conservation education and public awareness. The key issue of watershed management will be approached locally in the proposed Project and regionally in the UNEP project. Key differences between the two projects will be the implications on wetlands protection policy; the proposed Project will provide knowledge/lessons on managing globally significant biodiversity/wetlands under provincial government for inter-sectoral coordination, while the UNEP project would elicit lessons for international cooperation on transboundary water issues.

10. **UNEP-GEF project on Peatlands, Biodiversity and Climate Change.** UNEP-GEF are implementing the 3-year (2003-2006), US\$900,000 project on “Integrated Management of Peatlands for Biodiversity and Climate Change: The Potential of Managing Peatlands for Carbon Accumulation While Protecting Biodiversity”. This has a range of components at global level and country studies in China, Indonesia and Russia. Other co-funders include the Canadian Climate Change Development Fund, Global Peat Initiative and the Netherlands Government.

11. The objective of the project is to assess peatland management practices and impacts on biodiversity and climate change. The project aims to provide recommendations on how peatlands could be managed in the future to maintain the role of peatlands as carbon stores and sinks, while at the same time conserving the biodiversity. Of particular interest is that this project is experimenting with wetland restoration in the Ruoergai marshes, that straddle the Sichuan and Gansu Provinces in the upper Yellow River on the eastern edge of the Tibetan Plateau (3,400 to 3,900 m. altitude). The project foresees in the development of manuals on wetland restoration, and there are likely to be ‘lessons learned’, especially for restoration of (former) peat areas of the Sanjiang Plain wetlands. Given the significant differences in geographic location, species composition, elevation and occurrence of peat, the degree of overlap does not lead to redundancies.

ANNEX F. 1: STAP EXPERT REVIEW AND IA/ExA RESPONSE

STAP Reviewer: Drs Marcel J. Silvius, Marcel.Silvius@wetlands.org,
Phone: +31-317-478861

Date: 20 June 2004

A. Key Issues:**1. Assessment of scientific and technical soundness of the project.**

- a) In the proposal's Rationale and the Analysis of Key Problems and Threats, the proponents provide a thorough summary of the context and background for the project. As such it is well founded on a wide range of published information, policies, strategies and existing expertise in the region.
 - Response: Noted
- b) The proposal recognizes and has systematically described the need for the necessary wide range of activities to target the wide range of root causes of wetland deterioration. A threats analysis is provided, identifying root causes and required mitigating measures. A succinct but clear logical framework matrix is provided, addressing major root causes.
 - Response: Noted
- c) The project promotes a river basin-wide approach to conserving biodiversity, and this will have significant demonstration value. The Steering Committee provides a coordination mechanism at the provincial level, but the project should formalize or institutionalize mechanisms to ensure the continuation of local and inter-sectoral cooperation and planning.
 - Response: The Reviewer is correct that both coordination mechanisms need to be institutionalized to ensure continuity. This will be addressed by the Project by including working groups in the NR water management plans. In addition, a concrete proposal for institutional arrangements will be one of the outputs of the planned workshops/conferences.
- d) The project proposal does not specifically address problems related to peat land management, while the Sanjiang Plains are known as an important peat land region. Occurrence of peat lands in the target areas should be investigated during the project's inception phase and their sustainable management and restoration be given due priority.
 - Response: There is significant ambiguity about peat resources that need to be addressed during the Inception Phase: if peat resources are indeed an important (past) feature of the project area, changes will be made to the approach (e.g. wetland restoration; carbon trading finances; and links with peat restoration programs elsewhere, such as in the Ruorgai marshes).
- e) The proposal needs to identify clearer indicators for wetland restoration, and targets of wetland restoration should thus be further qualified.
 - Response: Agreed. Restoration targets have now been identified and expanded to include a balance of the three types of restoration approaches used, and specifying that these are to be selected so that they cover the full range of (formerly) naturally occurring wetland habitats.
- f) In case of Village Resettlement and Development Plans, the proposal mentions the requirement of EIAs; given the (potential) social impacts, the project needs to monitor both environmental and social impacts.
 - Response: The village resettlement and development plans are in fact measures to deal with social impacts and based on Social Impact Analysis. The plans will have to show that incomes and livelihoods can be restored with the compensation funds. The requirement of EIA was that some proposals may cause adverse impact on environment (e.g. setting up a brick kiln), and monitoring will be expanded for both social and environmental aspects.
- g) The proposal states (point 73) that it would annually provide employment opportunities for 7 months for about 36,000 forestry workers on larch plantations and for 6 months for 10,000 forestry workers on poplar plantations, amounting to >150% of the forestry investments.
 - Response: The words 'each year' (beginning of second sentence) was incorrect and has been deleted.
- h) Agro-forestry and NTFP components lack reference to market research and/ or development of marketing capacity. In addition, there may be much benefit in product enhancement. These aspects should be addressed in the inception phase.

- Response: Market research was carried out during proposal development (para. 41 of the project document, selection of NTFP is based on the findings from Interim and Draft Final Reports of the feasibility study consultants' team). The same holds for creating added value to products. However, as markets often change, this analysis will be carried out and validated again during the Inception Phase.

2. Evaluation of the identification of global environmental benefits and/or drawbacks and risks of the project.

- a) Alternative livelihoods are proposed, but only a limited specification of the nature and potential is provided. It does not provide an assessment of current markets for the products. The proposal should provide indications of such alternatives and their potential as a basis for the project's integrated conservation and development approach.
 - Response: Attempts have been made to assess the markets for NTFPs, but experience shows that these can change quickly (reference to the response above item 1.h). Market assessment will be done as part of project implementation, and hence the reason why Village Development Plans (VDP) will be formulated and reviewed prior to commencement of wetland restoration. We believe the compensation will be adequate and an extra incentive, since many farmers have been forced to abandon lands with no monetary compensation but already with partial replacement of farmland outside of NRs. In case suitable alternatives appear to be insufficient in their potential, the project would have alternative approaches to ensure adequate compensation of opportunity costs of conservation. To optimize local stakeholder participation in planning, the project specifically recognizes the need for investments and assistance in the development of VDF business plans.
- b) The project does not address the population growth which is reported to fall outside of GEF's remit; expected population dynamics might place solutions within a clear perspective.
 - Response: The natural population growth in Heilongjiang Province is 0.35%, which in rural areas is slightly higher than in urban areas. Restoration of wetland NRs will involve land compensation for replacement, but not involve physical relocation of persons. Compensation will be implemented via village committees, who will ensure that this benefits the affected villages. Rural to urban migrations are fluid, leaving village lands available for readjustment. In the given social and administrative context, it is highly unlikely that this will cause issues in the affected areas.
- c) The proposal does not provide an assessment of the broader economic context, and is unclear whether alternative livelihoods will meet a market demand or if this can be created.
 - Response: Alternative livelihoods identified in the proposal (mainly NTFPs and intercropping) were identified by the County authorities and confirmed through estimating financial rate of returns as being highly lucrative, i.e. there is a market and the products command a good price. This information has been reinstated in the proposal.
- d) The farmers and farming communities affected by farmland to forest restoration will be compensated for loss of land and income through readjustment of rest farmland. Compensation for lost income – especially in the first years when no return from the forestry can be expected – depends also on successful development of income alternatives, including the NTFPs. An area equivalent to 20% of the farmland restored to forests will be used for developing NTFPs. The Supplementary Annex on Resettlement mentions that this percentage is based on specific investigations; details should be included in an annex to the proposal to use it as a basis for monitoring.
 - Response: We have estimated the opportunity cost of continuing farming in forestlands, which was used to set amount for income restoration. Forest workers usually earns seasonally (three quarters annually) and market analysis shows on average, investment in NTFP will return 5 time the net income from the same unit of land as what is currently being planted (and would be lost for farmland to forest restoration). Monitoring mechanism will ensure 1 mu of NTFP is planted for every 5 mu of farmland converted to forestry, and indicators include incomes from the NTFP. Project performance management system will be developed at the inception, and monitoring of such impact will be part of implementation and for evaluation of outputs.

- e) Resettlement schemes of farmers and communities for the NRs are linked to economic incentive schemes with a high degree of community participation and empowerment of APs. The standard procedures for compensation are very reasonable, with added prospects through VDFs. This provides a sound basis for implementation, but requires close monitoring.
 - Response: Noted
- f) The proposal involves the establishment of VDFs which, in combination with the environmental criteria and improvement of existing environmental legislation, will provide a strong financial mechanism for sustainable development. Part of the VDFs will be provided as revolving funds, thus providing a long-term incentive to engage in environmentally sound development. Strengthening of NR management and training of NR staff will lead to better protection of NRs against illegal incursions and other harmful activities. The project therefore provides a sound approach for ensuring long-term protection of biodiversity, and the combination of these aspects in this project will have a high demonstration value.
 - Response: Noted

3. Evaluation of the project's compliance or fulfillment of the goals of GEF

- a) While there is a strong commitment within the PRC and the Heilongjiang Provincial Government for wetland conservation, capacity is lacking and there is a need for increased awareness. Considering the clear need for addressing issues related to conservation of globally important biodiversity there is a strong justification for a GEF intervention of this kind. The integrated approach targeted by the project will undoubtedly catalyze related conservation initiatives and further cooperation, also in the other provinces of the PRC.
 - Response: Noted
 - b) The project document provides in the project brief and annexes (e.g. Technical Appendix A) a comprehensive overview of the global biodiversity values that would continue to deteriorate if no alternative would be developed and implemented. The document has appropriately outlined (in the incremental costs analysis) that GEF finances will be used to counter these root causes and ensuing threats. In addition, it is made clear that where there are domestic benefits, that these are primarily financed by the co-sponsors and governments.
 - Response: Noted
 - c) The selected project sites all have relatively high levels of species richness (24 globally endangered wildlife species) and habitat diversity, and are of high importance as staging areas for migratory waterbird populations, including many highly endangered species.
 - Response: Noted
- Feasibility:
- d) The project will be implemented over a period of 5 years, spending over US\$ 54 million. This seems a rather ambitious amount for a short-term project in a relatively poorly equipped region. The last year of the project should be without major capital inputs from ADB and GEF, and should focus on evaluation, monitoring and design or implementation of remedial actions where achieving results or sustainability of achievements may otherwise be impaired.
 - Response: Much of the investment (45%) will be in Heilongjiang Province's forestry development, which is the largest in China and capable of absorbing much larger investments; the Province is currently pursuing a target of 540,000 ha of new forest plantations for 2001-2015. Although remote, Heilongjiang Province's has been an economic hub since the early 1900s, and under the 10th Five-Year Development Plan (2001-2005), GDP is expected to increase 9-10% annually. It is agreed, projects such as this require well defined exit strategies, and certain activities need to be phased out rather than stopping abruptly; the implementation schedule (para. 59 & app.9) has therefore been revised to reflect this.
 - e) Procurement of equipment and services will be implemented through centrally organized mechanisms (para 61). Such mechanisms may increase cost efficiency but generally require more time for effective delivery of materials. The project should provide authority to local project managers (PIUs) to manage relatively small but useful budget amounts for local procurements.

- Response: Agreed, it would be best if PIUs had small but useful budgets for local procurement, and this will be possible out of the operational budgets provided. The proponents will also arrange for a force account and direct purchase of small items under the authority of local project units.
- f) The PIUs will be staffed by personnel from the County Forestry Bureaus or the NRs. Perhaps it is useful to consider also regular exchange of experts/staff with other sectors (e.g. through secondments) to optimize inter-sectoral cooperation.
 - Response: The PIUs will be based at County Forestry Bureaus and NRs, and most activities focus on either forestry or nature conservation, which are the responsibility of the Forestry Department, hence staffing by FD staff. Inter-sectoral cooperation is essential, but regarded as unfeasible during day-to-day project implementation at the PIU. Inter-sectoral cooperation, involving working groups, is therefore directly strived at in various sub-components

4. Assessment of how the project fits within its regional context

- a) The project is fully focused on the Heilongjiang province, amongst others to prevent the problems experienced with the current UNDP-GEF project on Wetlands Biodiversity and Sustainable Use in China (2001-2006). The single-province focus will bring decision-making closer to local stakeholders, facilitating bottom-up processes, communication and empowerment of local communities. The Sanjiang plains are of tremendous importance to global biodiversity conservation and the project's focus on this region is therefore fully justified, and the project is fully suited to the regional needs and requirements.
 - Response: Noted

5. Evaluation of the replicability of the project

- a) The project includes various key-elements that are innovative and as such will have a high demonstration value. This includes the concept of achieving wetland and biodiversity conservation through an integrated river basin approach, reforestation of water catchments through combined forestry and intercropping development, investments in economic alternatives such as eco-tourism as well as the establishment of Village Development Funds – thus combining biodiversity conservation and socio-economic development aspects and involving crucial mechanisms for empowering local communities. The project therefore has combined a strategic set of actions that will have a high potential for replication in similar settings elsewhere in the country and the world at large.
 - Response: Noted
- b) Project information, evaluations and monitoring reports should be made widely available e.g. through a project website, to ensure optimal sharing of lessons learned. This will facilitate and stimulate replication elsewhere. Development of a post-project monitoring and evaluation plan should be considered.
 - Response: Agreed, establishing a project website has now been added. Post project monitoring should be investigated during the Inception Phase, but included only if funding and support for this is made available by the government

6. Evaluation of the sustainability of the project

- a) The project does not have a well-developed exit strategy. Many of the main project activities will be running to the very end of the project (according to the implementation schedule). Mechanisms (such as the VDF) put in place or supported by the project will continue after the project has ended. Towards the end of the project these mechanisms should be (largely) self-sufficient, requiring less project input. It would be useful to clearly build this into the work plan/implementation schedule and budget.
 - Response: Although not termed an 'exit strategy', the project includes numerous safeguards against 'collapse' in a post project situation. Firstly, a series of models for replication will be produced, including wetland restoration and water resources/watershed management. Secondly, no new entities will be created (all will be based on existing structures). Thirdly, key project elements will continue in a well defined manner after the life of the project, because of the mechanisms established (embedded in VDFs, NR management plans, water allocation plans). The revised implementation schedule now shows a phasing out of various activities, and handing over of responsibilities

- b) Intercropping between rows of trees in the plantation forests can be an effective tool during the project period to optimize economic return from new plantation area. To optimize economic returns, the system should rotate, perhaps also within existing forest plantations.
 - Response: Agreed, intercropping should become part of the forestry cycle and be introduced in existing forestry areas as well once these are felled and replanted; para. 41 has now been modified. Though this intercropping mechanism has been fully discussed and agreed with the HPG, this proposed mechanism will be discussed and reconfirmed by the HGP during appraisal.
- c) The project will make substantial investments in equipment. This will increase recurrent costs of local operations, which should be built into budgets.
 - Response: Noted, there will be substantial costs that are currently not being made. However, Management Plans will be formulated for all six target NRs, and these will include budgets that reflect the cost of enhanced operations
- d) Para. 82 mentions that the HPG is “expected” to demonstrate a high level commitment to share state forest revenues for daily operation of NRs management. This seems a crucial aspect for the sustainability of the project; the proposal should more clearly indicate the level of commitment (“expected” is not enough) and clarify the mechanisms to make this work.
 - Response: Nature Reserve management is a mandated function of the Forest Department of Heilongjiang Province. The Provincial Government’s general budget sharing is the committed mechanism, included as a covenant under the loan agreement with the ADB

B. Secondary issues

7. Evaluation of linkages to other focal areas (international waters, climate change)

- a) Peat lands are reported to be an important habitat in several areas of the Sanjiang Plains (Directory of Asian Wetlands) and have great value as carbon stores. Restoration of these sites and their carbon storage and sequestration functions will be of relevance to the aims of the UNFCCC. It would be pertinent for the project to refer to this.
 - Response: There is significant ambiguity about the occurrence and extent of peat lands in the Sanjiang Plain (see A.1.d). However, given the possibility that peat lands are important (or were important before the recent widespread conversion to agriculture), this will be addressed during the Inception Phase, and links established with the UNFCCC if resources or carbon sinks prove to be (potentially) significant

8. Evaluation of linkages to other programs and action plans at the regional and sub-regional level

- a) Regarding the Wildlife Species Recovery (para. 37), the project should effectively link with the Asia-Pacific Migratory Waterbirds Strategy and its supporting networks (coordinated by Wetlands International).
 - Response: Agreed. This link was mentioned in earlier drafts, but has been lost in subsequent rounds of editing; it has now been reinstated
- b) Reference should also be made to the UNEP-GEF Siberian Crane project, and options explored for cooperation.
 - Response: Agreed. This link was mentioned in earlier drafts, but has been lost in subsequent rounds of editing. It should be noted that the Sanjiang Plain is only of peripheral importance to the Siberian Crane, and lessons learned from the Siberian Crane project will primarily be used for managing other large migratory waterbird species
- c) In the selection of consultants (para. 62) the project should include criteria that not only take account of the consultant’s individual qualifications, but also whether the consultant (expert or agency) may bring linkage with additional networks.
 - Response: The consulting firm will be selected using ADB’s quality-and-cost-based selection method. The institutional background and ability to network will normally be one of the consultants’ qualities assessed by the selection committee

9. Assessment of other beneficial or damaging environmental effects

- a) The project follows a holistic integrated approach, and the document thus appears to describe all major global benefits for biodiversity conservation. It is unclear from the document what effects the project is expected to have on the transboundary waters.
 - Response: The project will have benefits for transboundary waters, but does not dwell on these, as an application has been submitted to the GEF Council for a \$1.075 million PDF-B grant for development of the UNEP Integrated Management of the Amur/Heilong River Basin project. This project is classified in the GEF focal area entitled International Waters, and Operational Program 9 (OP 9), Integrated Land and Water Multiple Focal Area
- b) In view of the potential benefits of improved management of peat lands in the Sanjiang plains in terms of carbon storage, as well as the limited expertise in the region with wetland restoration (para. 36), it would be pertinent for the project to exchange information and expertise with the current UNEP-GEF project on Peat lands, Biodiversity and Climate Change. It should be noted that the UNEP-GEF project will produce a peatland restoration handbook.
 - Response: Agreed, this is important and will be included in para. 24 in the section on lessons learned, and in para. 36 on pilot wetland restoration. Regarding restoration manuals, it should be noted that the focus will be on (non-peat) floodplain wetlands, hydrology and non-structural approaches (e.g. establishing VDFs), so there is no likelihood of duplication
- c) With respect to the financial and economic analysis it would be useful to include also consideration of potential revenues from voluntary carbon payments or Carbon Rights.
 - Response: Noted. See A.1.d.; if peat resources are found to be, or have been important in the project area, this financing opportunity will be developed during the Inception Phase

10. Evaluation of the degree of involvement of stakeholders in the project

- a) Mechanisms for participation and influencing the management of the project:
 - i The project foresees in a project Steering Committee involving all relevant stakeholder Groups, as well as stakeholder groups at the local level. It focuses on one province only, facilitating communication and placing the project's management structures within the local setting - thus bringing decision making closer to the local stakeholders. It would be useful to specify more clearly the finance management procedures.
 - Response: Disbursement will be via the Heilongjiang Financial Bureau, and from there to the respective provincial agencies (mainly Forestry Department). The subsequent flow to the county level is mainly within the Forestry Bureau, and this will occur along well known and well defined channels
 - ii The project foresees in a conference (para. 33) on wetland water supply and basin water resource allocation involving representatives of local and provincial agencies. Inviting international experts as well as representatives of adjacent provinces and key national authorities should also be considered.
 - Response: The aim of the 'conference' is to enhance the debate on water resources planning and allocation, and ultimately arrive at an agreement on water resource use in the region that takes care of all water users, including the NRs. To ensure that the debate will include key stakeholders, this should not be expanded to a much broader setting. Even a national conference may result in too broad for a debate and local 'voices' (e.g. NR staff) will be lost. There may, however, be merit in broadening the present arrangement to a regional context, as the Songhua basin also extends into adjacent provinces. Regional conference would be considered.
 - iii Village Development Funds (ref. Para. 41): The project should more clearly define how Affected Persons (APs) will be structurally empowered within the VDF management procedures, to ensure that they will sufficiently benefit from chosen investment directions.
 - Response: Present village structure and organization means that the livelihood losses incurred due to wetland restoration do not affect individuals or families, but are absorbed by the village as a whole. One cannot (always) identify individual APs, but an affected village only. VDFs, in turn, benefit the village as a whole and represent an appropriate mechanism for maintaining livelihood levels
- b) Provisions for the establishment of appropriate lines of communication:

- i The project foresees in simple but therefore probably effective management and coordination structures, including a Project Management Office.
 - Response: Noted
- ii This provides an adequate relatively flat management structure conducive to good communication.
 - Response: Noted
- c) Exchange of technical information between communities and stakeholders:
 - i The project foresees for information exchange through its inter-sectoral coordination mechanisms and workshops/conferences. It will produce also guidance, awareness and training materials and manuals and will implement training to all key target groups.
 - Response: Noted
 - ii It would be very useful if the project would establish a web site (in Chinese and English languages) as a means to more widely share important project results, experiences and other pertinent information that will add to the project's demonstration value.
 - Response: Agreed to establish website for information dissemination
- d) Participatory schemes and conflict issues
 - i The Project will establish and promote strong participatory mechanisms, particularly in the development of VDFs. In all aspects of the project that will directly impact on communities, farmers or forestry workers, appropriate means have been defined for empowering the local stakeholders, and enabling them to engage in developments that are both lucrative as well as sustainable and of benefit to biodiversity conservation.
 - Response: Noted
 - ii Water management of and for the wetlands in the NRs will involve the help of water resource experts (para. 32). The project foresees in building capacity of the HPWRD and HPFD in this respect (para. 33). Water management plans should become part, not only of the NR's management plans (para. 32), but also of future river basin management plans.
 - Response: Noted

11. Assessment of the capacity building aspects

- a) General
 - i The project has developed a good overview of envisaged training needs and provides on this basis a detailed preliminary training plan. There may be a need for some flexibility as other needs are likely to become clear during project implementation.
 - Response: Agreed, some extra flexibility has been added, both in App. 13 and para. 46
 - ii The project provides adequate attention to capacity building of local communities and of the HPFD, and will also provide training to the multi-sectoral working groups on water resource management issues. It might be useful to add training programs that would focus on mainstreaming wetlands and environmental management in sectoral development.
 - Response: Capacity building focuses primarily on the HPFD (via Sub-component 4.3) and local communities (via Component 2, which may include training via the VDFs and Ecotourism). As part of subcomponent 1.2 (see para. 33), working groups will be trained in water resource issues. Possibilities for involving other stakeholders in the training programs have been created by adding flexibility in allocation of funds and positions
 - iii The proposal mentions that the project strategies intend to promote gender awareness and sensitivity in training. This is, however, not further specified in the proposal.
 - Response: The proposal states that "Project strategies <are> intended to promote gender awareness and sensitivity in training and awareness programs <and> should therefore have a positive impact on women", but this is not included in the current formulation of the training and awareness programs. This omission has now been rectified
 - iv The project establishes a model approach with intention of sharing this with other provinces of PRC. However, the only tools foreseen are technical reports, awareness and training materials/manuals. It would

be useful to include in the capacity building program also training of key staff from relevant departments of other provinces.

➤ Response: Noted, it would be useful to include a proviso in the training program that allows for exchanges with NR staff from other provinces, rather than only benefiting staff of the six targeted NRs

b) Human capacity to tackle the issues addressed in the project

i The project will add much social and ecological expertise. It is unclear if the proposal foresees in sufficient expertise in (eco-)hydrology and wetland restoration requirements.

➤ Response: Technical expertise (in a civil engineering sense) for hydrology restoration exists (e.g. Agricultural & Hydrology Design Institute). However, wetland restoration is not solely an engineering exercise – it also involves a host of social and ecological issues – and that’s where the Project will be invaluable. It is proposed that peat land restoration expertise will be assessed during the Inception Phase, along with the general issues of peat land in the Sanjiang Plain (see A.1.iv).

ii The Wetland Management Training (para. 46) is heavily oriented to wetland management and targeted to the HPFD, NR staff, teachers and local community leaders. The project should consider courses specifically for traditional development sectors, to ensure that wetlands functions and values are taken into account.

➤ Response: Training will be provided in water resources management to various stakeholders as part of sub-component 1.2, and in addition, a wide range of local stakeholders will be targeted by awareness programs. It would be useful if training could be provided to a wider range, but the project does not want to spread itself too thinly by providing training for all possible stakeholders; current design therefore focuses on where the main needs exist

iii The proposal targets the long-term professional training targeted at senior NR staff and managers. It would perhaps be more useful to focus this at the next generation of managers, i.e. current middle management level staff.

➤ Response: Re long-term courses: agreed – but note that the current formulation of subcomponent 4.3 does not exclude this possibility. However, in most cases staff are either senior management (with an academic background, capable of absorbing the university level long-term training) or technical staff (with a lower academic background), and the project will be obliged to involve senior staff in long-term courses given at universities

12. Innovativeness of the project

a) The alternative model approach to compensate for lost income in relation to restoration of large areas of wetlands is laudable, and includes such innovative elements as village development funds. A World Bank report concluded that Trust Funds are very successful in most projects that address poverty-environment issues, and lead to increased sustainability of project outcomes. The VDFs can be expected to have a similar effect and provide within the local context probably the most appropriate as well as very innovative mechanism.

➤ Response: Noted

b) The project involves as innovative aspect resettlement compensation through alternative livelihoods that are conducive to wetland management. It names just a few (NTFP, Eco-tourism, Forestry, Inter-cropping), but it would be useful if it would identify during the course of the project a broader range of investment options, to enable a broader based economy.

➤ Response: A wide range of NTFPs (honey, wax, mushrooms, herbs, medicines, fruit, etc..) and other opportunities were identified, both by the consultant’s team and the HPFB; these are listed in the Draft Final Report but not recorded exhaustively in the RRP or GEF Executive Summary. Similarly, a wide range of possible activities have been identified as part of ecotourism development and/or eligible for funding by the VDFs, but again these are not exhaustively dealt with. It is expected that many of these will become more concrete as they are assessed and selected in the Inception Phase

c) The project intends to address the issue of unsystematic and unsustainable exploitation of natural resources by developing cooperation with the communities around the NRs and training of NR personnel in community relations and law enforcement (para. 38). The means for this includes eco-tourism

development, the NTFP interventions and sustainable development initiatives that will be supported by the VDFs. These are all very promising and for the region innovative concepts. The project should closely monitor that the local land is sufficiently available for readjustment.

- Response: Noted. Land is not a constraint here, but capital to invest in higher income generation schemes. Readjusting land is a social safety net; the key is to find good investments for the compensation, which is calculated based on the opportunity cost of farming in wetlands. The effectiveness of the social safety net will be closely monitored during the project, and current design foresees in this

C. Concluding remark

The proposal is very interesting and well developed - also highly innovative by combining the river basin approach involving integrated water management and catchment reforestation, nature reserve protection and wetland restoration, community development through community-based funding and credit mechanisms as well as innovative forestry/inter-cropping systems. As such the project will have a high demonstration value for the rest of China as well as other countries. The project is feasible, as it has a good focus, the correct approach, is based on existing institutions and local practices, and will provide the necessary capacity building. The sustainability of the project's results stems particularly from the economic incentives that the project's finance mechanisms and development aspects will provide.

- Response: Noted with thanks.

ANNEX F. 2:**GEF SECRETARIAT REVIEW ON 15 JULY 2004 AND IA/ExA RESPONSE****1. COUNTRY OWNERSHIP****(i) Country driven ness:**

- Letter of endorsement, substantive lending from ADB, interest to take a watershed approach, consultation of key stakeholders.

(ii) Endorsement:

- Letter of endorsement for PDF B only dated September 30, 1999. A new letter will be required as it does not endorse the WP brief. The new letter should include the agreement of the cofinancing proposal as well as the agreement of the GEF Executing Agency, and the executing agency in the field.
- **Response:** Letter of Endorsement for GEF Work Program Inclusion has been prepared by the MOF-GEF focal point, and is attached.

2. PROGRAM AND POLICY CONFORMITY**(i) Program designation and conformity:**

- The project conforms well with OP#2. However, given the extensive forest aspects of the project, restoration proposed and the watershed level approach, the Secretariat wonders why OPs #3, 12 and 15 have not been quoted as addressed by the resulting project.
- **Response:** This omission has been rectified in the project document (Appendix 5) and GEF executive summary (paragraph 7, footnote 2).

(ii) Project Design:

- (ii).1.** Global benefits: The argument for global benefits to be secured under the project is based on threatened and endangered species. Proposed sites highlighted in Annex 6 and supplemental Annexes A and C of project document are identified. The project lists three Ramsar sites in the plains, are these part of the project to be supported? Please provide requested information and add a brief reference in the project summary.

- **Response:** Paragraph 3 of Supplementary Appendix C on Site selection and the selected six nature reserves clearly explains that only one of the three Ramsar sites (Xingkaihu NR) is included in the six targeted sites, and why the other two were dropped. It also subsequently describes the six sites in detail. A summary of this information has now been inserted in the GEF Executive Summary, para. 10 and footnote 5:

- (ii).2.** Underlying causes of biodiversity loss: please provide a brief statement of these in the project summary.

- **Response:** The following has been added to (para.11) of the GEF Executive Summary: “Key underlying causes contributing to wetland loss are i) unsound local planning of water resources allocation, ii) poor understanding of nonstructural flood mitigation and floodplain management, iii) lack of alternative livelihoods, leading to exploitation of nature reserve resources, iv) weak inter-agency coordination for integrated watershed management, v) weak technical capacity in NR management, vi) lack of replicable financing model to replace arable farming land, vii) low public awareness of wetland values and biodiversity conservation, and viii) incorrect interpretation of legislation regarding experimental zones. Biodiversity of global significance has declined as a result of wetland loss.”

- (ii).3.** Institutional Issues: These are generally complex in China and experience from other GEF projects in the country managing wetland issues highlights that a clear strategy is needed to address these. In particular, inter-institutional coordination across sectors and key actors is needed. Would the provincial level authority be able to coordinate efforts along all the watershed? This is fundamental as wetlands in the plains will be affected by management of the watershed as a whole, where the provincial government may have very limited leverage.

- **Response:** Last few lines of the para. 18 of Executive Summary explains institutional coordination. Activities are all focused on Heilongjiang Province, including activities involving watershed management

(Component 1.3, which focuses on all five watersheds in which the six target NRs and their wetlands are located). Provincial agencies such as the Forestry Department and Water Resources Department (HPWRD) therefore have the authority and ability to coordinate effectively. Note also that the basin-level water resource allocation study and management will be led by the Heilongjiang Project Management Office team (of HPWRD) involved in the ADB-funded Songhua Flood Management Project, in coordination with Heilongjiang Province Forest Department of (HPFD). This team is already effectively involved in coordination between provinces on Songhua River management issues. It is notable that inter-agency coordination between State farm and FDHP has been already occurring by converting 333 ha in Xingkaihu lake as a pilot site of the proposed project. Para 22 (vii) highlights that the sustainability of the project increases by focusing on the region all under single province.

- (ii).4. Absorptive capacity: The section of the provincial government to address this issue is said to be the forestry department. Would staff in this department have the capacity to manage wetland ecosystems?
- **Response:** Para. 19 of Executive Summary summarize risk measures for absorptive capacity of the provincial government. As stated in the project document, the Heilongjiang Provincial Forestry Department (HPFD) now has formal authority for wetland protection. In terms of water resources, however, State Farms and other provincial agencies that work in drainage and irrigation projects has been allocating water resources and make watershed forest management decisions quite independently of each other. Integrated watershed management will strengthen inter-agency coordination. Capacity within HPFD for managing wetland ecosystems is lacking and has been identified as one of the main threats (see Executive Summary). Hence the strong emphasis on training in various areas (see Appendix 13), including inter-agency coordination, water resources and wetland biodiversity management for training of 700 government staff as well as communities over 5 years implementation.
- (ii).5. Level of degradation: The level of degradation of the overall watershed and restoration efforts. There is no information on the first issue. The level of restoration would likely vary in level of effort needed and costs. While land restoration through forestry are likely to be human and financial resource intensive and long-term, wetland restoration is likely to be less complex, cheaper and less time consuming. Please clarify. The targets for the latter proposed in the logframe seem small. Do these cover all key globally important sites? All geographic areas to be targeted or just a fraction of them? The proposed total acreage to be restored is about 3,440 hectares. Is this all?
- **Response:** The project brief states that “both forests and wetlands have been reduced to below one fifth of their original area” (para. 3), and that (para. 5) “in the Sanjiang Plain, deforestation and cultivation of hillsides have caused soil erosion, diminished the water-retention capacity of uplands, and increased the vulnerability of farmland to both floods and droughts. Over the last five decades, the forest cover has also shrunk from 49% at the turn of the century to only 10% (about 11,000 sq km).” This has now been summarized in the executive summary (paras. 1, 9, and footnote 4). In fact, the total area of wetlands to be restored under the project is indeed 3,433 ha, spread over all six NRs targeted by the project. Wetland restoration is limited to this relatively small area for two main reasons: (a) While it is indeed cheaper to physically restore wetlands, than it is to establish plantations (US\$ 171/ha versus \$542/ha), the compensation that needs to be provided by the government to replace lost livelihoods (US\$4500-\$6300/ha) is many times larger than the physical cost of restoration. In practice, compensation needs to be paid in most cases in (former) wetland areas, but rarely in areas to be reforested. The project is therefore has to address the level of compensation the government is able to provide, and further foresees in utilizing these funds for development rather than sunk costs; and, thus, (b) The purpose of the pilot wetland restoration subcomponent (2-2) is not to restore all degraded wetland areas, but to develop and implement pilot farmland-to-wetland model restoration projects on a pilot basis. Aim is to provide models for replication in the much larger farmland-to-wetland restoration program funded by State Forest Administration and National Development and Reform Committee (SFA-NDRC), that will be implemented by HPFD. This program is still at an early stage of development, but a list of restoration sites and an outline of possible restoration methodologies has been completed by FDHP. The project is planned for implementation over a 5year period at an estimated cost of over ¥7 billion (US\$0.9 billion) for 150,000 ha to the Chinese government. The project will undertake farmland-to-wetland restoration at NRs

throughout the Sanjiang Plain, based on the results at the model sites under the Sanjiang Plain Wetland Protection Project.

(ii).6. Project implementation: Five or six year? Please clarify.

➤ **Response:** Net is five years from July 2005 to June 2010, but spread over six calendar years.

(ii).7. Portfolio of China projects addressing wetland issues: The GEF and others are financing wetland conservation and sustainable management projects in various parts of China. All of them have similar project components including substantive capacity building, wetland inventories, elaboration and implementation of management plans for biodiversity conservation, alternative livelihoods and sustainable use of natural resources, substantive restoration activities, pollution control, etc. What is new in the project that makes it unique? How lessons from others have been taken into account in project design? Please provide a brief text in project summary.

➤ **Response:** Paragraph 3 has been added in the executive summary to explain innovative features of the Project. The following has been also added to the executive summary (para.18) from the project document (page 16, part C Special features): “The project differs significantly from other wetland conservation and sustainable management projects in China. Firstly, it closely links integrated watershed management with the management of wetland NRs, and establishes measures for replicating this approach in other watersheds. The model approach for wetland restoration will guide wetland restoration in more than 150,000 ha in NRs. Secondly, while restoring farmland back to wetlands, Village Development Funds (utilizing compensation funds made available by the government) will be attached to the restoration program to ensure that the livelihoods of villages affected by the farmland-to-wetland program remain at least at the same level. Village development plans will be part of resettlement plans, and guided by an Environmental Management Plan (EMP) to ensure that activities near the NRs are consistent with wetlands/ biodiversity protection. This will reduce the financial burden of the government for resettlement compensation, as this is no longer a sunk cost, but provided as environmentally sustainable investment opportunities for the villages.” Also, the proposed Project takes key lessons (stated in para. 24, Project document) from the mid-term evaluation of UNDP/GEF project by (a) dealing the barriers of wetland protection not simply focusing on a NR site level but from water resources and watershed management scale holistically, and (b) bringing project implementation closely at the local field level under the Heilongjiang Province government as an executing agency rather than at the central agencies in Beijing. This is re-stated in the executive summary (Annex E).

(iii) **Sustainability (including financial sustainability):**

- Brief analyses of capacity building requirements are included in Annex 13 of project brief. However, issues of the sustainability of the capacity built are important and not addressed. Please indicate the plans that the government will have to sustain this capacity after project completion.

➤ **Response:** The following has been added to the Executive Summary (para.23.): “Capacity developed under the project will be sustainable, as this is embedded in the following government commitments: (a) Wetland restoration will be carried out in more than 150,000 ha in NRs for the farmland-to-wetland restoration program funded by SFA-SDRC and implemented by FDHP. This will be implemented for the next 5 years at an estimated cost of over ¥7 billion to the Chinese government, and a list of restoration sites has been completed. There will therefore be a continued need for capacity for wetland restoration and water resources management; (b) Nature Reserve management is a mandated function of FDHP. The Provincial Government’s general budget sharing is the committed mechanism for continued NR funding, and is included as a covenant under the loan agreement with ADB. NR management capacity developed under the project will therefore continue to function; and (c) Individual VDFs will establish revolving funds (at least 30% of the total), which will remain functional, operating along guidelines established during the project. Capacity developed under the VDF programs will therefore remain operational.”

- Project risks identified in project document should be summarized in project summary as Council members are keenly interested in this issue.

➤ **Response:** Agreed, and now added to the Executive Summary (para. 19.)

(iv) Replicability:

- Good potential for replicability in other watersheds and wetlands in the country. However, through the various projects on biodiversity and IW, the GEF seems to be assisting replication efforts nationally. Please consider that replication should be financed by others.
- **Response:** GEF fund is not used for replication. As stated in the GEF Executive Summary (para. 24): “HPG has agreed to utilize wetland restoration models (including livelihood restoration) developed by the project in its farmland to wetland restoration program, under which over 150,000 ha will be restored in wetland NRs in the Sanjiang Plain alone. Funds are allocated for this by NDRC. The Project will facilitate this program by providing much needed examples (model approach) of how this can be achieved successfully, and maximizing benefits to biodiversity conservation.”

(v) Stakeholder involvement:

- (v).1.** Social aspects: Social aspects in the project are not well identified. Population size information in the watershed, demographic parameters in the watershed and in the specific project sites? Social pressures at each site? Human uses of biodiversity and its resources at each site? Please clarify.
- **Response:** Social aspects had been fully analyzed and summarized in a separate volume of Full Initial Environment Examination (IEE), Chapter III. Section C. Socioeconomic Profile. Supplementary Appendix J is now added to project brief. In all the six nature reserves considered under the project, agriculture is by far the most important human use of the wetland resource and has been expanding over recent years. Less intense human uses are reed collection, small livestock (e.g. ducks and geese), hunting, and fishing, all of which lead to habitat and/or wildlife population degradation. Human uses of biodiversity and its resources at each site are discussed in Supplementary Appendix C.
- (v).2.** Project participation plan: The draft highlights that it will be defined during implementation (p 6). It should be provided now and certainly not later than endorsement.
- **Response:** A draft Public Participation Plan has been formulated and is now included as part of Project Document: Supplementary Appendix J. This will be further refined during the appraisal.
- (v).3.** Resettlement plan: Any involuntary resettlement plans (I have checked Annex 10 and found no reference)? Would ADB policy be applied? Plans for compensation? Please recall that GEF funds are not authorized for these types of efforts.
- **Response:** ADB strictly applies the policy to all ADB financed projects, as a safeguard against potential negative social impacts. ADB's Resettlement Policy is to assure that livelihoods and welfare of people affected by ADB projects remains at least at pre-project level. Resettlement compensation costs are all financed under the government budget. No GEF funds are allocated for resettlement efforts. Appendix 10 of the Project Document (i.e., RRP) is the simplified version of resettlement framework, and the full version of framework (including more detailed quantification data) are available upon request as indicated in the appendix lists (Supplementary Appendix D). As stated in paragraph 83 of the project brief, bullet point v) on Resettlement, and also as stated in paragraph 41 of the project document; the conversion of farmland to wetland, the provincial government will pay land compensation to the State Farms or village collectives, which in turn will provide replacement farmland to the affected households, readjust farmland among the other workers/villagers, and invest the compensation funds to benefit all villagers.

(vi) Monitoring and Evaluation:

- (vi).1.** M&E Indicators: Page 6 paragraph (f) and Annex C briefly highlights the issue of M&E and indicators: baseline indicators should be established during final preparation not during early implementation, if possible, so these can actually be used as a benchmark when the project starts.
- **Response:** Page 6 of the Executive Summary (para.27) has been modified as follows: “At the Project inception stage, baseline indicators for environmental benefit monitoring and project performance management system will be refined.” The emphasis is on ‘refined’ rather than ‘prepared’, as was

previously stated. Similarly, the logframe has been revised to include a defining of performance indicators relative to baselines, as appropriate. Baseline indicators will be selected during final preparation. Refinement during the inception phase is required in several areas, for example: i) populations of globally significant species fluctuate and a more up-to-date baseline will be required; and ii) areas of natural wetlands in target NRs are poorly mapped, and a project GIS will be established as early as possible during implementation. Targets will be set based on best available information, but it is acknowledged that there will be scope for refinement during the inception phase of the project.

- (vi).2. Process versus impact indicators: Most indicators seem to be process not impact indicators please clarify.
- **Response:** Many indicators are indeed process rather than impact indicators. The proponent acknowledges that this is less desirable. The project logframe has therefore been modified to incorporate impact indicators as appropriate.
- (vi).3. Key indicators for forests and wetlands: Some of the key indicators refer to plantations, forestry efforts including NTFPs and other elements of the watershed under consideration. Key indicators for wetlands components are also typically process not impact indicators. Please clarify.
- **Response:** See above; these indicators have been modified to incorporate impact indicators, where appropriate, in the logical framework. Further refined at the appraisal.
- (vi).4. Cost of M&E: Please clarify total costs of M&E efforts in the project.
- **Response:** Many of the costs listed under ‘monitoring’ include costs associated with iterative/ adaptive plans of sub-activity implementation, based on learning from monitoring (evaluating effectiveness of approaches, and adapting these accordingly). Such modification of plans and monitoring are inseparably inter-related and designed as adaptive procedures, and thus division of costs between two are not possible. However, considering 25% of those associated activities would be utilized for monitoring and evaluation, the total estimated cost of M&E is about \$1.41 million (\$0.294 from ADB, \$0.576 from GEF, and \$0.541 from Government).

3. FINANCING

(i) Financing plan:

(i).1. Proposed associated financing: \$1.350m. What would it do?

- **Response:** The GEF Executive Summary states: “Also, total amount of associated financing \$1,350,000, includes (a) ADB grant, \$250,000 on poverty and environment fund to assist alternative livelihood development in three poverty counties in the Project area, (b) ADB grant, \$500,000, on the PRC’s Flood Management Strategy Study to incorporate wetland protection as part of flood management, and (c) ADB grant, \$600,000, on Support for Environmental Legislation to strengthen laws and regulations on nature reserve management and protection.” Further details are provided below:
- (a) ADB grant (approved on 26 June 2004), \$250,000 from Poverty and Environment Program (PEP) – The objective of PEP is to promote targeted environmental interventions that contribute to poverty reduction and environmental improvement mainly through the provision of funding for “small-scale activities in the protection, conservation, and sustainable use of natural resources and ecosystem services to maintain the livelihoods of the poor”. The small-scale activities will demonstrate innovative institutional arrangements, participatory approaches, or technical solutions with clear potential for successful replication, mainstreaming, and/or upscaling in one or more countries. With this associated financing, the PEP project is to: (i) develop and pilot test sustainable alternative rural livelihood activities in poor villages in Raohe county near Naolihe nature reserves, (ii) develop and pilot-test participatory-based co-management of wetland reserves with community-based organizations (CBOs), nongovernment organizations (NGOs), and/or local government; and (iii) to recommend and introduce policy measures that address the poverty-environment nexus on a sustainable and participatory based manner. The expected outcomes of this PEP project are—(i) Community-based co-management scheme of natural resources, (ii) at least 100 poor farm households/minority groups together with 3 CBOs have alternative livelihood activities in each

village; and (iii) incorporating lessons learned from PEP subprojects into policy/institutional measures in Heilongjiang Wetland Conservation Program for further replication.

- (b) ADB grant (approved in April 2004), \$500,000, on the PRC's Flood Management Strategy Study to incorporate wetland protection as part of flood management -- The objective of the TA is to develop an integrated flood mitigation and floodplain management strategy appropriate for the unique flooding and development situations in the PRC (land shortage and population growth), by balancing structural and non-structural measures. This will include the protection of wetlands and holistic watersheds management as a way of integrated floodplain management approach. It will assist the Government in moving from flood control to an integrated, or total, flood management strategy. Though the Government recognizes various non-structural flood management measures, its wide applications and implementations have been limited due to knowledge constraints and lack of know-how. The part of the TA outcome will highlight (i) knowledge enhancement in adopting various non-structural measures (including incorporation of wetlands as flood absorption functions) and (ii) awareness increase on importance of wetlands for flood protection, thus improving watershed management.
- (c) ADB grant (proposed and approval for 2004 pipeline program), \$600,000, on Support for Environmental Legislation to strengthen laws and regulations on nature reserve management and protection – TA will assist Government reviewing relevant laws/regulations on nature reserve management, modifying/ rectifying inconsistencies in nature protection regulations, and drafting national law on nature reserve management and protection (none exist yet at the national law level). The TA will provide consistent regulations on defining/utilizing or protecting experimental zones of nature reserves.

(j).2. Counterpart funding, particularly from the government, has been an issue in the UNDP/GEF wetlands project. Please assure counterpart funding availability in a timely manner.

- **Response:** Last 10 lines of the paragraph 19 of the executive summary explains assurance and risk measures on counterpart funding. Heilongjiang Provincial Government identified funding sources from NDRC and demonstrates strong commitments for timely implementation. Loan covenants will include this.

(ii) Implementing Agency Fees:

- \$0.860 million requested. The project is a single country, GEF funding focused mostly in the wetlands on the floodplains.
- **Response:** We have sent our response to Kia Rassekh by email.

4. INSTITUTIONAL COORDINATION AND SUPPORT

(i) Core Commitments and Linkages:

- Substantive cofinancing from ADB. Please add to the project summary a brief description of the ADB portfolio in China and in the watershed if there are other projects.
- **Response:** A short sentence has been added to the executive summary (para. 30.) including ADB PRC-GEF Partnership on Land Degradation in Dryland Ecosystems, which addresses institutional framework and capacity building for combating land degradation over 10 years at estimated investment of \$1.5 billion. The phase I focuses on capacity building.

(ii) Consultation, coordination, collaboration between IAs, and IAs/ EAs, if appropriate:

- (ii).1. Biodiversity portfolio: Key projects include the UNDP wetlands project and two UNEP migratory bird projects addressing wetland species. UNEP projects are not highlighted in the review. Although these projects may focus on other geographic areas in China, they are important as they address similar thematic issues on capacity building, management plans, sustainable use, inter-sectoral coordination, restoration, etc...
- **Response** Added Annex E to summarize key relevant projects in the PRC. UNEP/GEF migratory bird project in China, is already mentioned in paragraph 24 of the project document, which states: “.The Project will exchange information and expertise with the ongoing UNDP-GEF project on Peatlands, Biodiversity

and Climate Change, which is experimenting with wetland restoration in the Ruoergai marshes, and with the UNEP-GEF Siberian Crane project.” The GEF website lists 20 projects in China (<http://www.gefonline.org/projectList.cfm>), of which 11 with UNEP as GEF Agency, but only one (the aforementioned Siberian Crane project) dealing with migratory birds. For another one, perhaps the reviewer meant the UNDP/GEF wetland restoration project in the Ruoergai marshes? The project document does mention another UNEP/GEF project, which is described in response below (see ii. IW portfolio). There are several migratory bird programs active in the region that we are aware of, but did not include in the project brief or Executive Summary because of space limitations; these are: Anatidae Site Network in the East Asian Flyway, Northeast Asian Crane Site Network, and East Asian-Australasian Shorebird Site Network

(ii).2. IW portfolio: The IW portfolio includes at least one UNEP regional project between China, Russia and possibly Mongolia seeking to manage the Amur/Heilong transboundary River basin. This is mentioned in the proposal and it seems that the Heilong River contributes to this watershed. Please clarify if there are any connections, overlaps, duplications, etc...

➤ **Response:** Added Annex E including explanation as follows; An application has been submitted to the GEF council for a \$1.075 million PDF-B grant for development of the UNEP Integrated Management of the Amur/Heilong River Basin project. This project is classified in the GEF focal area entitled International Waters, and Operational Program 9 (OP 9), Integrated Land and Water Multiple Focal Area. The project is to be executed by the State Environmental Protection Administration (SEPA), the Russian Federation Ministry of Natural Resources, the Mongolia Ministry for Nature and the Environment, and the International Lake Environment Committee Foundation. This project will develop a basin-wide international cooperation framework for the integrated management of the Amur/Heilong Basin and associated continental and Sakhalin Island coastal areas. The Framework includes: (i) a strategic action program to address land-based threats to the aquatic environment of the basin and associated continental and Sakhalin Island coastal areas, and (ii) an effective multi-national institutional mechanism to address transboundary effects of human land-based threats. One site in the Amur/Heilong River basin that has transboundary environmental issues and requires regional cooperation, is the Lake Xingkai/Khanka basin where important wetland ecosystems are under threats due to pollution, reclamation and insufficient transboundary coordination. This basin was chosen as a demonstration site in the Amur/Heilong basin for integrated land and water management. Activities will be developed and implemented: (i) to establish a common understanding of the baseline environmental conditions; (ii) to create enabling capability to develop and implement the Strategic Action Programme for the Lake Xingkai/Khanka basin; (iii) to develop and implement pilot activities that can address land-based threats; and (iv) to enhance capacity of the riparian countries to integrate land, water and biodiversity management into economic development planning. The proposed Project will complement UNEP efforts at Xingkaihu NNR by focusing on capacity building through training and provision of equipment, pilot projects for restoration of farmlands to wetlands, conservation education and public awareness. Key differences between the two projects will be the implications on wetlands protection policy; the proposed Project will provide knowledge/lessons on managing globally significant biodiversity/wetlands under provincial government for inter-sectoral coordination, while the UNEP project would elicit lessons for international cooperation on transboundary water issues.

(ii).3. China/GEF program: There is an extensive China/GEF program to address land degradation and sustainable land management in the country. However, this is not mentioned at all in the proposal. Please clarify, as this proposal could well fit under it and the Secretariat is concerned that this larger effort is not mentioned in the proposal.

➤ **Response:** We are well aware of the GEF program on land degradation under OP 12, and closely coordinating to identify possible projects under the program. As indicated in our response under ADB/China Portfolio, we have been very selective what to mention in the Executive Summary and Project Documents due to the page constraints. As this project is <mainly> under OP2, we did not mention the GEF program under OP12, nor any other projects under different OP numbers. At the same time, the PRC-GEF Partnership on Land Degradation focuses in Dryland Ecosystems, under which the Country

Programming Framework's (CPF) primary focus is on six priority provinces and/or nationally and globally significant autonomous regions in the PRC's Western region; these areas include Gansu, Inner Mongolia, Ningxia Hui, Qinghai, Shaanxi, and Xinjiang Uygur. Other dryland areas provinces/regions of the Western region are also eligible for support, but not the northeastern wetlands like Sanjiang. The proposed Sanjiang project is located at the northeast corner of the PRC, and dealing with wetlands. Now, the China/GEF program is mentioned in the para. 30 of the executive summary.

(ii).4. Others: Projects from others? Lessons? Best practice? Replication experience?

- **Response:** In addition to the projects and programs mentioned above: (a) ADB's Songhua River Flood and Wetland Management project, (b) UNDP-GEF Wetland Biodiversity Conservation and Sustainable Use in China project, (c) UNDP-GEF Peatlands, Biodiversity and Climate Change project, (d) UNEP-GEF Siberian Crane and other migratory waterbirds project, (e) UNEP-GEF Integrated Management of the Amur/Heilong River Basin project, (f) Anatidae Site Network in the East Asian Flyway, (g) Northeast Asian Crane Site Network, and (h) East Asian-Australasian Shorebird Site Network. The proponent is aware of and taken note of: The Integrated Agriculture Development Project funded by the Overseas Economic Cooperation Fund (OECF) of Japan, for development of state farms in Heilongjiang Province in the mid 1990s. Recommendations from this project will provide a useful foundation for farm and nature reserve management plans to be developed during the Project.

5. RESPONSE TO REVIEWS

(i) Review by expert from STAP Roster:

- Good review by the STAP expert. The Secretariat supports the review and request ADB to fully respond to issues highlighted by the reviewer.
- ADB also supports the views of the STAP reviewer, and has taken steps to fully respond to the issues highlighted, with revisions to the project brief, its annexes, and the GEF Executive Summary.

(ii) Review by Other IAs: World Bank Comments (follows on the next page)

ANNEX F. 3:**WORLD BANK REVIEW ON 15 JULY 2004 AND IA/ExA RESPONSE**

1. **Global biodiversity values.** This is an interesting proposal since it came about as a response to the massive floods which had huge social costs – and caused China to recognize the need to better protect its forests and wetlands. The national benefits should be substantial. What is less clear, especially from the executive summary, is the global biodiversity values of the existing wetlands and nature reserves (very large areas have already been converted for agriculture). It would be helpful to have a matrix which explains the global values, threats and activities at each site. The fact that the project intends to restore over 150,000 hectares of farmland to wetlands suggests that these areas are already under heavy human and livestock pressure and much degraded.

➤ **Response: Global biodiversity.** This is stated in the Executive Summary (para 10.), “the Sanjiang Plain includes some of China’s most important wetlands and supports 23 species listed by IUCN as globally threatened. 28 of Heilongjiang’s 58 wetland Nature Reserves (NRs) are located on this plain, of which 6 key NRs will be targeted by the Project.” This is further elaborated in the project document, paragraph 6, which further adds “Of these <23 species> 10 species are waterfowl such as cranes, storks, and swan geese, which require extensive, undisturbed wetlands during their migration and breeding seasons. The Sanjiang Plain wetlands are an important nesting and stopover location at the northern end of the East-Asian-Australian Flyway for migratory waterfowls, most notable of which are the white-naped and red-crowned cranes. These wetlands are also ranked as globally important in the Directory of Asian Wetlands.” Biodiversity values are further elaborated in Supplementary Appendix A (SA/A). Profile of Wetland Resources and Biodiversity in the Sanjiang Plain (51 pages) and Supplementary Appendix C (SA/C). Site Selection and the Selected Six Nature Reserves (17 pages). SA/A provides extensive matrix tables on species and habitat biodiversity in wetlands of the Sanjiang Plain. SA/C includes fact sheets (following the Ramsar Bureau’s format), indicating threats (‘Adverse factors’) and activities undertaken (‘Conservation measures’), and Table 1 provides an overview of all globally significant species recorded at the six targeted NRs. Lastly, as indicated in the STAP review (3. b) “The project document provides in the project brief and annexes (e.g. Technical Appendix A) a comprehensive overview of the global biodiversity values that would continue to deteriorate if no alternative would be developed and implemented.” Added to the Executive Summary is “The six targeted NRs provide a habitat for all 23 globally threatened species, and harbor significant populations of 14 of these.”

➤ **150,000 ha of wetlands targeted for restoration** is indeed a large area, but two things need to be emphasized here:

- The project does not aim to restore the 150,000 ha of former wetlands – this is a program that the Government of China has committed itself to (also financially!) in a national ‘farmland to wetland’ restoration program aimed at restoring wetlands in NRs. Note that this is clearly stated in paragraph 50 of the project document, and has now also been added to the revised GEF Executive Summary (para 15.). The project will restore 3,433 ha of pilot areas only, to provide a model for the national program. This is a very significant opportunity for GEF to provide welcome support and would be highly cost effective in the context of Sanjiang Plain, as wetlands formerly extended over 5.3 million ha (1949), but have now declined to just under 900,000 ha, with most of the better quality ones located in the PA network. Human pressures are indeed high, but the aim is to remove these in the wetland NRs, where possible.

2. **Incremental costs and GEF financing.** Related to the above point, many of the activities seem to have strong local and national benefits, especially water resource planning, watershed-level water allocations, sustainable tourism, wetland management capacity - see table 2. Activities such as wetland restoration would also seem to have some national benefits while global benefits are uncertain and cost-effectiveness is questionable, given the high costs of restoration activities. Much of the costs seem to be borne by the GEF grant (\$12.14 million) which seems a high figure given the very considerable national and provincial benefits

and the fact that much of the habitat restoration is in to correct environmental damage caused by agricultural policies.

- **Response: Global versus national benefits and GEF funding.** ADB agrees that the project will have many local and national benefits, in addition to significant global benefits. However, GEF funds will be used for achieving global benefits. The Incremental Cost Analysis (Supplementary Appendix H2, GEF Annex A) clearly distinguishes between global, shared and national benefits, and also identifies clearly how these are to be funded. GEF inputs largely go towards activities that reap global (46%) or shared (48%) benefits, and only a small percentage (6%) will go towards activities where national benefits are largely accrued <this has now been added to the Executive Summary (para. 21.)>. Where benefits are shared, GEF funding is required to leverage global benefits. According to the STAP review (3. b) "... The document has appropriately outlined (in the incremental costs analysis) that the GEF finances will be used to counter these root causes and ensuing threats. In addition, it is made clear that where there are domestic benefits (mainly from site-based actions), that these are primarily financed by the co-sponsors and governments."
- **Cost of wetland restoration.** The cost of wetland restoration will be borne by the government of China, and not GEF. Physical interventions to restore the wetland will be covered out of GEF funds, but this amounts to an average of US\$ 171 per ha. Compensation to be paid to farmers for loss of livelihood, however, amounts to an average of US\$ 2500-\$3500 per ha, and this is paid solely by the government. The project is designed so that compensation is not 'lost' as a sunken cost, but invested in development (among others contributing to village development funds). This explanation has now been added to the Executive Summary (para. 24).

3. **Cofinancing.** GoC cofunding is generous but presumably much of the GOC and ADB funding (\$15m) will go into watershed reforestation efforts, plantations and rural developments. Unless plantations are carefully sited they could increase the pressure on biodiversity resources, both through further land conversion and additional water needs. Similarly developing livelihoods based on NTFP exploitation could further increase pressure on biological resources unless such harvesting is based on sustainable levels (to be determined how?), and carefully monitored and enforced to ensure that harvesting levels are sustainable.

- **New plantations** will be established in denuded areas (i.e. without forest cover, and subject to enhanced erosion), or under the government's farmland to forest program; this is explained under Component 1 (p.4) of the Executive Summary, and detailed further in paragraph 31 of the project document: "During the five-year Project, 4,500 hectares of low-quality agricultural land will revert back to legally required forestland, and 5,500 hectares of wasteland (secondary scrubland and denuded areas) will be converted into high-yield forest plantations growing indigenous larch and poplar species." From a biodiversity point of view, the situation is vastly improved, as forest cover will replace degraded area and farmland, erosion will be reduced, and water resources improved (less runoff/more infiltration, and lower water requirements of plantations compared to farmland). The net result is a decrease (and not an increase) of pressures on biodiversity resources. All new plantations will be required to strictly follow ADB's environmental guidelines, as elaborated in Supplementary Appendix G2/EMP, and in Supplementary Appendix G1/SIEE. Specifics include:
 - New plantations will not be sited adjacent to or near (within 1 kilometer) nature reserves.
 - Rapid surveys of surrounding land use and site location within the watershed are to be undertaken to confirm that proposed sites are upper watershed, were not originally converted from wetlands, and are not too steep.
 - Rapid biological surveys should also be undertaken in all sites to ensure the absence of any threatened or endangered flora and fauna, species of economic importance, and patches of upland wetland.
 - An appropriate buffer zone should be left between plantations and all riparian zones and any other sensitive habitats.
 - Only indigenous species suited to local ecological conditions should be planted.
- **NTFPs** will be promoted on the project directly in conjunction with the establishment and operation of plantations. These are all 'farmed' NTFPs, and not products harvested from natural forests – this is clearly

outlined in paragraph 40 of the Project document, and in Supplementary Appendix G2/EMP. Specifics include:

- Activities should take place on plantation areas within existing State Forest Farms only.
- Intercropping should only involve non-exotic species already utilized for intercropping in the county or surrounding counties.

4. **Wetland management.** China has already benefited from one large multi-site wetlands project, through UNDP and funded with GEF resources. Hopefully guidelines and capacity developed under that project will be utilized, rather than developing new guidelines.

- **Response: Wetland management projects in China.** The project aims at complementing rather than replicating what has already been achieved on other wetland projects in China. Complementarities and lessons from key relevant GEF projects are now summarized in Annex E.
- **UNDP-GEF Wetland Biodiversity Conservation and Sustainable Use in China.** In the Sanjiang Plain the 5-year, US\$35 million UNDP-GEF Wetland Biodiversity Conservation and Sustainable Use in China Project focuses on: (a) capacity building through provision of equipment and training; (b) development of a management plan for Honghe NNR; (c) review of the management plan for Sanjiang NNR; (d) demonstration of biodiversity-friendly land use planning through preparation of biodiversity overlays from database and GIS applications; (e) restoration of the surface water hydrologic regime at Honghe NNR; and (f) a strategic overview of wetland biodiversity conservation in the Sanjiang Plain.
 - Sanjiang Plain wetlands have an internationally recognized status: three sites are recognized as wetlands of global importance (i.e. Ramsar wetland sites, namely Honghe NNR, Sanjiang NNR and Xingkai Lake NNR) and three are potential Ramsar sites (Naolihe NNR, Qixinghe NNR and Zhenbaodao NR). The proposed Project preselected eight target NRs in the Sanjiang Plain because they support the largest numbers of globally threatened species. Honghe and Sanjiang NNRs, were later excluded from consideration because they were the focus of the UNDP-GEF project.
 - Whereas the UNDP-GEF project largely took an engineering approach (at the initial phase) to restoration of the hydrologic regime at Honghe NNR, this Project will take a watershed management approach that seeks to involve all local water users working in cooperation.
 - Whereas UNDP-GEF undertook nature reserve management planning using international technical assistance, this project seeks to develop capacity at nature reserves to develop their own management plans through participation in long-term professional training programs. This Project also seeks to compliment the planned GoC farmland-to-wetland restoration projects by simultaneously developing wetland habitat restoration demonstration projects and associated long-term monitoring programs.
 - The UNDP-GEF project established provincial Wetland Management Authorities (WMAs) in an attempt to foster cross-sector contribution to wetland biodiversity management. The WMAs were only partly effective because of their geographic and institutional distance from the wetlands. The proposed Project will establish local working groups in the target pilot NRs. Working group members will represent all local stakeholders in water and biodiversity resource management.
- **UNEP-UNDP-GEF Siberian Crane Project.** A UNEP/UNDP/GEF project entitled "Conservation of the Globally Significant Wetlands and Migration Corridors Required by Siberian Cranes and Other Globally Significant Waterbirds in Asia" started in 2003. The project has a different geographic focus than the present project, but lessons learned from the Siberian Crane Project with respect to water management and capacity building in nature reserves will be applicable to the proposed Project.
- **UNDP-GEF project on Peatlands, Biodiversity and Climate Change.** The Project will exchange information and expertise with the ongoing UNDP-GEF project on Peatlands, Biodiversity and Climate Change, which is experimenting with wetland restoration in the Ruergai marshes. These 'lessons learned' are explained in paragraph 24 of the Project Brief.

5. **Conservation awareness and education.** The project is advancing considerable resources for reduced exploitation of globally threatened species and their prey. Also very substantial resources for conservation awareness. It would be very helpful and a real global benefit if awareness programs could be targeted at

reducing trade in wildlife and other endangered species both from within the project area and nationally but also beyond China's borders. The wildlife trade to China is currently threatening the long-term viability of forest and other natural ecosystems across Asia - very much the 'empty forest syndrome'.

- Agreed. It was understood that reduction of trade in endangered species would be part of the awareness and education program (components 4.1 and 4.2), also as it meshes well with the species recovery program (component 2.3; see project brief). This will be specifically stated in the revised Project document, but is too detailed to include in the Executive Summary. Added to paragraph 45: "Eliminating or at least reducing the trade in endangered species will also be one of the aims of the program."

6. Links to new SEPA-led PA program. This year a new UNDP project to develop a biodiversity conservation partnership framework entered the GEF pipeline. It would be useful to understand the relationship between this project and that framework - for instance are the Sanjiang plain wetlands likely to represent the top priority national wetlands to be represented in a representative national system (as required through CBD COP7 obligations).

- Framework of the new SEPA-led activity emphasizes "mainstreaming biodiversity into socio-economic planning and investment decision making", and protecting biodiversity inside as well as outside nature reserves. In particular, the framework attempts to strengthening the national enabling environment for conserving and sustainably using biodiversity. The proposed Sanjiang project focuses on a model framework at the provincial level which could be (a) well integrated into this framework as a model and lessons toward nationwide policy implications, and (b) how socio-economic planning could be incorporated into wetlands/biodiversity protection, such as village development fund, or non-timber forest products covering both inside/outside of nature reserves protection. Sanjiang plain wetlands in the Heilongjiang province contain significant portion of PRC's protected area, and will represent at the top priority national wetlands as required through CBD COP7 obligations, as Heilongjiang province is one of the three environmental province designated by the national government.

ANNEX F. 4:

CONVENTION SECRETARIAT COMMENTS ON JULY 2004 AND IA/ExA RESPONSE

Comment: It is noted that public involvement and consultation in particular the involvement of scientific and academic communities could be enhanced in the project design or through the project implementation.

- **Response:** Agreed. Para. 34 (iv) of Executive Summary already stated involving scientific and academic communities in training and capacity building. Appropriate training modules for both government staff and communities in/around NRs will enhance the sustainability of capacity strengthening approach. Further environmental monitoring and evaluation program under the project implementation will recruit scientific/academic communities to assist impact evaluation of the project throughout the implementation. This is restated in the revised Project document (para. 43).

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MOF INTL DEPT

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July 19, 2004

TO: Mr. Daniele Ponzi
 ADB-GEF Facilitator
 Asian Development Bank

China: Endorsement Letter for GEF Sanjiang Plain Wetlands Protection Project

Dear Mr. Daniele Ponzi,

This is to advise you that the Ministry of Finance, as the GEF Focal Point for China, would like to endorse the captioned project to be submitted by Asian Development Bank for GEF support.

We confirm the Government's support on the above project, which entered in the GEF pipeline in December 1999, as Songhua River Flood and Wetland Management Project. The project, now titled as captioned, is a priority for the government, and consistent with (1) the Biodiversity Conservation Action Plan (June 1994), (2) National Wetland Conservation Action Plan (September 2000), and (3) Farm-to-Forest Program of the National Development and Reform Commission.

Therefore, Sanjiang Plain Wetlands Protection Project is in accordance with not only China development strategy but also GEF's priority supporting area. We believe that by participating in the proposed project and disseminating successful experiences, China will contribute to the global environmental benefits.

We are looking forward to fruitful cooperation with GEF and the Asian Development Bank on this project.

Best regards,




 (Wang Bing)
 Operational Focal Point for China