



Global Environment Facility

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December 12, 2006

Dear Council Member,

UNDP, as the Implementing Agency for the project, ***China: Conservation and Sustainable Utilization of Wild Relatives of Crops (resubmission from Feb 2006 IWP)***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with UNDP procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by the Council in June 2006, and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by UNDP satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at www.theGEF.org. If you do not have access to the Web, you may request the local field office of the World Bank or UNDP to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Barbut", with a long horizontal line extending to the right.

cc: Alternates, Implementing Agencies, STAP



REQUEST FOR CEO ENDORSEMENT

GEFSEC PROJECT ID: 1319
IA/ExA PROJECT ID: 2277
COUNTRY: China
PROJECT TITLE: Conservation and Sustainable Utilization of Wild Relatives of Crops
GEF IA/ExA: UNDP
OTHER PROJECT EXECUTING AGENCY(IES):

DURATION: 6 years
GEF FOCAL AREA: Biodiversity
GEF STRATEGIC OBJECTIVES: BD-1
GEF OPERATIONAL PROGRAM: OP-13
COUNCIL APPROVAL DATE: 09-Jun-2006
COUNCIL APPROVED AMOUNT*: US\$ 7,850,000
CEO ENDORSEMENT AMOUNT*: US\$ 7,850,000
EFFECTIVENESS/STARTING DATE: January 2007
EXPECTED MID-TERM EVALUATION DATE: January 2010
EXPECTED COMPLETION DATE: January 2013


FINANCING PLAN (\$)		
	PDF	Project*
GEF	A	7,850,000
	B	
	C	
GEF Total	206,000	7,850,000
Co-financing	(provide details in Section d): Co-financing)	
GEF IA/ExA		650,000
Government	270,000	12,192,000
Others		
Co-financing Total	270,000	12,842,000
Total	476,000	20,692,000
Financing for Associated Activities If Any:		

* For multi-focal area projects, indicate agreed split between focal area allocations

FOR JOINT PARTNERSHIP**		
GEF PROJECT/COMPONENT (\$)		
(Agency Name)	(Share)	(Fee)
(Agency Name)	(Share)	(Fee)
(Agency Name)	(Share)	(Fee)

** Projects that are jointly implemented by more than one IA or ExA

Approved on behalf of the *UNDP*. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for CEO endorsement.

Frank Pinto 
 Executive Coordinator
 Global Environment Facility, UNDP
 Date: 29 November 2006

Joseph D'Cruz, Regional Technical Advisor
 Project Contact Person
 Tel. and email: joseph.dacruz@undp.org

1. **FINANCING** (for all the tables, expand or narrow table items as necessary)

a) PROJECT COST

Project Components/Outcomes	Co-financing (\$)	GEF (\$)	Total (\$)
1. Generation of sustainable financial and other incentives for conservation of wild relatives at the county level in eight provinces	4,750,000	4,250,000	9,000,000
2. The policy, legal and regulatory system supports conservation of wild relatives	300,000	900,000	1,200,000
3. Stakeholders at the central and local level have adequate capacity to conserve wild relatives	1,810,000	1,250,000	3,060,000
4. Accurate and timely information concerning the status of wild relatives is available and utilized	4,312,000	270,000	4,582,000
5. Project Management budget/cost*	1,670,000	1,180,000	2,850,000
Total Uses of Funds/project costs	12,842,000	7,850,000	20,692,000

* This item is the aggregate cost of project management; breakdown of this aggregate amount should be presented in the table b) below. Total includes budget for monitoring and evaluation.

b) PROJECT MANAGEMENT BUDGET/COST¹

Component	Estimated Staff weeks	GEF(\$)	Other Sources (\$)	Project Total (\$)
Locally recruited personnel (Local consultant)*	64	32,000	-	32,000
Locally recruited personnel (Administrative support)*	840	160,000	260,000	420,000
Internationally recruited consultants*	26	109,000	-	109,000
Professional services/ training		344,000	405,000	749,000
Subcontract		478,000	-	478,000
Office facilities, equipment, vehicles and communications		-	600,000	600,000
Travel		-	215,000	215,000
Miscellaneous		57,000	190,000	247,000
Total		1,180,000	1,670,000	2,850,000

* Local and international consultants in this table are those who are hired for functions related to the management of project. For those consultants who are hired to do a special task, they would be referred to as consultants providing technical assistance. For these consultants, please provide details of their services in c) below:

c) CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Estimated Staff Weeks	GEF(\$)	Other Sources (\$)	Project Total (\$)
Personnel	864	-	432,000	432,000
Local consultants*	378	189,000	-	189,000
International consultants*	145	610,000	-	610,000
Total	1,387	799,000	432,000	1,231,000

¹ For all consultants hired to manage project or provide technical assistance, please attach a description in terms of their staff weeks, roles and functions in the project, and their position titles in the organization, such as project officer, supervisor, assistants or secretaries.

d) CO-FINANCING

Name of Co-financiers (source)	Classification	Type	At Concept (\$)	At Work Program (\$)	At CEO Endorsement (\$)*
Government	Govt	Cash/ in-kind		12,380,000	12,192,000
UNDP	IA	Cash		650,000	650,000
Total Co-financing				13,030,000	12,842,000

* Reflect the final commitment amount of co-financiers and attach documents from co-financiers confirming co-financing commitments. Describe any difference of final commitment compared to those expressions of interest at concept stage or at work program inclusion.

2. RESPONSE TO REVIEWS

a) COUNCIL

COMMENT:	RESPONSE:
<p><u>Comments from Germany</u> Germany agrees to the project proposal. Changes outlined below should be made during further planning steps and during project implementation.</p> <p><input type="checkbox"/> The German Technical Cooperation project “Sustainable Management of Agrobiodiversity in Hainan and Hunan” and the planned EU-China Biodiversity Program should be considered.</p>	<p>Comments are noted with thanks. Links with the EU-China Biodiversity Programme (ECBP) are in place through the structure of the China Biodiversity Partnership Framework (CBPF). Both this proposed project and the ECBP are integral components of the CBPF, which will establish a strong coordination mechanism and joint monitoring framework to ensure complementarity. Contact with the GTZ project in Hainan and Hunan was initiated through GTZ’s participation in the PDF-B Project Inception Workshop on 28 September 2004. Operational links to identify potential collaborations and share lessons learnt will be established during project inception.</p>
<p><u>Comments from the United States</u> While the goal of this project is laudable, the indicators and baselines seem weak and vague. For example, one indicator is the percentage of farmers actively conserving the wild relatives, where baseline is no farmers, and the target value is 75% of farmers modified their farming methods to promote conservation. This indicator is weak because it measures methods used by farmers and not the outcomes in conserving and increasing wild relatives of crops.</p>	<p>The proposed project strategy is built on an awareness that the only effective, sustainable way to conserve populations of wild relatives (which exist largely within agricultural landscapes of related crop types) is to ensure that farmers perceive the conservation of these remnant populations to be in their economically-rational long-term interests. This is in contrast with the existing situation (baseline scenario) wherein these remnant populations are being protected by expropriating agricultural lands on which they are found, compensating farmers and constructing physical barriers around the expropriated lands.</p> <p>Therefore the core premise of the project is that positive incentive structures that:</p> <ul style="list-style-type: none"> (i) are developed in a participatory manner, and (ii) recognise and respond to rational choice <p>are a more effective and sustainable conservation strategy than expropriating valuable agricultural lands and removing them from productive use.</p> <p>Thus the proposed project objective focuses on mainstreaming conservation of wild relatives into agricultural production landscapes and systems through the participatory development of tailored, sustainable incentive structures (Outcome 1) supported by a positive enabling environment (Outcome 2), adequate institutional, technical and individual capacities (Outcome 3), information flows to support decision-making (Outcome 4) and an effective strategy for disseminating lessons learned and facilitating replication (Outcome 5).</p> <p>Overall conservation impact is measured at the Objective level through two indicators:</p> <ol style="list-style-type: none"> 1. In all target sites, the area occupied by wild relatives shows no decline at the mid-point and end of the project, compared with the area in 2005 2. At all target sites, at the mid-point and end of the project, no land on which populations

COMMENT:	RESPONSE:
	<p>of wild relatives occur has been taken out of agricultural production.</p> <p>Taken together these two indicators ensure that:</p> <ol style="list-style-type: none"> 1. The area occupied by wild relatives does not decrease (indicator 1 to track the state of the biodiversity), and; 2. That the conservation of these wild relatives has been achieved through mainstreaming into the agricultural production system rather than by ‘fencing off’ wild relative populations with physical barriers as under the baseline scenario (indicator 2 to monitor the response). <p>At the Outcome level, the project proposes a range of indicators to track state and response parameters. These include, e.g. indicators to ensure that incentive systems have been implemented across all project sites (indicator 1 for Outcome 1) and that these incentive systems are fully sustainable (indicator 2 for Outcome 1).</p> <p>The specific indicator quoted is an indicator of Outcome 3; “Stakeholders at the central and local level have adequate capacity to conserve wild relatives”. The indicator is designed to measure farmers’ capacity to conserve wild relative populations in response to the incentive structures developed under Outcome 1. This indicator is therefore is not designed to measure overall project success, but only the impact of one specific Outcome on technical capacities.</p>
<p>In addition, we did not see economic or financial analyses in the documents, which we believe are essential to determining whether or not the project is sustainable.</p>	<p>The financial viability of the overall incentive system would depend on the specific mix of incentive mechanisms to be adopted at each project site. Since these incentive structures are to be tailor-made for each site in consultation with local stakeholders during project implementation, it is unfortunately not possible to present each financial case in the project proposal.</p> <p>However the principles on which sustainable incentive mechanisms could be established were formulated by an expert workshop during the PDF-B process, and are outlined in paragraph 86 sections a-e. These principles were presented to local stakeholders in two pilot sites; Henan Province and Ningxia Autonomous Region, and the consensus amongst local stakeholders was that sustainable incentive mechanisms were feasible. (ref: paragraph 87)</p> <p>Lessons were drawn from past experience with incentive mechanisms in China, including incentive systems addressing issues such as soil conservation, promotion of biogas facilities and pollution control. The Stap Review also provided key references on the latest research into conservation incentive systems, which the project team have incorporated into their analyses of potential incentive structures.</p> <p>Outline feasibility analyses for various potential incentive mechanisms were undertaken during the PDF-B phase. These showed that local farmers were willing to accept non-cash incentives in</p>

COMMENT:	RESPONSE:
	<p>exchange for conserving remnant populations of wild relatives within their farms. For instance, farmers were willing to accept preferential access to agricultural extension services as compensation for setting aside land for conservation of wild relative populations. Such training and support would allow them to increase the productivity of lands still in production, thereby maintaining or increasing total farm output. This approach would not involve any net increase in financial support, merely redirection of the existing services provided by District Agricultural Bureaus to account for the need to conserve wild relative populations. Similarly, in areas where research institutions and seed companies are assessing wild relative populations for genetic value and commercialisation potential, farmers can (with appropriate training) provide monitoring and basic field research support in exchange for payment from seed companies or research budgets. Such an arrangement allows compensation to farmers for the loss of production to be funded from the sustainable utilisation of the genetic resources under their stewardship.</p> <p>A range of such simple, non-cash incentive arrangements have been agreed during local-level consultations in the PDF-B phase. Many more such approaches will undoubtedly be identified during project implementation. By implementing a tailored mix of such incentive arrangements at each project site, the project will ensure that the overall incentive systems developed are fully sustainable and equitable.</p> <p>Recognising that financial sustainability lies at the core of the project's overall viability, the project has proposed a specific indicator (indicator 2 for Outcome 1) that tracks the financial sustainability of the incentive systems being implemented at each site. This indicator will ensure that no unsustainable financial incentives (e.g. cash payments) are being employed at any site at the end of the project, and that even at the project mid-point (when incentive structures are still being evolved), no more than 40% of the total incentive package at each site may consist of net financial transfers from government or donor funds in any form.</p>
<p>Finally, we have questions about the incentive system, specifically about whether safeguards will be in place to avoid perverse outcomes.</p>	<p>The incentive system most likely to yield perverse incentives is direct cash payments, as the STAP review noted (Prodoc p.30). This approach was discussed and discounted as a long-term solution on the basis of past Chinese experience in poverty reduction programmes. In the pre-1990 period, poverty reduction programmes depended on direct cash payments to supplement farmers' incomes. However this approach proved ineffective and unsustainable, and the government shifted to a strategy of using capacity development and technical assistance to sustainably improve farmers' capacities to generate livelihoods. Farmers were trained to assess their own technical assistance needs, and the poverty reduction programme was restructured to respond to these needs rather than simply disbursing cash support.</p> <p>The proposed project strategy acknowledges that direct financial transfers may be required as a</p>

COMMENT:	RESPONSE:
	<p>short-term response measure to address critical threats to remnant populations in the early stages of the project. A specific indicator has been incorporated in the project design (indicator 2 under Outcome 1) to track the extent to which direct financial incentives are being used to conserve populations, with the intention that such systems are rapidly phased out and no direct financial incentives whatsoever are in place at the end of the project. (The mid-term target for this indicator is that no more than 40% of incentive systems utilise direct financial incentives, and this will drop to zero by the end of project.)</p> <p>Safeguards have also been designed to ensure that these interim incentives are not mis-allocated. For example, tools such as written agreements with reporting requirements and compliance mechanisms, community-based participatory monitoring, multi-stakeholder committee mechanisms and independent audits will be used as appropriate in each site to minimise the risk of deviations, The equitable distribution mechanisms to be implemented under Output 1.3 are designed to ensure that benefits derived from conservation activities flow to the participating farmers, rather than to other local stakeholders, while the adaptive management framework in Output 1.4 includes a review mechanism involving all stakeholders as well as independent experts.</p> <p>In addition, the project management team will provide direct oversight of incentive systems at each project site, particularly during the initial stages of the project when direct cash incentives may be utilised. UNDP's Risk Control Framework will also be used to ensure that the risk of perverse outcomes is actively monitored and immediate steps taken to respond if problems are detected.</p> <p>Taken together this suite of safeguard mechanisms will minimise the risk of perverse outcomes. Such a risk can never be entirely precluded, but active monitoring and a strong adaptive management mechanism (Output 1.4) will ensure that such risks are kept within acceptable limits.</p>

b) GEF SECRETARIAT

GEF Secretariat requests project to confirm sustainability arrangements, replicability arrangements, stakeholder involvement arrangements and all financing arrangement (including co-financing).

The project has responded to all above comments in respective sections in the project document.

c) Review by expert from STAP Roster

Review by Professor Michael Stocking

1. INTRODUCTION AND OVERVIEW

This Report follows the generic Terms of Reference (GTOR) for STAP reviews and the elaborations to the GTORs for the Biodiversity Focal Area prepared by the STAP Secretariat. This review focuses primarily on the requested GEF assistance component, which amounts to 38.2 % (US\$8.056 million) of total project costs including PDF-B, but notes that much of the co-financing (61.8%, most of which will come from China's MoA) is also supporting claimed global environmental benefits.² GEF financing is broadly to support the GEF focal area of biodiversity and Operational Program 13 (agricultural biodiversity) through addressing five planned Outcomes:

- (a) **Incentives** for conservation of wild relatives of major food crops (43.3% total main project costs; 47.2% contributed by GEF);
- (b) **Policy, legal and regulatory systems** for conservation (5.8% total costs; 75% GEF);
- (c) **Stakeholder capacity** to conserve wild relatives (14.7% total costs; 40.8% GEF)
- (d) **Information systems** on the status of wild relatives (22.9% total costs; 5.7% GEF);
- (e) Lessons for **replication** (13.7% total costs; 37.7% GEF).

There are few explicit developmental aspects to the project, other than the general assertion that wild relatives of rice, soybean and wheat are significant for sustainable development.³ This aspect of the project will be elaborated below under Key Issues 'replicability' and 'sustainability'.

The GEF funding is therefore requested to provide a contribution to the project goal of conserving wild relatives of crop plants in China, and the delivery of the Project Objective of mainstreaming the conservation of wild relatives of crops in agricultural production landscapes in eight provinces of China. These are laudable aims in the context of near-term objectives of the Convention on Biological Diversity (CBD) and longer term aims of sustainable development. Total funding is requested in order of total expenditures for (1) incentives for conservation; (2) information systems; (3) stakeholder capacity; (4) replication; and (5) policy, legal and regulatory systems. Incremental GEF funding is requested in order of expenditures for (1) incentives for conservation; (2) stakeholder capacity; (3) replication; (4) policy, legal and regulatory systems; and (5) information systems. The importance accorded to incentive systems that will consist of multi-stakeholder agreements, substantial technical inputs and oversight will be commented upon below under Key Issue 'scientific and technical soundness of the project'.

² Throughout the proposal it is difficult to differentiate the components that have environmental benefit and those that have developmental benefit. This will be commented upon later.

³ The ICM includes a number of claimed domestic benefits of the project under the project Alternative, including mechanisms to provide poor farmers with benefits from conservation of wild relatives of food crops and keeping a "potential for future gains in crop productivity". However, these benefits are not backed in the proposal with evidence for demand by local people – a prerequisite for locally sustainable development.

The version of the Brief (11 August 2005) provided to this reviewer is generally well-presented⁴ and follows GEF guidelines for project proposals. It is understood that a slightly later version has improved aspects of presentation, but has kept the scientific and technical justification for the project unchanged. A few technical and scientific matters related to the Logical Framework (Section II, Part II) and Incremental Cost Matrix (Section II, Part I) will be elaborated below.

2. KEY ISSUES

Scientific and technical soundness of the project

Agricultural biodiversity has assumed an important but arguably under-represented status in the GEF portfolio of projects. It has the potential not only to protect important but under-valued plant and animal species, but also to value the role of local people as guardians of a genetic heritage. The *People, Land Management and Environmental Change (PLEC)* project (UNU-UNEP-GEF, 1996-2002) showed conclusively, not least in China, that there is a huge biodiversity being protected in often isolated places by local people who are poor.⁵ For example, in Xishuangbanna villages of Yunnan Province upland rice varieties are being conserved by nearly all cultivators, but some varieties are disappearing because of external pressures driven partially by the economic poverty of local people. However, farmers have a large repository of knowledge on planting techniques, soil suitability and management of these rare varieties. Coupled with the cultural value of many plants, there is a good chance that the right policy environment will enable protection of much globally-important agricultural biodiversity.

Conserving the wild relatives of major food crops is an especial challenge. These are the plants that are generally not domesticated. They may be harvested from the wild for some local purposes but they are not actively managed by local people. As the project document elaborates, the habitats for these plants are under threat from agricultural expansion; the plants themselves have little or no current commercial use; and local people may not perceive the plants to be important. The question to be addressed by the project is how these wild relatives can be best conserved. The answer proposed is *in situ* conservation: a double strategy of (1) instituting incentive mechanisms and agreements to make it worthwhile for local people to look after the plants in the wild, and (2) searching for uses – genetically in improving crops, and commercially in direct productive purposes. How far is this proposed solution – and the problem-analysis that led to it - backed by sound scientific and technical information?

There is little scientific and technical rationale in the full project document to back the project approach. China is, indeed, one of the mega-diverse countries. It would have been good to give the supporting evidence, even from UNDP's own published sources.⁶ The importance of China as a repository of good practice in agricultural biodiversity, and specifically in the number and variety of wild relatives of major food plants, is also well-attested – but the specific evidence base is not cited.⁷ There is good information on p.5 of the ProDoc of the results of domestic

⁴ During the course of the review a number of typographical errors was noticed. These tended to be the kind not picked up by Spell Checkers. For example, in at least two places, the Output 3.1 title has 'Country' rather than 'County' (cf. p.4, ExecSum, p.21 ProjDoc)

⁵ See final published output of *PLEC*: Brookfield, H. et al. 2003. *Agrodiversity: Learning from Farmers Across the World*. United Nations University Press, Tokyo. ISBN 92-808-1087-1

⁶ For example, Meeting of the Group of Like-Minded Megadiverse Countries (LMMC) – 17-21 January 2005, New Delhi, India - http://www.undp.org/biodiversity/events/Megadiverse_Meeting.html

⁷ See, for example, the PLEC database for China constructed during the UNU-UNEP-GEF project, 1996-2002: <http://www.unu.edu/env/plec/database.html>. A more populist article on the importance of agricultural biodiversity,

surveys in China on wild rice species, and reasonable information on soybean and wheat, but there is no supporting citation.

Similarly, there are some good sources (some from China) to back the importance of targeting wild relatives of major food crops, with the view to improving genetic performance of commercial varieties.⁸ There are also good sources in the conservation literature to support strategies of agricultural biodiversity that are broadly similar to the proposal under review here,⁹ and particular approaches for important food crops such as rice.¹⁰

It is recommended that the ecological context be more fully supported by evidence from accepted sources that a project addressing biodiversity, agro-biodiversity and conservation of wild relatives of crop plants is needed, wanted and correctly situated. Some of the references used in this review may prove to be useful. This reviewer is surprised that there are no annexes to the project document where this baseline information and referenced evidence was obtained during the PDF-B phase.

Incentive systems for conservation and establishing close relationships with farmers feature prominently in the proposal especially in Outcome 1. Incentives may consist of many kinds, including direct payments, indirect payments for substitute activities, access to credit, provision of technical services, infrastructure development (e.g. provision of markets), and even fines for non-compliance. The ProDoc refers to consideration of “several approachesduring the project preparatory process” but no analysis of what kind of incentive might best meet the situation environmentally and socio-economically in China for conserving wild relatives of plants is presented. In projects of a broadly similar kind, local level stakeholders usually always choose direct payments, but as the ProDoc reports results are often disappointing. It appears from Output 1.1 description that three possible incentive mechanisms are thought to be feasible¹¹, and that the project will look for “locally appropriate financing mechanisms.” (p.17-18 ProDoc) Some recognition is needed that incentives can create perverse outcomes. It has been found in soil conservation, for example, that local people may become reliant on incentives for income. Local people have been known to destroy conservation infrastructure in order to encourage (in their view) projects to return with their incentive mechanisms! Understanding the costs and benefits involved in incentives, and the way that incentives may change behaviours, is absolutely

with cross-references to work in China, appeared in *New Agriculturist*: <http://www.new-agri.co.uk/02-3/develop/dev04.html>

⁸ For example, a CGIAR paper on agricultural biotechnology and the poor in China, showing the potential for using wild relatives to increase food production: <http://www.cgiar.org/biotech/rep0100/Zhang.pdf>

⁹ See, for example, the paper by C.L.Long and colleagues from Yunnan published in *Biodiversity and Conservation* Volume 12, Issue 6, 1 June 2003, Pages 1145-1156. This suggests “in situ conservation of agrobiodiversity, including habitat protection of **wild** populations, maintenance of native species and varieties in traditional agroecosystems, and relevant environmental education.

¹⁰ Paper by L-Z Gao in *Genetic Resources and Crop Evolution*, Volume 50, Issue 1, February 2003, Pages 17-32. This supports a strategy of in-situ conservation along with other approaches such as ethnobotanical knowledge combined with local participation by farmers.

¹¹ There is some confusion in the ProDoc here (p.18). Under item (a) where *three* possible mechanisms are mentioned as feasible, *four* types of incentives are mentioned – “conservation related support”, “utilization of wild relatives”, “benefit compensation”, and a “good return system”.

essential. It is not clear from the ProDoc that the *processes*¹² of design of appropriate incentives (Output 1.3) and analysis/evaluation of experiences (Output 1.4) have been thought through.

Given the prominence of the development of incentive systems in the proposal, some reference in the ProDoc to the considerable research into conservation incentive systems should be made.¹³ This should include a fuller description of the envisaged types of incentives as suggested during the project preparatory phase, as well as the advantages and disadvantages of each type. Some of this analysis will have to be undertaken during the full project, but explicit recognition that incentives mechanisms is a difficult topic, requiring innovative local solutions, is needed if only to counter the large local pressure that will come for direct cash payments for conservation.

A further area that could be addressed is the role of local knowledge.¹⁴ As shown in other projects^{15, 16} local people have a distinctive and crucial knowledge of their local flora and fauna. Wild relatives of food crops will certainly be known by many members of local communities. These plants may have cultural and social significance and other values that are unknown to the scientific community and local officials. It would be folly for the project to ignore local knowledge and not to use it in developing conservation and incentive systems. This aspect of the project should be strengthened ideally under Outcome 1, where local reviews are undertaken by anthropologists and rural sociologists of the extent and degree of local knowledge, especially on how wild relatives are managed in-situ – or indeed, whether they are managed.

Some of the above suggestions concern learning from experiences elsewhere in the rationale for in-situ conservation and the ecological context¹⁷, the design of the project components (especially incentive systems) and the development of stakeholder capacity to conserve wild relatives of food plants. The whole subject area of ethnobotany is very relevant to this project and Stephen Brush's new book serves as an excellent reference that links with attempts at in-situ conservation.¹⁸ This reviewer believes that these experiences should come in Outcome 1, rather

¹² The ProDoc gives *justification* for Outputs 1.3 and 1.4, but not the *methods* by which appropriate incentive mechanisms will be designed and effectiveness evaluated [p.20]

¹³ For example, *Incentives in Soil Conservation: From Theory to Practice* by David Sanders, Paul Huszar, Samran Sombatpanit, and Thomas Enters. Science Publishers NH. ISBN 1-57808-061-4; 1999: 402 Pages. Specific to biodiversity, reference should be made to CBD outputs on incentives, for example: *Biodiversity and Incentive Measures* <http://www.biodiv.org/programmes/socio-eco/incentives/incentives.asp>; also a thoughtful paper from France on how biodiversity conservation may be supported through contracts with farmers – see 'Incentive policies to farmers for conserving biodiversity in forested areas in developing countries' by Motte, Salles and Thomas www.bioecon.ucl.ac.uk/Montpellier/motte-salles.doc

¹⁴ Note that local knowledge, biodiversity and conservation were included together in the Millennium Ecosystem Assessment case studies – see, for example, <http://www.millenniumassessment.org/en/subglobal.sinai.aspx>

¹⁵ PLEC (UNU-GEF), for example, which worked in Yunnan, China.

¹⁶ A good example of the justification of including local knowledge is in the short paper at: <http://www.scidev.net/Opinions/index.cfm?fuseaction=readOpinions&itemid=216&language=1>

¹⁷ This reviewer finds the paper by IPGRI on in-situ conservation thoughtful and useful in supporting the possible domestication of wild relatives – something not mentioned in the project document but which must be an important option if commercialisation of wild relatives is to be promoted sustainably. See <http://www.ipgri.cgiar.org/regions/apo/apoweb/insitu.htm>

¹⁸ Brush, S. B. 2004. *Farmers' Bounty. Locating Crop Diversity in the Contemporary World*. Yale University Press, New Haven, Connecticut 333 pp. ISBN 0-300-10049-3

than in Outcome 4 (specifically Output 4.5), so that project design may take account of best practice elsewhere. An enhanced review of types of incentives, establishment of monitoring systems, utilisation of wild relatives, and local participation in conservation is essential before a particular project approach is established in China.

Finally, in the context of the scientific and technical soundness of the project, the model of sustainable use of biological resources through incentive systems and stakeholder involvement needs to be developed into a workable framework for implementation in other parts of China. This is partly addressed below under ‘replicability’ and ‘sustainability’, but within the project there must be rigorous testing of the model. This reviewer would prefer to see an Output included under Outcome 5 (lessons and experiences) that incorporates a targeted research activity where prior to Output 5.1 (information exchanged) there is a participatory evaluation and model testing on a selection of sites where different incentive system models have been explored. Without a good body of data and evidence that a model actually works, plus an understanding of *why* and *how* it works (especially in meeting human developmental needs, and poverty alleviation), then there would seem to be little point in the current Outputs 5.1, 5.2 and 5.3. There is a danger that erroneous models may be promoted with concomitant likelihood of failure and disillusion.

Identification of the global environmental benefits and/or drawbacks of the project

Identifying the incremental benefits for OP13 conservation and sustainable use of biological diversity important to agriculture is somewhat problematic because many of the benefits will quite reasonably be domestic, and the global benefits will be almost impossible to quantify without a much longer project time horizon. There is little on claimed global benefits in either the text of the ProDoc or the ExecSum. The incremental cost analysis (ICA) and matrix (ICM) are the main sources in the ProDoc for detail on how the project will achieve global environmental benefits.¹⁹

Global environmental benefits need to be built on top of the current baseline, and it is to the proposers advantage that the baseline be quite substantial so that project incremental activities are well rooted nationally in China (and even internationally). The ICA specifies and the ICM quantifies a baseline that is rather meagre (US\$580,000). The ICA does mention briefly that the Chinese Government has invested in ex-situ conservation in the past. This reviewer feels that this should legitimately be taken into the baseline, along with some components of international efforts that have focussed on wild relatives of major food crops (e.g. IRRI’s work on germplasm of rice; IPGRI’s studies of in-situ conservation; and so on). From this reviewer’s limited knowledge of other agricultural biodiversity initiatives in China (including the GEF-funded project *PLEC* in Yunnan²⁰), there are many initiatives and campaigns to promote the topic in the country.²¹

¹⁹ There is only one very short paragraph on p.27 in the ProDoc, and nothing in the ExecSum, on this essential aspect of a GEF-financed project. In the ProDoc, this reviewer feels that there is little or no evidence to claim “global food security”. It would not be unreasonable for the project itself to use increases in food production consequent on commercialisation of wild relative crops as one indicator to monitor project success (cf Target indicator for Project Objective in Logical Framework). See Summary recommendations at the end of this review.

²⁰ See also the initiatives of DIVERSITAS International - http://www.diversitas-international.org/national_china_scientific.html ; UNCBD case studies including China - <http://www.biodiv.org/programmes/areas/agro/cs.aspx> ; and China’s own 1993 Biodiversity Action Plan in Agricultural Departments, which reportedly profiled agricultural biodiversity as an important topic for attention.

The project alternative is specified at Goal level as being the more effective mainstreaming of conservation of wild relatives. However, at Outcome level, there is no detailed specification. The ICA list three measures that will be supported – poverty elimination, capacity development, research and development. These are not linked to Outcomes in the ICM, and the figures in the matrix are not supported by any clear achievements (preferably to indicator level in the logical framework) that show how global benefits are achieved with project expenditures under the increment. It is difficult also in the ICA and ICM to differentiate between environmental and developmental benefits. Under GEF rules only the first is eligible for GEF funding, but it is increasingly expected that the second will be supported strongly through co-financing from sources such as UNDP and the Chinese MoA. Poverty alleviation is, for example, a critical global developmental target under the MDGs, and should be clearly signposted and differentiated in the ICM.

This matrix does, therefore, need re-examination and the better assignment of baseline, increment and benefits.

How the project fits within the context of the goals of GEF

The project has excellent *potential* to support the goals of the GEF. However, the case is not made strongly enough to justify GEF funding.

The GEF Operational Strategy includes the securing of global environmental benefits through (amongst others): “(a) integration of the conservation and sustainable use of biodiversity within national and, as appropriate, sub-regional and regional sustainable development plans and policies; (b) helping to protect and sustainably manage ecosystems through targeted and cost-effective interventions.” The project proposal addresses these strategic considerations squarely through attempting to mainstream agricultural biodiversity issues centrally and locally in China (GEF-BD Strategic Priority 2), and through developing incentive mechanisms and communication structures to enable the better protection of wild relatives of important food crops. The project also accords well with CBD/COP guidance on ‘access and benefit sharing’ through proposing financial mechanism, and capacity-building through training and communication.

The proposal substantially supports the GEF Operational Program 13 *Conservation and Sustainable Use of Biological Diversity Important to Agriculture*. OP13 was designed by GEF to address the focal area of biodiversity. The project sensibly fits the overall program objectives 2 and 3: “the conservation and sustainable use of genetic resources of actual and potential value for food and agriculture”, and “the fair and equitable sharing of benefits arising out of the use of genetic resources.” It also addresses wider linked biodiversity-development issues admirably through proposing in-situ conservation measures for wild plants that have both fundamental genetic importance and a use potential for improving future crop production.

Nevertheless, the case is not made clearly in the ProDoc, partly because of the lack of specification of global environmental benefits. In addition to the already-recommended

²¹ One area where the baseline could be substantially increased is in Outcome 1, especially if lessons learned from international and national experiences are included here in order to develop sustainable incentive systems. Policy, legal and regulatory systems for conservation (Outcome 2) have been researched by IUCN, among others

strengthening of the ProDoc near to page 27 on global benefits, cross-reference needs to be made under 'Project Rational and Policy Conformity' to:

(1) The global benefits that will arise and how these will support GEF's OS and OP13 – a paragraph on pp.14-15 would be appropriate; and

(2) Project activities for monitoring key indicators of change in biodiversity by MoA and ecological monitoring organizations. An explicit monitoring component for both global and domestic benefits would assist this elaboration.²²

Regional context

The importance of China to biodiversity and especially its marginal and mountainous areas is well attested. The ProDoc brings this out well in setting the ecological context.²³ In addition, previous work in China in Yunnan Province brings out the exceptional role of minority peoples in protecting biodiversity, and using biodiversity to support their livelihoods. It is, therefore, very appropriate that China be used in regional context for this project. This reviewer would, however, have liked to see some linkage to nearby hotspots of biodiversity with similar climates, environments and ethnic backgrounds of local people. Montane Mainland South East Asia (Northern Thailand, Laos, Cambodia and SW China), for example, has much to give and much to learn from this GEF project, and there should be substantial regional benefit accruing from this project.

Replicability and sustainability of the project

Replicability and sustainability are taken together in this review as they largely involve the same issues of scope for successful continuation of project approaches and ability to upscale to more communities and more situations.

The project is intended to be replicable and is set in the context of MoA's Strategy for Conservation of Wild Relatives. Replicability demands that not only is the science right (i.e. the model works) but also that there is a demonstrable demand from local people to become involved. Local participation and empowerment of local people are key factors in ensuring this last criterion. Gender issues play an especially important role in gathering of wild food crops and their commercialisation.

The Project proposal touches upon the role of participation, mainly in the context of stakeholder involvement (e.g. in barriers to mainstreaming). This issue is especially critical in China with its history as a centrally planned economy using communal labour. A legacy of former ways is the top-down, 'formal science' approach that is still widely used. The ProDoc acknowledges that biodiversity conservation and poverty alleviation efforts largely failed in the past, and the principal reason must be the lack of attention to local participation and views and to empowerment of weaker members of local society (women and ethnic minorities, for example). In order to strengthen the proposal, the issue of participation and empowerment should be addressed separately and explicitly. Unless this is done now, it will likely be lost in project implementation because the project will largely be driven by government bureaucrats and scientists (cf. list of stakeholders specified in Part III 'Management Arrangements', p.30+ ProDoc). It is recommended that under 'replicability and 'sustainability' the issues of

²² This could be tied to the capacity-building measures of Output 4.2, and a monitoring component to Output 5.2.

²³ Though this should be referenced and citations given to support the assertions.

empowerment of local people and participation be addressed, and that these be made a more prominent part of project methodology.²⁴

The proposal in both the ProDoc and ExecSum highlights the importance of institutional and financial sustainability. It is presumed that ecological sustainability will have been accommodated by successful conservation of wild relatives of food crops. Some good ideas are included especially under ‘financial sustainability’ including linkage of conservation to technical services and the use of credit mechanisms. However, this reviewer misses what might be called the ‘bigger picture’ of sustainability. It is recommended that questions such as:

1. What are the long-term vision and goals for the project and its partners?
2. What written commitments has the project obtained about continuation?
3. What contingency plans are there for key personnel and partnership changes?

be included in the ProDoc discussion on page 29. It is recognised that only some of the questions might be answerable at this stage. However, they do need to be posed, if only to highlight to the main local and national government stakeholders that incentives for conservation need to be self-sustaining and that reliance upon external interventions should not be made. During the appraisal phase of the project and as part of initial project activities – and certainly as part of Output 5 – sustainability questions will need to be answered.

3. SECONDARY ISSUES

Linkages to other focal areas

The project is in focal area of biodiversity. Attention has already been drawn to the potential linkage with land degradation, especially through the higher productivity of existing crop land through genetic enhancement from wild relatives, and through the better protection of habitats where in-site conservation is carried out. This needs mention in the proDoc.

Linkages to other programmes and action plans at regional or sub-regional levels

The proposal has good national linkages through the management arrangements for the project. The only international agency involved appears to be UNDP itself. Consideration should be given to including some regional membership of steering committee maybe through an organisation such as ICIMOD, and some international membership through scientific organisations that have major interests in biodiversity (DIVERSITAS, Paris, for example).

Other beneficial or damaging environmental effects

The project is fundamentally ‘environmental’, seeking to build a sustainable basis for conserving and using wild relatives of food crops and protecting national biodiversity assets. No other beneficial or damaging environmental effects are noted.

Degree of involvement of stakeholders in the project

GEF attaches the greatest importance to stakeholder involvement. The proposed project is closely linked to relevant stakeholders at national level. The Ministry of Agriculture takes the lead in this project, having been assigned ‘agricultural biodiversity’ at State level. There may be some tension with Ministry of Forestry that has assigned to it issues such as ‘integrated ecosystem management’ (OP12 in GEF) and land degradation (OP15). However, MoF is

²⁴ The OECD has a useful website on *Empowerment, Participation and Gender* with links to reports from China. See: http://www.oecd.org/SiteMap/0,2681,en_2649_33979_1_1_1_1_37413,00.html

included in the Steering Committee. The primary stakeholders in local communities are specifically identified as a target for benefits, while local and national government agencies are the main beneficiaries of capacity building. The project brings together the key agencies and stakeholders, although how far local people are truly built into the project (and what mechanisms there are for ensuring that the project addresses local needs) has been questioned above under ‘sustainability’.

Capacity-building aspects

Capacity building is included as an integral part of Outcome 3. This Outcome is directed at addressing the identified barrier to mainstreaming conservation that there is inadequate commitment to conservation at central and local levels. Through conservation organizations (Output 3.1), it is intended that County Agricultural Bureaux will have appropriate administrative structures built. Training of staff of local organizations (Output 3.2), extension services (Output 3.3), farmers (Output 3.4), government officials (Output 3.5) and inter-agency planning bodies (Output 3.6) are all covered in the project.

Innovativeness of the project

The innovation of this project primarily arises from its focus on incentive systems for conservation of biodiversity. The proposal is considering a large number of possible types of incentives, and the project should contribute substantially to our understanding of the place and importance of incentives for local people to protect globally-significant biodiversity. Recommendations have been made above for strengthening some aspects of the project in order to build on the innovations promised by the project.

4. CONCLUSIONS AND SUMMARY RECOMMENDATIONS

The project rationale is soundly based on identified scientific criteria and needs. It is generally well written, contains sound argumentation and has objectives that are sensible. There is good evidence that the project offers possible long-term solutions for mainstreaming the conservation of wild relatives of major food crops into Chinese policy and practice. The project proposal does need some scientific and technical strengthening by reference to the considerable body of literature and experiences on other projects that have similarly dealt with complex conservation issues that cross between the natural and social sciences. The processes and methods towards delivering the promised Outcomes need closer attention. Suggestions for enhancing the proposal technically, for minimising the risk of failure of some of the interventions and for building wider replicability and sustainability are made below.

This STAP review commends the project to the GEF as an appropriate use of funds entrusted and an eminently suitable way to address pressing agricultural biodiversity issues in a key area of natural biodiversity.

Summary Recommendations on Points that Could be Strengthened

1. Scientific and technical soundness of the project.

- The ecological context should be more fully supported by evidence from accepted sources that a project addressing biodiversity, agro-biodiversity and conservation of wild relatives of crop plants is needed, wanted and correctly situated. [ProDoc, pp.4-5]

- ‘Local knowledge’ aspects of the project need to be included and highlighted, ideally under Outcome 1.
- Some recognition needs to be recorded in the proposal that incentive mechanisms are complex, may have perverse outcomes, and need to have very careful evaluation. Reference to research on incentive mechanisms elsewhere would usefully support some elaboration of the types of mechanisms that were suggested during project preparation workshops [ProDoc, pp.19-20]
- The *processes* of design of appropriate incentives (Output 1.3) and analysis/evaluation of experiences (Output 1.4) need to be described [ProDoc, p.20].
- Promote and enhance Output 4.5 (experiences and lessons from other countries) to Outcome 1, so that learning from elsewhere on essential project components is built into the project approach in China.
- Consideration should be given to a new Output 5.1, where a participatory evaluation and model testing is undertaken on a selection of sites where different incentive system models have been explored. This is needed to give the evidence-base for the promotion activities in the old Outputs 5.1 to 5.3.

2. *Identification of the global environmental benefits.* The proposers are urged to strengthen and rationalise the link to global benefits rather more carefully and systematically:

- In the ProDoc (p.27) global level *environmental* and *developmental* benefits need more attention in view of the importance ascribed to this by GEF Council.^{25, 26}
- The evidence-base (even in outline terms) should be provided for claimed global benefits in the ProDoc and ExecSum.
- The ICA and OCM baseline should be revised and increased substantially to reflect the current situation in China and internationally on conservation of agricultural biodiversity. It is to the proposers advantage that the baseline be quite substantial so that project incremental activities are well rooted nationally in China and internationally.
- In the ICA and ICM attention needs to be paid to the specification of global benefits under the project alternative. There is no link, for example, between the text and the financial amounts under the Alternative. There is no differentiation between global environmental and developmental benefits, and who supports which type through co-financing mechanisms.

3. Fit within the context of the goals of GEF

- Additional specification is recommended on the global benefits that will arise and how these will support GEF’s OS and OP13 – a paragraph on pp.14-15 would be appropriate
- Project activities for monitoring key indicators of change in biodiversity by MoA and ecological monitoring organizations should be introduced in Outcomes 4 and 5. An explicit monitoring component for both global and domestic benefits would assist the elaboration and support for the goals of the GEF

²⁵ One short paragraph in the main project document (p.27) is unlikely to be acceptable to GEFSec, and certainly the contents fail to be convincing in terms of GEF eligible activities that by presumption must be seen as having potential global benefits.

²⁶ A good checklist of acceptable global environmental and associated developmental benefits that are eligible for GEF support is in paras 19 to 21 of OP13. In addition, the project should be able to make a claim to benefiting control of land degradation through reduction in exploitation of marginal areas where wild relatives of food crops are mainly located (para 22, OP13)

4. *Regional context and replicability of the project.* The proposers are asked to think about some linkage to nearby hotspots of biodiversity with similar climates, environments and ethnic backgrounds of local people.²⁷

5. Replicability and Sustainability of the project.

It is recommended that:

- under ‘replicability and ‘sustainability’ the issues of empowerment of local people and participation be addressed, and that these be made a more prominent part of project methodology The project should explicitly address key sustainability questions and not just assume that any level of ‘participation’ will ensure continuation.
- the ‘bigger picture’ of sustainability be included in the ProDoc discussion on page 29. Key questions should be posed such as: What are the long-term vision and goals for the project and its partners.

6. *Secondary Issues.* Some modifications and elaborations requested – see Section 3 above.

Professor Michael Stocking
STAP Roster Expert (Land Degradation & Agricultural Biodiversity)
University of East Anglia, Norwich UK
30th August 2005

²⁷ Montane Mainland South East Asia is the obvious regional area that could both contribute to this project and learn from it. The GEF project executed by ICRAF *Alternatives to Slash and Burn* has, for example, looked very much at regional biodiversity issues here – see <http://www.worldagroforestry.org/sea/th/DT-Pub.htm>

RESPONSE TO STAP REVIEW

STAP COMMENT ²⁸	RESPONSE
1. <i>Scientific and technical soundness of the project.</i> .	
<ul style="list-style-type: none"> The ecological context should be more fully supported by evidence from accepted sources that a project addressing biodiversity, agro-biodiversity and conservation of wild relatives of crop plants is needed, wanted and correctly situated. [ProDoc, pp.4-5] 	<p>The project document, not being an academic document, avoided citing scientific evidence, since this is not subject to review by the Council. However, some citations proposed by the reviewer have been added.</p>
<ul style="list-style-type: none"> ‘Local knowledge’ aspects of the project need to be included and highlighted, ideally under Outcome 1. 	<p>Both the project document and the STAP reviewer in his review comments acknowledge that in the case of wild relatives, local knowledge is often absent. However, references to the importance of local knowledge, where it exists, have been added.</p>
<ul style="list-style-type: none"> Some recognition needs to be recorded in the proposal that incentive mechanisms are complex, may have perverse outcomes, and need to have very careful evaluation. Reference to research on incentive mechanisms elsewhere would usefully support some elaboration of the types of mechanisms that were suggested during project preparation workshops [ProDoc, pp.19-20] 	<p>Text acknowledging these points has been added on pp. 19-20</p>
<ul style="list-style-type: none"> The <i>processes</i> of design of appropriate incentives (Output 1.3) and analysis/evaluation of experiences (Output 1.4) need to be described [ProDoc, p.20]. 	<p>The design of incentive systems is actually in Output 1.1. Text has been added to Output 1.1 and 1.4 describing likely processes which, however, are subject to modification during project implementation, consistent with the principle of adaptive management</p>
<ul style="list-style-type: none"> Promote and enhance Output 4.5 (experiences and lessons from other countries) to Outcome 1, so that learning from elsewhere on essential project components is built into the project approach in China. 	<p>Moved</p>
<ul style="list-style-type: none"> Consideration should be given to a new Output 5.1, where a participatory evaluation and model testing is undertaken on a selection of sites where different incentive system models have been explored. This is needed to give the evidence-base for the promotion activities in the old Outputs 5.1 to 5.3. 	<p>Existing Output 5.1 (Information exchanged and disseminated among sites and with farmers and Agricultural Bureaux from additional sites) was intended to reflect a process of participatory evaluation and model testing. Therefore, rather than creating an additional Output covering such activities, the text of existing Output 5.1 has been amended to emphasize this</p>

²⁸ Refers to Summary Recommendations at the end of the STAP Review

	point
2. <i>Identification of the global environmental benefits.</i> The proposers are urged to strengthen and rationalise the link to global benefits rather more carefully and systematically:	See below
<ul style="list-style-type: none"> In the ProDoc (p.27) global level <i>environmental</i> and <i>developmental</i> benefits need more attention in view of the importance ascribed to this by GEF Council. 	In the biodiversity focal area, sustainable conservation of globally significant biodiversity is considered to represent global environmental benefits. The developmental benefits are considered to be sustainable agricultural production, especially in the face of climate change, which will require the development of new agricultural varieties incorporating genes conferring adaptation to extreme conditions, such genes being likely to be found in populations of wild relatives
<ul style="list-style-type: none"> The evidence-base (even in outline terms) should be provided for claimed global benefits in the ProDoc and ExecSum. 	The global significance of rice, soy and wheat is well established. However, figures have been added in support of this.
<ul style="list-style-type: none"> The ICA and OCM baseline should be revised and increased substantially to reflect the current situation in China and internationally on conservation of agricultural biodiversity. It is to the proposers advantage that the baseline be quite substantial so that project incremental activities are well rooted nationally in China and internationally. 	The baseline figures were calculated on the basis of activities being undertaken (mainly within the MoA and related agencies) that contribute to the conservation of wild relatives. As a focus on conservation of wild relatives is a recent development in China, these figures are not currently very large. However, the paucity of the baseline does not reflect a lack of national commitment, rather the fact that activities in support of conservation of wild relatives are still building up in China. It is argued that the elaboration of the GEF co-financed project at this stage represents an opportunity to ensure that conservation of wild relatives is effectively mainstreamed in agricultural development.
<ul style="list-style-type: none"> In the ICA and ICM attention needs to be paid to the specification of global benefits under the project alternative. There is no link, for example, between the text and the financial amounts under the Alternative. There is no differentiation between global environmental and developmental benefits, and who supports which type through co-financing mechanisms. 	Consistent with the concept of incremental costs, the financial figures in the ICM are intended to reflect the costs of global (GEF funds) and domestic (co-financing) benefits. However, this distinction has been clarified through the addition of text in the ICA and ICM emphasizing this point
3. Fit within the context of the goals of GEF	
<ul style="list-style-type: none"> Additional specification is recommended on the global benefits that will arise and how these will support GEF's OS and OP13 – a 	Additional text has been added to the existing paragraphs on pp.14-15, emphasizing the relevance to the OS and OP13.

paragraph on pp.14-15 would be appropriate	
<ul style="list-style-type: none"> Project activities for monitoring key indicators of change in biodiversity by MoA and ecological monitoring organizations should be introduced in Outcomes 4 and 5. An explicit monitoring component for both global and domestic benefits would assist the elaboration and support for the goals of the GEF 	Consistent with current GEF practice, actual project activities will be defined at the project's inception workshop. However, activities contributing to Outputs 4.1, 4.2, and 4.3 will certainly ensure that the indicators of global and local benefits (the two indicators at the level of Objective) will be covered
4. <i>Regional context and replicability of the project.</i> The proposers are asked to think about some linkage to nearby hotspots of biodiversity with similar climates environments and ethnic backgrounds of local people	As GEF Implementing Agency, UNDP is committed to building linkages to projects in other countries and regions. Two obvious examples are the Vietnam Agrobiodiversity project (under implementation) and Laos Agrobiodiversity project (under preparation). The Biodiversity 'Good Practices' project, soon to commence implementation, will provide a vehicle to facilitate linkage with these other countries and regions.
5. Replicability and Sustainability of the project.	
<i>It is recommended that:</i>	
<ul style="list-style-type: none"> Under 'replicability and 'sustainability' the issues of empowerment of local people and participation be addressed, and that these be made a more prominent part of project methodology. The project should explicitly address key sustainability questions and not just assume that any level of 'participation' will ensure continuation. 	The project document makes the point that sustainability is strongly related to the establishment of viable financial mechanisms. While the precise nature of these mechanisms will be location-specific, all will involve partnerships with local stakeholders, which will serve to empower those stakeholders. The assumption is not that 'participation' will ensure continuation, but that the effectiveness of the mechanisms in 'rewarding' farmers for conserving wild relatives will ensure continuation.
<ul style="list-style-type: none"> The 'bigger picture' of sustainability be included in the ProDoc discussion on page 29. Key questions should be posed such as: What are the long-term vision and goals for the project and its partners. 	The long-term vision and goals are as reflected in the project goal, namely "to sustainably conserve wild relatives of crop plants in China". This has been added on page 29.
6. <i>Secondary Issues.</i> Some modifications and elaborations requested:	See below
<u>Linkages to other focal areas</u> The project is in focal area of biodiversity. Attention has already been drawn to the potential linkage with land degradation, especially through the higher productivity of existing crop land through genetic enhancement from wild relatives, and through the better protection of habitats where in-site conservation is carried out. This needs mention in the proDoc.	<u>Reference to the linkage with the land degradation focal area (and adaptation to climate change) have been added to the project document</u>
<i>Linkages to other programmes and action plans at regional or sub-</i>	The text of the proposal does draw attention to several projects

<p><i>regional levels.</i> The proposal has good national linkages through the management arrangements for the project. The only international agency involved appears to be UNDP itself. Consideration should be given to including some regional membership of steering committee maybe through an organisation such as ICIMOD, and some international membership through scientific organisations that have major interests in biodiversity (DIVERSITAS, Paris, for example).</p>	<p>implemented by other international organizations, and it is intended that close links be established with these projects. Participation of international organizations in the project steering committee is a useful idea, and will be considered at the project inception meeting. The most obvious international organization to be engaged is IPGRI.</p>
<p><i>Degree of involvement of stakeholders in the project</i> GEF attaches the greatest importance to stakeholder involvement. The proposed project is closely linked to relevant stakeholders at national level. The Ministry of Agriculture takes the lead in this project, having been assigned ‘agricultural biodiversity’ at State level. There may be some tension with Ministry of Forestry that has assigned to it issues such as ‘integrated ecosystem management’ (OP12 in GEF) and land degradation (OP15). However, MoF is included in the Steering Committee. The primary stakeholders in local communities are specifically identified as a target for benefits, while local and national government agencies are the main beneficiaries of capacity building. The project brings together the key agencies and stakeholders, although how far local people are truly built into the project (and what mechanisms there are for ensuring that the project addresses local needs) has been questioned above under ‘sustainability’.</p>	<p>Regarding the involvement of local stakeholders, please refer to the response under ‘sustainability’. Concerning coordination at the national level, the project will be closely associated with the China Biodiversity Partnership Framework (CBPF), which is intended to promote cross-agency cooperation. Therefore, although there would be potential for tension with the MoF or others, implementation of the CBPF will avoid such a situation.</p>

3. JUSTIFICATION FOR MAJOR CHANGES IN THE PROJECT, IF ANY²⁹
N/A

4. REQUIRED ATTACHMENTS

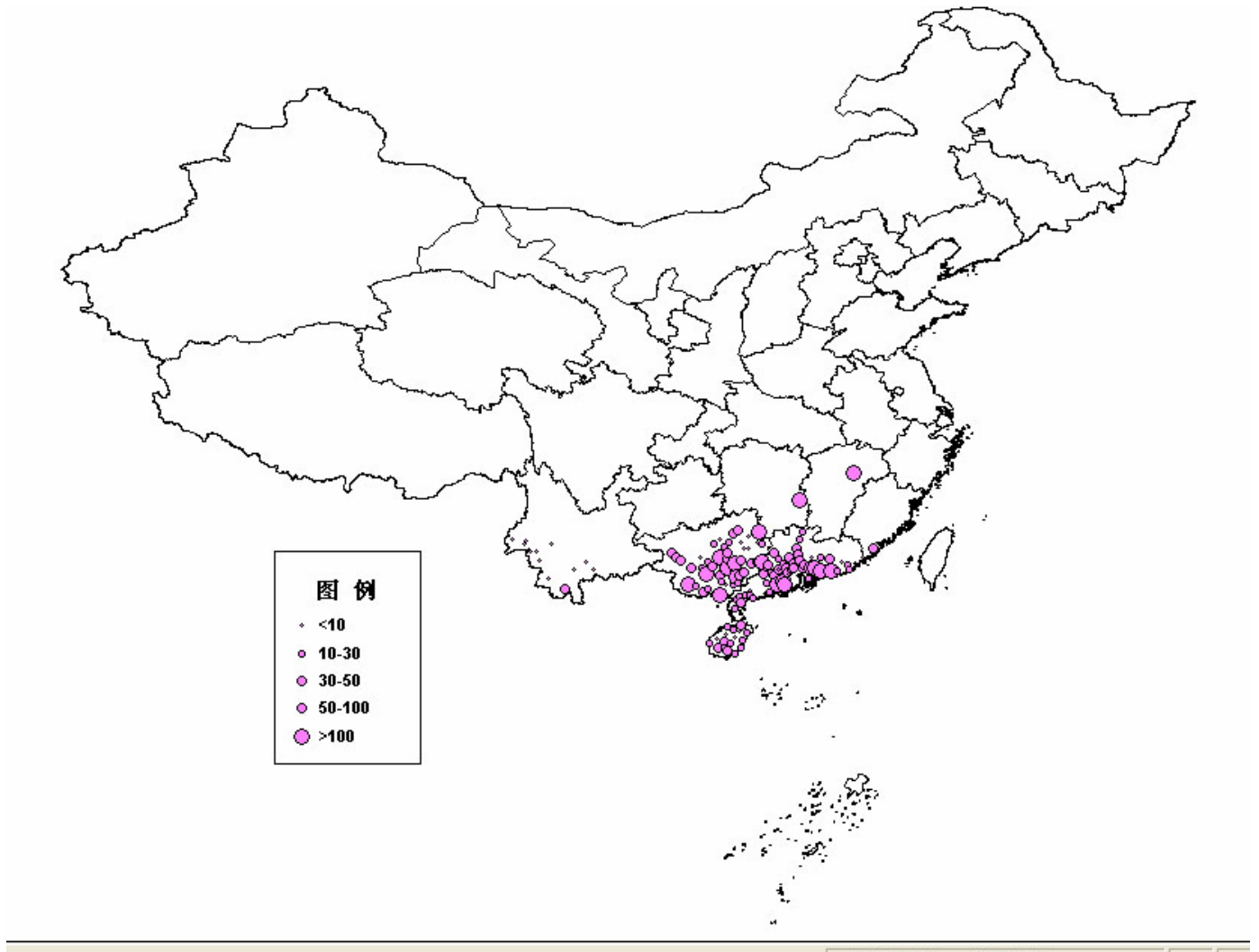
- a) Project Appraisal Document -Attached
- b) Confirmed letters of commitments from co-financiers (with English translations)
 - Letter of Endorsement from Ministry of Finance dated 23 August 2005
 - Co-funding commitment letter from Ministry of Agriculture dated 9 August 2005
- c) Agency Notification Template on Major Project Amendment and provide details of the amendment, if applicable. – N/A

²⁹ Provide justifications for any major amendments in the project, including an increase of project amount exceeding 5% from the amount approved by the Council. Justification for such amendments and the project document will be circulated to the Council for a four-week review period. For procedures to the approval for major amendments, refer to the Council paper: [Project Cycle Update: Clarification of Policies and Procedures for Project Amendment and Drops/Cancellations. GEF/C.24/Inf.5](#)

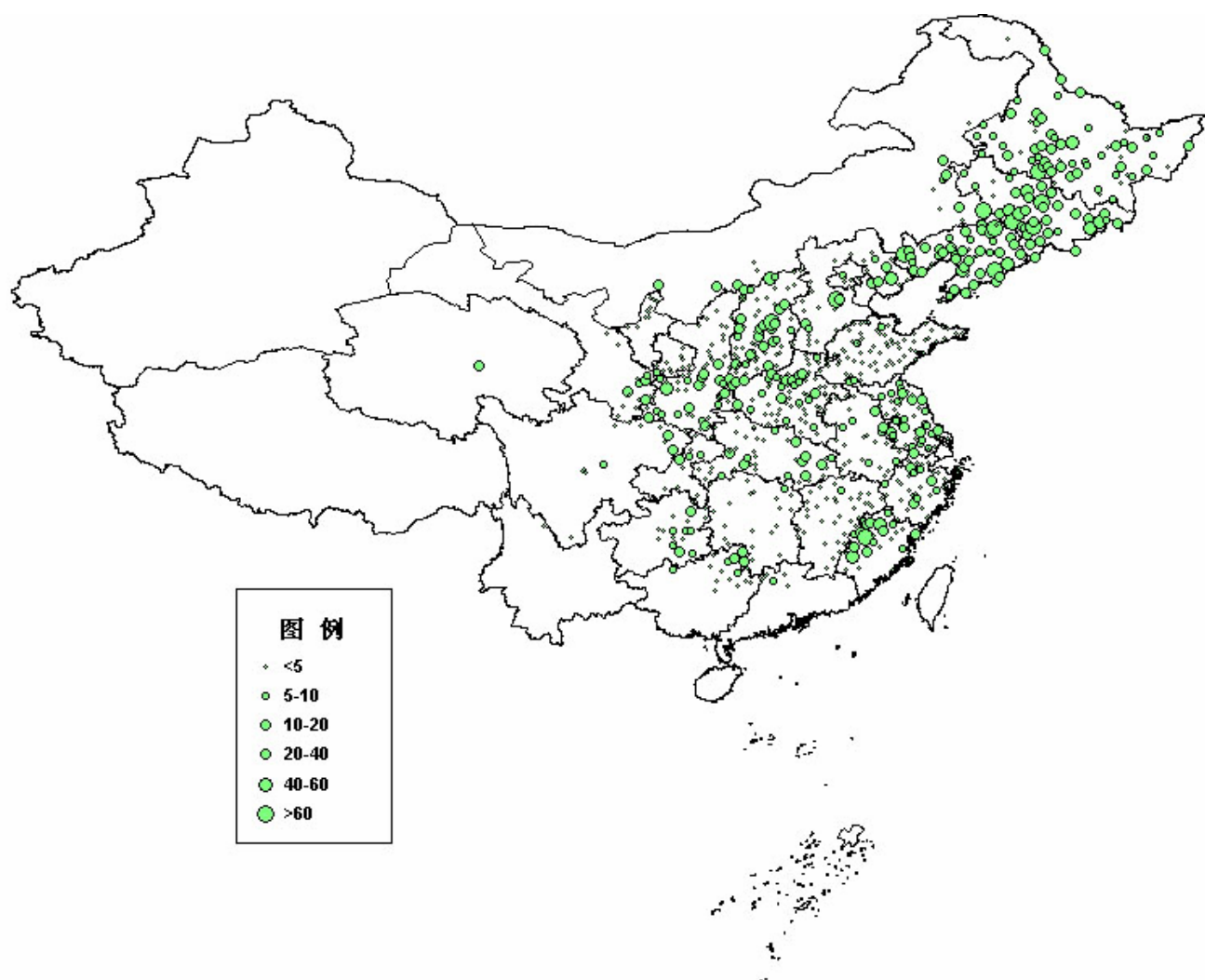
List of Annexes

- Annex 1: Maps**
- Annex 2: Description of selected sites**
- Annex 3: Matrix of legal instruments and their shortcomings**
- Annex 4: Terms of reference**

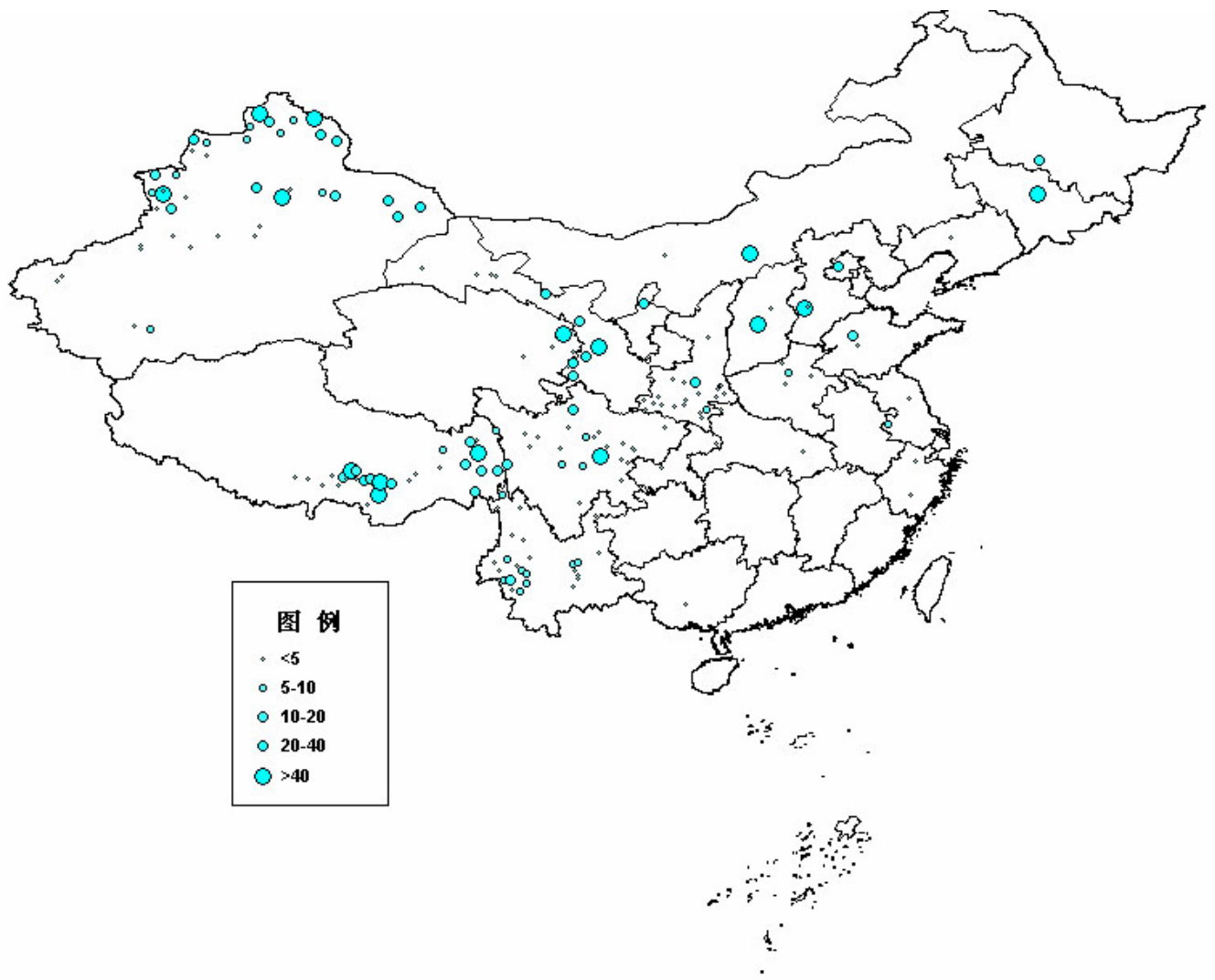
Annex 1: Maps



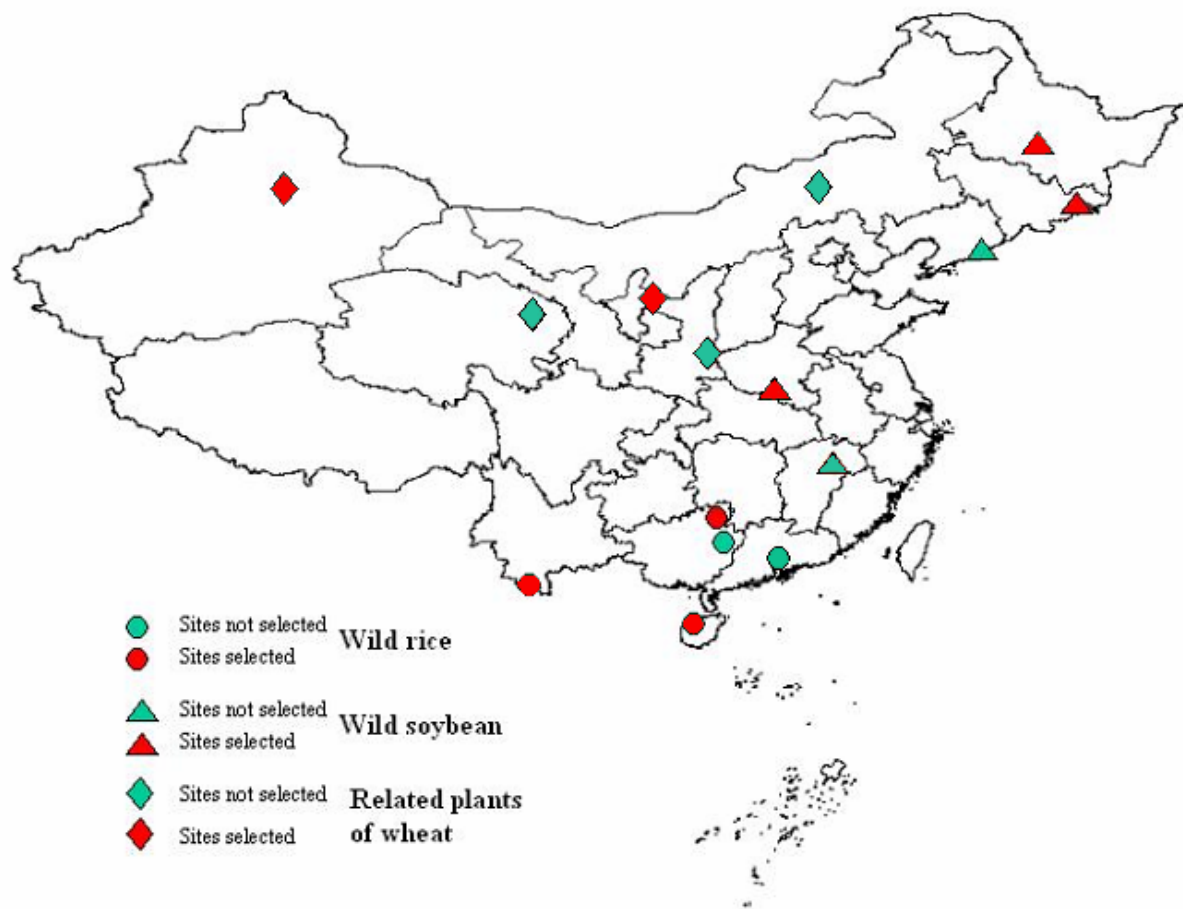
Map 1: Distribution of populations of wild rice in China



Map 2: Distribution of populations of wild soybean in China



Map 3: Distribution of wild relatives of wheat in China



Map 4: Location of eight selected project sites

- Annex 2: Description of selected sites**
- Annex 3: Matrix of legal instruments and their shortcomings**
- Annex 4: Terms of reference**

Annex 2: Description of selected sites

Note: 1 Mu = 0.067ha

1. Wild Rice in Jinghong City, Yunnan Province

The project site is situated in Mannan village, the suburb of Jinghong City where the topography is flat. The geographic position is 100°25'E and 21°27'N with the altitude of 500 m. The site is 8 kilometers from Jinghong city and close to the Jinghong airport. The soil is fertile and fit to tropical crops such as rice, rubber, sugarcane, fruit, vegetables and so on. According to the investigation in 1980, wild rice could be found nearly at everywhere around the rice field. Since the rural economy was gradually developed, the continuous demand to the land made most wild rice distribution area has sharply decreased. At present, only one wild rice field in a pool near the wall of the airport was found and wild rice is sporadic. The total distribution area of wild rice is about 40 Mu.

There are 98 families in Mannan Village with the population of 446. The arable land area is 1030 Mu, with the average 2.31 Mu per capita. Since the population is small and the land area is large, farmers are mainly engaged in agriculture, and only 2 persons go out to cities to earn their lives. The main crops in Man Nan are cereals and some cash crops. The main food crop is rice, and the cash crops are tropical vegetables and rubbers. Because of the humid climate, high temperature and adequate sunlight, farmers can work in four seasons and they can obtain high agriculture production. Besides plantation, husbandry is also the main resources of income, mainly including fishing and feeding of cattle, sheep, pigs, chicken and duck. The gross revenue per capita is 2300 RMB per capita in 2004.

With the development of the rural economy, wild rice in Jinghong City faces several threats at present. First of all, the wild rice distribution field was once a fishpond. Because it is small and there are some large ponds nearby, farmers used other ponds for fishing first. However, as the expansion of farmers' fishing plan, they would enlarge this fishpond and meet their need for fishing. In this case, the wild rice distribution pond may be destroyed someday. Secondly, husbandry raising is an important part for increasing farmers' income. More and more cattle and sheep need more forage and farmers focus them on wild rice which is regarded as good forage and over grazing would be another key threats for wild rice. Thirdly, during the modernization of agriculture, the extension section of the county agricultural bureau encourages farmers to use herbicides to eradicate weeds in rice fields. However, after farmers finish applying herbicides in rice fields, they usually give up the residues of herbicides in anywhere outside rice fields. Therefore, the residues of herbicides may cause the death of wild rice near rice fields.

2. Wild Rice in Danzhou City, Hainan Province

The original wild rice area in Danzhou City is located in Xixia Village, Sandu town. The geographic location is 19°10'N and 108°56'E with the altitude of 60 m. There are about 150 Mu of wild rice distributing area. Most of wild rice grows in the arid and abandoned fields near a large irrigation canal. Because the soil is volcanic ash black-mud, it is rich for organic matters and good for wild rice growth. The weather in Hainan Province generally is divided into dry and rainy seasons. During the rainy season, wild rice are growing fast and maturing before the dry season comes. Wild rice in these fields is generally harvested for forage by farmers in rainy seasons and the underground stems of wild rice keep living in dry seasons. On the other hand, wild rice also distributes fragmentally on the shallow beaches along the irrigation canal, which stretches about 3 km. Whether the dry season and rainy season, wild rice on the beaches can grow very well. In order to maintain the irrigation ability of this canal, farmers often clean the canal by taking everything in the canal out. Though wild rice in the canal is dug out almost every time, the remaining roots and underground stems can make them grow later.

Danzhou city belongs to the monsoon climate in the tropics, the annual average rainfall is 1815 mm. The average temperature is 23.2℃ each year. The low temperature period is from Jan. to Feb. with the lowest temperature of 4℃. There are 936 people in Xixia Village with the arable land area of 12253 Mu. Except for growing the main food crops such as rice, farmers also planting vegetable varieties such as watermelon and capsicum and so on, which possess the very significant position of the economic income in the village. The candidate site is close to the city, the traffic and communication facilities are very well. Besides culturing the land area, farmers also engage in the transportation, trade and food process. Moreover, at least 28 families in this village are raising young shrimps and are very famous for shrimp breeding in Hainan Province. Therefore, farmers in this village are rich, the average net income per capita reached 2293 RMB in 2004.

Though wild rice in Xixia Village is abundant and grows very well, there are some main threats to them in the near future. The farmland and water conservancy project planned by local government is to harden the irrigation canal. If the plan is carried out someday, wild rice resources along the channel will be damaged. Because local farmers have the tradition of cattle and sheep raising with no solid isolation, over grazing by cattle and sheep is also one kind of the main threats for wild rice in the area. In addition, the demand of land area for shrimp breeding may also take the wetland along the channels where some wild rice resources scattered.

3. Wild Rice In Zhaoping County, Guangxi Autonomous Region

This candidate site is located in Panshi Village, 70 km from the capital of the county and 8 km from the township. The geographic position is 23°39'N and 110°34'E with the altitude of 170 m. The species of wild rice in this area is *Oryza officinalis* which distributed about 4 Mu but covered more than 60 Mu land area where there are several paddy fields. Along the paddy fields, the quick growth trees are all over the slopes. These trees were planted several years ago and may be harvested in two or three years. According to the local farmers, the shallow field of the valley was occupied with dense wild rice before 1950s. Wild rice grew exuberant with its accompanied grasses. some of them could be 2 m or more. Because wild rice and accompanied grasses are the most excellent forages for livestock, farmers constantly drove their livestock to the valley for foods or harvested them for dry seasons. During 1950s, farmers trooped together to fell the original forests in the mountains and caused the loss not only the forests but also the habitats of wild rice. Therefore, the remaining wild rice is only a small part of the original resources.

The candidate site is characteristic of tropical climate with complex natural conditions such as abundant rainfall, high temperature etc., which suitable for the growth of wild rice. The population of Panshi village is 2523 farmers with 109 hectares of rice fields and 61 hectares of dry fields. The main food crop is rice with some maize, potato and food legumes. The main economic crops are medicinal plants and fast growing trees. Because of the bad transportation, there is no factory in this village. The farmers earn their life mainly by cropping and livestock raising. The average income is only 1337 YMB per capita. Moreover, the mountainous land area made the villagers receive less education and lack of information. Only about 85% children at the school age are studying in the school. The proportion of the semiliterate and the illiterate is high for adults, and the majority is women. In summary, the village is still in poor and mainly remaining traditional life ways.

At present, local people are mainly work on farming and maintaining the traditional farming systems. As the increase of population, the demand of arable land area is also increasing. Because the habitats of wild rice are suitable for planting rice, farmers are willing to plant rice in the wild rice habitats. The conversion of wild rice habitats is becoming the most dangerous issues for the disappearance of wild rice in this area.

The second threat to wild rice in this area is from the harvesting of fast-growing economic trees on the hillsides near the candidate site. Whenever the forests are felled, the trunks will be rolled down the hills. As a result, the habitats of the wild rice may be damaged greatly.

4. Wild Soybean in Tongbai County, Henan Province

The candidate site is located in Huaiyuan town of Tongbai County in Henan Province. The geographical position is 32°20'N, 113°09'E with the altitude of 270m. Belonging to the intermediate zone from north subtropical to warm temperate regions, the annual mean temperature is about 15℃, the mean temperature in the coldest month is 1.4℃, with the lowest of -20.3℃, the mean temperature in the hottest month is 27.5℃, with the highest of 41℃. The precipitation is about 1158 mm per year. The soil type of the wild soybean distribution area is mainly brown soil and shows slight-acidic. The wild soybean grows on hillside, distributing about 40 ha. In the region of wild soybean distribution area, the main vegetation types are secondary bushwoods. Wild soybean of this site that mainly grows with weed and underscrub has diverse biological characteristics, there are different types of leaf shape, leaf size, 100-seed weight et al.

Because the climate and environment are fit for many kinds of crops in this area, rice, wheat, peanut, tea, various vegetables can be seen in the village. However, the planting pattern is mainly focused on traditional ways of food crops and cash crops. Most local people live on planting crops and raising animals. About one third of the village labor forces leave for big cities such as Beijing, Shanghai, Guangzhou to make more money. Tongbai is one of the poverty counties in Henan province, people hope to improve their living standard, but the lack of knowledge, information, technology keeps them still in poverty.

Many factors are harmful to the survival of wild soybean in this candidate site. The general factors are similar to other places, such as feeding cattle and poultry, overgrazing, agricultural encroachment, gene exchange with cultivated crops, herbicide, pollution, and potential GMO crops. Moreover, wild soybean in Tongbai county is facing more dangerous threats. For instance, more and more fast-growth poplars and bamboos are planted in wild soybean distribution area, two or three years later, wild soybean may be affected seriously by shading from the poplar and bamboo. This is the main harmful factor to the survival of wild soybean in this area.

5. Wild Soybean in Bayan County, Heilongjiang Province

The candidate site is located in Fujiang town, Bayan County in Heilongjiang Province, and its geographical position is 46°02'N and 113°09'E with the altitude of 117m. Belonging to the temperate zone with continental monsoon climate, the annual mean temperature is +2.6℃, with the lowest of -40.9℃ and the highest of 35.4℃. The average precipitation is 582.2mm for many years. The soil type of the wild soybean distribution area is black soil, and the layer of humus reach to about 20 centimeters, average organic matter amount is 3.7%, and pH value is 6.7. The wild soybean in this area is distributed in the firewood. It grows luxuriantly and centralized, distributing about 74 ha. In the region of wild soybean distribution area, wild soybean that mainly grows with weed and osier has diverse biological characteristics, there are different types of leaf shape, leaf size, 100-seed weight et al.

Bayan County is an agricultural county in a hilly section, where cultivated crops are soybean, maize and rice. The average arable land for each person is 3.9 Mu. The planting pattern is to cultivate rice and soybean in turns in two years. The planting area includes 16800 Mu of food crops, 1500 Mu of vegetable, and 3196 Mu of cash crops. The local village people also raise livestock to earn more money. The total income is 2400 RMB per capita. Most local people live on planting crops and raising animals. According to our investigation, about 10% of the village labor forces leave for big cities to earn their livings each year.

One of the most important potential dangerous factors affecting the survival of wild soybean in this place is the process for harvest of the firewood forests. If transportation facilities enter into the firewood forest during harvest, they will seriously affect the growth of wild soybean. Except for this factor, many other factors are also harmful to the survival of wild soybean in this candidate site, such as man-made damage, animals grazing, agricultural encroachment, gene exchange with cultivated crops, herbicide, pollution, and potential GMO crops.

Reasons leading to these dangers are as follows. First of all, some farmers have little knowledge about wild soybean and little awareness of protection of wild relatives of crops; Secondly, most ranchers have habits to feed their livestock freely in wild soybean land; Finally, with the increasing population and decreasing land resources, reclaim wilderness is one way for farmers to make money.

6. Wild Soybean in Longjing City, Jilin Province

The site is situated at Laotougou Town, Longjing City, Jilin Province. The geographical position is 42°21'N, 128°56'E. The climate is warm and humid in summer but cold and dry in winter, with the annual mean temperature between 6.8 and 8.7°C, and the average precipitation from 800 to 1200 mm per year. Wild soybean genetic resources in this area are distributed in the hillsides. They grow widely and centralized, distributing about 34 ha. In the region of wild soybean distribution area, the main vegetation types are secondary undergrowth and bushwoods. Wild soybean of this site that mainly grows with weed and underscrub has diverse biological characteristics, there are different types of leaf shape, leaf size, 100-seed weight et al. The unique characteristics of wild soybean in this site is that they have white flowers which haven't been found in other places.

The planting pattern of Longjing City is obviously complicated. There are food crops and cash crops planted in this area, such as rice, soybean, fruits, vegetables, mushrooms, medicinal plants, et al. Most local people live on planting crops and raising animals and medicine processing, and the living standard of this place is higher than most rural areas in China.

The main problem of this candidate site is caused by the development of stockbreeding and production of medicine plants. In this area, stockbreeding is regarded as an important economic supporting industry. It is a large-scale industry, which could make destructive damage to wild soybean. Moreover, farmers here have advantages to plant medicine plants and process the medicine materials, they may take the habitats of wild soybean as medicine planting fields due to the limited arable land. Except for these factors, many other factors are harmful to the survival of wild soybean in this candidate site, such as man-made damage, agricultural encroachment, gene exchange with cultivated crops, herbicide, pollution, and potential GMO crops.

7. Wild Relatives of Wheat in Yanchi County, Ningxia Hui Autonomous Region

The site under the survey was Dashuikeng Village, Yanchi County in Ningxia Hui Autonomous Region, which is located in the east of Ningxia Hui Autonomous Region. The geographical location is 106°56'E and 37°27'N with 1544 m above sea level. The topography is foothills. It was a typical transitional belt from grassland to dry land area, which was characterized by its flat terrain and good vegetation. The main species of wild relatives of wheat is *Agropyron mongolicum*. The total distribution area is around 1,000 Mu. It is of typical temperate zone of continental monsoon climate. There is less rain but more wind all the year round, and the weather is extremely dry. Usually, there are lots of strong windstorms, which often cause disasters for local people.

In Yanchi County, there are some species of wheat wild relatives such as *Agropyron cristatum*, *Agropyron mongolicum* and *Leymus*, *Roegneria*. *Agropyron mongolicum*, which belongs to Triticeae of Gramineae. As fine vegetation with strong adaptability, they can provide desirable genes for pasture improvement and domestication, and they are of great economic value and scientific research significance. In Yanchi, *Agropyron mongolicum* grows in the dry grassland, sand and gravel land; It is endurable to infertile land with highly developed roots and can be used for the prevention from and control of windstorm and water and soil conservancy.

There are 368 families with the total population of 1432 persons in the Dashuikeng Village at the Dashuikeng Town. The total number of laborers is 547 people, of whom 428 are agricultural farmers, which accounts for 78.2% of the total laborers. Of the total population, 30 people at the age of 50 or below are illiterate, which accounted for 2.4%. The total area in the village is 13500 Mu, of which 7285 Mu are arable land, 5.1 Mu per capita on average. The types of cultivated land are all dry land. The agricultural structure in this village is characterized with grain crops, oil crops and some cash crops. The husbandry is mainly focused on Tanyang sheep (a kind of aboriginal variety) raising, and the sheep is generally raised in enclosed fences. The total income per capita is 636 RMB. Farmers are still in poor.

Because wild relatives of wheat generally grow in grassland in northwest part of China, the climate is dry with little precipitation. Therefore, natural disasters such as drought, sandstorm and windy weather frequently occur are the main threats to wild relatives of wheat there. Secondly, due to the reckless cultivation, reckless herding, excessive exploration and long time wind erosion, desertification of most grassland is serious. Generally, the layer of grass is 10-20 cm with the coverage of 35%-50%. Furthermore, because of over herding and trampling by cattle, gnawing by wild rabbits, marmots, mice and other wild animals, as well as the deteriorating climate condition, wheat wild relatives are confronted with the unprecedented destruction of their habitat.

8. Wild Relatives of Wheat in Wulumuqi County, Xinjiang Autonomous Region

The candidate site is located in Zhongliang Village, Banfanggou Town at Wulumuqi County. The geographical location is 87°20'E and 43°30'N. It belongs to the temperate zone of continental dry climate. The main species of wild relatives of wheat in this area is *Eremopyrum orientale* which belongs to *Eremopyrum* of Gramineae. Because wild relatives are distributed in the slopes with the gradient of 15-30°, the soil is gritty with low fertility and organic substances. The temperature ranges from 6°C to 35°C with the lowest of -28°C. The annual average precipitation is about 400 mm. The ecological system is composed of dry and semi-dry foothills, plains, and hills with a certain degree of humidity.

There is one village committee in Zhongliang Village at Banfanggou. This village has 427 families with a total population of 2,300. The total number of laborers is 995 people, of whom 895 are agricultural laborers and 100 work on fishing. In addition, 125 people work outside the village. The farmland is about 12,000 Mu, with the average of 3.5 Mu per capita. The planting crops are mainly focused on grains and vegetables. The cash crops take about 50% of the arable land. Because of the development of cash crop planting and cattle raising, farmers in this village is relatively rich. The total income per capita in 2004 reached 3691 RMB.

Due to over herding in the past several years, *Eremopyrum orientale* has dramatically reduced compared with those of previous years. The weak awareness of protection of local government and farmers and incomplete implementation of relevant policies, regulations and laws, wild relatives of wheat are only recognized to be excellent forage for livestock. As the development of livestock in the village, the wild relatives of wheat are now distributed in sporadic status. More importantly, wild rabbits, marmots, mice and other wild animals are now becoming disasters to the local farmers. They propagate very quickly and the

populations become bigger and bigger. Their increasing needs for food resulted in the decrease of grassland and therefore wild relatives of wheat become less and less.

Annex 3: Matrix of legal instruments and their shortcomings

Title	Type	Administrative organization	Shortcomings
<p>Constitution of the People's Republic of China [Dec., 1982]</p>	<p>Law</p>	<p>Enacted by the National People's Congress</p>	<p>The Constitution defines the state ownership of the natural resources, such as mine, forest, grassland, river and wild land as well as the state obligation to protect precious plants. Yet, not the same as the clear definition of the state ownership of wild animals in the Law of Wild Animals Protection, in the Regulation of the People's Republic of China on Wild Plants Protection enacted by the State Council, the ownership of wild plants isn't clearly defined, which directly leads to the lack of legal basis for wild plants protection and utilization restriction. Therefore, it is suggested that the Law on Wild Plants Protection should be formulated, explicitly prescribing the ownership and access of wild plants.</p>
<p>Criminal Law of the People's Republic of China [Oct., 1997]</p>	<p>Law</p>	<p>Enacted by The Standing Committee of the National People's Congress</p>	<p>The Law sets corresponding charges to illegal mining, illegal occupation of arable land, illegal felling of trees, damage of precious trees, illegal catching of aquatic resources, precious or endangered wild animal hunting, acquisition and selling, or smuggling of rare plants and relative products etc., from the prospective of national obligation to protection public resources, however, the damage or illegal export of terrestrial wild herbaceous plants and aquatic wild plants as well as their propagation materials isn't included in the regulating scope of the Law. Thus, during the law enforcement for wild plants protection, only the administrative penalty can be given to punish the behavior to damage or illegally export the wild plants or their propagation materials except the forest and rare tree species, which is unfavorable for striking the damage of agricultural wild plants by means of criminal penalty. Therefore, it is suggested increase of terms prescribing that the behavior leading to seriously damage or threat to the safety of wild plants should be prosecuted for the criminal responsibility.</p>
<p>Environmental Protection Law of the People's Republic of China [Dec., 1989]</p>	<p>Law</p>	<p>Enacted by The Standing Committee of the National People's Congress. State Environmental Protection Administration conducts unified supervision and management of the environmental protection. The competent administrative departments of Land, Minerals, Forestry, Agriculture and Water Resources, in accordance with the provisions of relevant laws, supervise and control the protection of natural resources.</p>	<p>The Law is a fundamental one of environmental protection in terms of protection and management of environmental elements like atmosphere, soil and water etc. and prevention of environmental pollution. The concern of wild plants and their original inhabit environment mainly reflects in the Law as follows: (1) counting clearly wildlife as an environmental element protected by the Law; (2) requiring the People's Governments at all levels to establish nature reserves at the natural distribution areas of rare and endangered wild plants; (3) indicating the People's Governments at all levels to strengthen agricultural environmental protection, to rationally use fertilizers, pesticides and auxin, and to prevent vegetation destruction and extinction of species.</p>
<p>Forestry Law of the</p>	<p>Law</p>	<p>Enacted by the Standing</p>	<p>The Law is national law regarding forest operating control, forest protection, forest</p>

<p>People's Republic of China □ April, 1998□</p>		<p>Committee of the National People's Congress State Forestry Administration is responsible for management of forest-related affairs.</p>	<p>harvesting and plantation management. The following terms apply to the protection of wild plants: (1) The competent administrative department of forestry of the State Council or the People's Governments at the provincial level should establish nature reserves at the typical forest ecotopes, forest regions and natural tropical forest where the rare plants grow and propagate; (2) The plant resources with particular value in the forest regions should be carefully protected and not be gathered without permission. It needs to be noted that the regulating object emphasized in the Law is natural or artificial forest resources.</p> <p>The Law is formulated in regard to the management of the planting materials or propagation materials of crops and forest. The Law defines that the state protects the germ plasm resources including propagation materials of wild species in accordance with the laws, no individual or organization shall encroach and damage the germ plasm resources, and gathering or cutting of the national key protected natural germ plasm resources is prohibited; it also prescribes that the state possesses the ownership of the germ plasm resources, and any individual or organization who provides germ plasm resources overseas should be approved by the competent administrative department of agriculture and forestry of the State Council. The Law is the supreme specialized law of the current legislation of China, in terms of protection of biological genetic resources. However, as a law enacted by the National People's Congress, the punishment defined in the Law for the behavior restricted or prohibited as required above remains just the administrative penalty. No robust means of criminal penalty is stipulated in the Law regarding the behavior to damage or illegally export the germ plasm resources of wild plants of key significance to the nation and makes the national economic interests or biosafety suffer a serious loss.</p>
<p>Seed Law of the People's Republic of China □ Dec., 2000□</p>	<p>Law</p>	<p>Enacted by The Standing Committee of the National People's Congress State Agriculture Administration is responsible for management of crop seeds-related affairs. State Forestry Administration is responsible for management of forest seeds-related affairs.</p>	<p>The Law is a national law regarding grassland ownership as well as the programming, construction, employment and protection of grasslands. In terms of protection of grassland wild plants, the Law directly formulates: (1) the grassland as a natural habitat of national key protected plants should be identified as the basic grassland area for management; (2) the competent administrative department of grassland should establish grassland nature reserves at natural distribution areas of rare and endangered wild plants. Thanks to the dependence relationship between the wild plants and grassland, the terms about the introduction, grazing prohibition, cease of grazing, rotation grazing and prohibition of grassland exploitation etc. also apply to the living environmental protection of grassland wild plants. The Law reiterates the state ownership or corporate ownership of grassland of different regions. But according to the classification of lands in the Law of Land Administration of the People's Republic of China, grassland (or pasture) is only one of the land types, so the identification of grassland ownership doesn't mean the identification of grassland wild plants.</p>
<p>Grassland Law of the People's Republic of China □ Dec., 2002□</p>	<p>Law</p>	<p>Enacted by The Standing Committee of the National People's Congress State Farming and Animal Husbandry Administration is responsible for management of the affairs concerning the grassland.</p>	<p>The Law is a national law developed regarding standardized management of agricultural production operating system, agricultural production, agricultural product circulation and processing, food safety, agricultural input, protection of agricultural</p>
<p>Agriculture Law of the People's Republic of China</p>	<p>Law</p>	<p>Enacted by The Standing Committee of the National People's Congress.</p>	<p>The Law is a national law developed regarding standardized management of agricultural production operating system, agricultural production, agricultural product circulation and processing, food safety, agricultural input, protection of agricultural</p>

<p>□ Dec., 2002□</p>	<p>State Agriculture Administration is responsible for management of affairs related to agricultural and rural economic development.</p> <p>The competent administrative department of forestry of the State Council as well as other relative departments is responsible for the agricultural and rural economic development within their respective responsibility areas.</p>	<p>resources and agricultural environment, protection of peasants' rights and interests as well as development of rural economy. In terms of wild plants protection, the Law not only stipulates that the forest, grassland and wild animal and plant resources must be protected during development of agricultural production and rural economy, but defines that the state should develop the mechanism for protection of agricultural biological species under key protection of rare, endangered and precious biological resources and their original habitats. It also regulates that the biological species imported must be registered and applied for approval in accordance with the laws.</p> <p>Obviously, the Law provides a fundamental legal basis for protection and management of agricultural wild plants, from the perspectives of protection of agricultural wild plants and their original habitats.</p>
<p>Regulation of the People's Republic of China on Wild Plants Protection □ Sept., 1996□</p>	<p>Enacted by the State Council.</p> <p>State Forestry Administration is responsible for managing of affairs related to the wild plants in forest areas and rare trees outside forest areas.</p> <p>State Agriculture Administration is responsible for the management of affairs related to other wild plants excluding those under the management of the Forestry Administration.</p> <p>State Construction Administration is in charge of supervising affairs on the wild plants living in urban gardens and scenery areas.</p> <p>State Environment Protection Administration is in charge of arranging and</p>	<p>The Regulation is a symbolic one for establishment of the legal system on wild plants protection, which defines the basic principles and codes of conduct for wild plants protection, employment and management. On the premises of the stipulation of the Constitution "the state protects precious plants", the Regulation defines the national/local key protected wild plants as the subjects of application.</p> <p>However, the following shortcomings of the Regulation prevent the implementation of the related articles of the Regulation and the execution of their legal effects.</p> <p>(1) Inter-department contests for wild plants jurisdiction during the real work are serious, while the advantages of each department are given play to protect and manage the wild plants in the form of multi-department management with the administrative departments of agriculture and forestry as the main authorities of management.</p> <p>(2) In regard to the management of gathering, acquisition and selling of wild plants, the administrative approval process stipulated in the Regulation isn't specific, which gives rise to the poor operability in actual implementation.</p> <p>(3) The Regulation takes little consideration into some key issues related to the safety of wild plants and their original environment, for example, construction and management of peripheral protection belt of wild plants original environment, qualification of subject of construction and management of original environment conservation zones, control of exotic plants in the original environment and measures for protection of wild plants transplant etc.</p> <p>(4) Little consideration is given in the Regulation into problems of acquisition, employment and benefit sharing of wild plant resources that have been raised in the practical protection of wild plants.</p> <p>It is suggested that researches on the problems mentioned above should be conducted, and the findings would be used as the background for development of the proposal of Law of the People's Republic of China on Wild Plants Protection as well as</p>

<p>Regulation on New Plant Variety Protection of the People's Republic of China □ March, 1997</p>	<p>Regulation</p>	<p>supervising environment protection with relation to wild plants. Other State Gov. is in charge of affairs correlative with wild plants according to their responsibility granted by State Council.</p> <p>Enacted by the State Council.</p> <p>State Agriculture Administration and State Forestry Administration are responsible for management of affairs on new plant varieties protection respectively according to their responsibility granted by the State Council.</p>	<p>the material of the legislation feasibility.</p>
<p>Regulation of the People's Republic of China on Nature Reserves □ Sept., 1994</p>	<p>Regulation</p>	<p>Enacted by the State Council.</p> <p>State Environment Protection Administration is responsible for management of general affairs on nature reserves.</p> <p>State Forestry, Agriculture, Land and Resources, Water Resources, Oceanic Administration and etc. are responsible for management of affairs related to nature reserves according to their responsibility granted by State Council respectively.</p>	<p>The Regulation is an administrative one formulated for protection of plant breeders. Influenced by Convention on the International Protection of New Plant Varieties, the Regulation only considers the protection of the rights and interests and the party of new variety other than that of wild plants protectors or providers, regarding new variety breeding by use of wild plant materials, and wild plants exploration and employment.</p> <p>Other laws or regulations don't concern any content on protection of the latter's rights and interests related to the new variety too. There are two main defects in the current legislation: firstly, unfavorable for mobilization of the initiatives of communities and local residents to protect wild plants; secondly, apt to cause resource abuse and public resource privatization through registration of variety rights. Therefore, it is suggested that reallocation of the interests acquired through new variety breeding by use of wild plants or wild plants development and employment should be done, in combination with the legislation on wild plants protection.</p> <p>Currently, the Ministry of Agriculture has set out to research on the above-mentioned problems in light of Convention on Biological Diversity and International Treaty on Plant Genetic Resources for Food and Agriculture, and prepare for the modification of the Regulation or development of a national law by the state.</p>
<p>Regulation of the People's Republic of China on Nature Reserves □ Sept., 1994</p>	<p>Regulation</p>	<p>Enacted by the State Council.</p> <p>State Environment Protection Administration is responsible for management of general affairs on nature reserves.</p> <p>State Forestry, Agriculture, Land and Resources, Water Resources, Oceanic Administration and etc. are responsible for management of affairs related to nature reserves according to their responsibility granted by State Council respectively.</p>	<p>The Regulation is an administrative one developed regarding establishment and management of nature reserves exclusively. Although the Regulation isn't the one exclusively for wild plants protection, yet, its stipulation "nature reserves should be set up in the areas where rare and endangered wild plant species are gathered naturally" is closely connected with the protection of wild plants and their original environment.</p> <p>Although the Regulation stipulates explicitly that medical herbs gathering is prohibited within the nature reserves, it doesn't indicate that all wild plants gathering activities are prohibited, particularly the Regulation permits moderate productive activities in the experiment area, and it doesn't stipulate that the competent administrative departments of agriculture and forestry exercise the supervision and management function of the wild plants in nature reserves, all of which cause that the agriculture and forestry departments are unable to supervise and manage the wild plants in the reserves built by other departments, under the situation of separate management by different departments.</p> <p>Based on the above-mentioned situation, it is suggested that through development of Law of Wild Plants Protection, it should be defined that gathering of any national or local key protected wild plants in the reserves is prohibited, or the administrative department of agriculture or forestry has the right of management of the wild plants gathering activities in the reserves.</p>

<p>Regulation on Wild Medicinal Material Resources Conservation and Management □ Dec., 1987</p>	<p>Regulation</p>	<p>Enacted by the State Administration of Traditional Chinese Medicine is responsible for management of affairs on wild medicinal material resources together with State Forestry Administration and State Agriculture Administration.</p>	<p>The Regulation is formulated regarding the management of wild medicinal material resources including wild plant medicinal materials. The key feature of the Regulation in terms of administrative management of wild plant medicinal material resources is that development of the category of critical wild plant medicinal materials, plans of wild plant medicinal materials gathering or acquisition and the category of wild plant medicinal materials for export as well as inspection and approval of wild plant medicinal materials gathering or acquisition should be done by the administrative department of medication together with the administrative departments of wild animals/wild plants and other relative departments. The feature facilitates the administrative department of wild plants to exercise the supervision and management function during the management of wild plant medicinal materials. Meanwhile, the Regulation also stipulates that the contents of the Regulation are interpreted by the State Pharmaceutical Administration. Such stipulation of the exclusive interpretation by the State Pharmaceutical Administration may lead to declination in the use of articles when there are any disputed issues during the actual execution of the Regulation.</p>
<p>Measures on Management of Nature Reserves of Forestry and Wild Animals □ July, 1985</p>	<p>Regulation</p>	<p>Approved by the State Council. Promulgated by the Ministry of Forestry</p>	<p>The Measures is an administrative regulation regarding exclusively the protection of forest and wild animals as well as their habitats, which was executed before the development of Regulation of the People's Republic of China on Nature Reserves. The Measures realizes the protection of wild plants original environment by means of establishment of nature reserves. The administrative department of forestry of the State Council is responsible for the publication and execution of the Measures. The types of wild plants adaptive to the Measures are the same with those managed by the administrative department of forestry as stipulated in Regulation on Wild Plants Protection. Although the Measures clearly requires that the local residents' vital interests should be taken into consideration during establishment of the nature reserves, no clear stipulation is made on the compensation for the losses of the residents' economic interests caused by the establishment of reserves.</p>
<p>Measures on Protection of Agricultural Wild Plants □ Oct., 2002</p>	<p>Rule</p>	<p>Enacted by the Ministry of Agriculture Agriculture Administration is responsible for management of affairs on agricultural wild plants.</p>	<p>The Measures is a supporting rule of the Ministry of Agriculture for protection of wild plants, which is developed by the Ministry of Agriculture so as to perform its responsibility to protect and manage the agricultural wild plants, in accordance with Regulation of the People's Republic of China on Wild Plants. In comparison with Regulation on Wild Plants Protection, the Measures refines further the control process of gathering, buying /selling and import/export of wild plants, to counter the problems where solutions are in urgent need, such as illegal gathering cutting, illegal buying/selling and illegal export of national key protected agricultural wild plants. However, the Measures has defects in terms of exotic plant management, wild plants transplant protection, benefit sharing of genetic resources and peripheral protection belt etc or concern no such content. Therefore, it is suggested that further researches on the above-mentioned problems should be conducted.</p>
<p>Measures on Management of Crop Germ Plasm Resources</p>	<p>Rule</p>	<p>Enacted by the Ministry of Agriculture</p>	<p>The Measures is a department rule in support of the terms on germ plasm management in Agriculture Law of the People's Republic of China and the Seed Law of the People's Republic of China, developed by the Ministry of Agriculture for protection</p>

<p>□ Oct., 2003</p>		<p>National Committee of Crop Germ Plasm Resources is responsible for management of affairs on Crop germ plasm resources.</p>	<p>and management of crop germ plasm resources. Based on the relevant terms of Seed Law, the Measures make a supplement to it as follows: (1) to involve in the species of which the gathering is prohibited the propagation materials of endangered/rare species as well as the tissues, cells, DNA, DNA segments and genes of the propagation materials; (2) to involve the wild relatives and endangered and rare species of crops in the species of which the gathering is prohibited; (3) to emphasize that no unfavorable impact should be brought to the original status of the species during gathering of crop germ plasm resources; (4) to define that the germ plasm resources obtained from the state should not be used directly to apply for new variety protection or other intellectual property.</p>
<p>Measures on Management of Aquatic Animal and Water Plant Reserves of the People's Republic of China. □ Oct., 1997</p>	<p>Rule</p>	<p>Enacted by Ministry of Agriculture State Fishery Administration is responsible for management of affairs on aquatic animal and water plant reserves</p>	<p>The Measures is a department rule in support of the Regulation on Nature Reserves, developed by the Ministry of Agriculture for establishment and management of the nature reserves of aquatic life. The means of classification compartmentalization are taken in the Measures to protect the original environment of aquatic wild plants and to restrict the behavior to damage the environment of the reserves. However, in terms of the management of the wild plants in the reserves, the Measures only stipulates that “medicinal herbs gathering” is prohibited, and no relative terms is made to restrict the behavior to gather the wild plants of other functions.</p>
<p>Provisional Measures on Investment Direction of Foreign Businessman □ June, 1995</p>	<p>Rule</p>	<p>Enacted by the National Plan Committee, National Economic & Trade Committee, and Ministry of Foreign Trade and Economic Cooperation</p>	<p>The Provisional Measures is a joint department rule for normalization of foreign businessmen's investment direction in China. It explicitly defines in the attachment Foreign Investment Industry Category that the projects related to national key protected wildlife resources, rare/precious/quality varieties of China and construction of nature reserves belong to the ones to which foreign investment is prohibited. The restriction provides a legal basis for preventing the outflow of the wild plant resources of China.</p>
<p>National Ecological Environment Protection Program □ Nov., 2000</p>	<p>Policy</p>	<p>Enacted by the State Council.</p>	<p>The Program advances a short-term objective “to lose no time to establish a group of new nature reserves so as to effectively protect key species” and a long-term objective “to fully prevent the degradation of ecological environment so as to effectively protect the ecological environment of the regions with abundant species” to counter the severe situation that the regions with abundant species of wildlife around China are shrunk, the environment of rare wildlife habitats is deteriorated, the number of rare medicinal wild plants is reduced sharply, and the gross amount of biological resources is decreased.</p>
<p>Program of Action for Sustainable Development in China in the Early 21st Century □ Jan., 2003</p>	<p>Policy</p>	<p>Enacted by the State Council.</p>	<p>In light of the serious situation that the wild plants of China are faced with damage and outflow, the Program particularly emphasizes that the supervision and management of agricultural wildlife resources protection should be strengthened, the agricultural wildlife resources in the key regions should be gathered for resource saving, and the demonstration plot or protection point for protection of agricultural wildlife original habitat should be established.</p>
<p>Decision of the Central Committee of CPC and the State Council on</p>	<p>Policy</p>	<p>Enacted by the Central Committee of CPC and the State Council</p>	<p>The Decision emphasizes that much attention should be paid to wildlife protection and nature reserve construction; the salvage of endangered and rare species should be done with no time losses; the wildlife resources, wetland resources and biological</p>

<p>Acceleration of Forestry Development [June, 2003]</p>			<p>diversity of China should be practically protected; management of forest and wildlife resources protection should be rigorously normalized; random gathering and digging of wild plants should be prohibited.</p>
<p>Circular of the General Office of State Council concerning Strengthening Biological Species Resources Protection and Management [March, 2004]</p>	<p>Policy</p>	<p>Enacted by the State Council.</p>	<p>The Circular emphasizes on strengthening the construction of basic protection capability of biological species resources, strengthening in situ conservation of wildlife species resources as well as their original environment and wild plant relatives cultivated, well protecting transplant of biological species resources, perfecting the approval system of export of biological species resources, strengthening the management and supervision of export of biological species resources, strengthening foreign cooperative management of biological species resources, guaranteeing the accomplishment used in research, like the intellectual property etc. , ensuring the sharing of interests and practically protecting the national rights and interests.</p>

Annex 4: Terms of reference (to be completed before CEO endorsement)