

Document of
The World Bank

Report No: ICR00001067

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(TF-50723)

ON A

GRANT

IN THE AMOUNT OF SDR 6.0 MILLION
(US\$ 7.6 MILLION EQUIVALENT)

TO THE

REPUBLIC OF GHANA

FOR A

NORTHERN SAVANNA BIODIVERSITY CONSERVATION PROJECT

September 23, 2009

Environmental and Natural Resources Management
Sustainable Development Department
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 28, 2009)

Currency Unit = Ghanaian New Cedi

GHS 1.00 = US\$ 0.73

US\$ 1.00 = Cedis 1.38

FISCAL YEAR

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

APL	Adaptable Program Loan
BP	Bank Procedures
CAS	Country Assistance Strategy
CBO	Community-Based Organization
CBRDP	Community Based Rural Development Project
CORMAC	Community Resource Management Committees
CORMCO	Corridor-Community Resource Management Committees
CREMA	Community Resource Management Areas
CSO	Civil Society Organizations
DPO	Development Policy Operation
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FC	Forestry Commission
FMC	Forest Management Committees
FR	Forest Reserve
FSD	Forest Services Division
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GEO	Global Environment Objective
GEPRENAF	Community-Based Natural Resources and Wildlife Management Project
GH¢	Ghanaian cedis
GLSS	Ghana Living Standard Survey
GPRS	Growth and Poverty Reduction Strategy
IA	Implementing Agency
IC	Indigenous Crop
ICR	Implementation Completion Report
IPR	Intellectual Property Right
IRR	Internal Rate of Return
ISR	Implementation Supervision Report
ITFC	Integrated Tamale Fruit Company

IUCN	International Union for Conservation of Nature
M&E	Monitoring and Evaluation
MES	Ministry of Environment and Science
MLFM	Ministry of Lands Forestry and Mines
MLNR	Ministry of Lands and Natural Resources
MLGRD	Ministry of Local Government and Rural Development
MOFA	Ministry of Food and Agriculture
MOH	Ministry of Health
MoU	Memorandum of Understanding
MS	Moderately Satisfactory
MSP	Medium-Size Project
MTR	Mid-Term Review
MU	Moderately Unsatisfactory
NDI	Northern Development Initiative
NGO	Non-Governmental Organization
NP	National Park
NPV	Net Present Value
NRM	Natural Resource Management
NRMP	Natural Resources Management Program
NBSAP	National Biodiversity Strategy and Action Plan
NREG	Natural Resources and Environmental Governance
NSBCP	Northern Savanna Biodiversity Conservation Project
NTFP	Non-Timber Forest Product
OD	Operational Directive
OP	Operational Policy
PA	Protected Area
PAD	Project Appraisal Document
PAGEN	Partnership for Natural Ecosystem Management project in Burkina Faso
PCU	Project Coordination Unit
PDO	Project Development Objective
PMU	Project Management Unit
PU	Procurement Unit
QK	Quality and Knowledge
RR	Resource Reserve
RUMNER	Rural Media Network
S	Satisfactory
SARI	Savanna Agricultural Research Institute
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SNV	Netherlands Development Organization
SRMC	Savanna Resource Management Center
TAMD	Traditional and Alternative Medicines Directorate
TBAs	Traditional Birth Attendants
THAs	Traditional Healers' Associations
U	Unsatisfactory
UDS	University of Development Studies
US\$	United States dollar

VP Vice President
WB World Bank
WD Wildlife Division
WPAMCs Wildlife Protected Area Management Committees
WWF World Wildlife Fund

Vice President:	Obiageli K. Ezekwesili
Country Director:	Ishac Diwan
Sector Manager:	Ashok K. Subramanian
Project Team Leader:	Paola Agostini
ICR Team Leader	Matteo Marchisio

COUNTRY

Project Name

Northern Savanna Biodiversity Conservation Project

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MAP

A. Basic Information			
Country:	Ghana	Project Name:	Northern Savanna Biodiversity Conservation Project
Project ID:	P067685	L/C/TF Number(s):	TF-50723
ICR Date:	09/29/2009	ICR Type:	Core ICR
Lending Instrument:	SIL	Borrower:	GHANA
Original Total Commitment:	USD 7.6M	Disbursed Amount:	USD 7.6M
Revised Amount:	USD 7.6M		
Environmental Category: B		Global Focal Area: B	
Implementing Agencies: Ministry of Lands, Forestry and Mines			
Cofinanciers and Other External Partners:			

B. Key Dates				
Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	08/01/1999	Effectiveness:	10/01/2002	09/23/2002
Appraisal:	03/12/2001	Restructuring(s):		10/24/2005
Approval:	03/12/2002	Mid-term Review:	05/09/2005	10/24/2005
		Closing:	02/01/2008	02/28/2009

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Satisfactory
Risk to Global Environment Outcome	Substantial
Bank Performance:	Moderately Satisfactory
Borrower Performance:	Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance			
Bank	Ratings	Borrower	Ratings
Quality at Entry:	Moderately Satisfactory	Government:	Satisfactory
Quality of Supervision:	Satisfactory	Implementing Agency/Agencies:	Satisfactory
Overall Bank Performance:	Moderately Satisfactory	Overall Borrower Performance:	Satisfactory

C.3 Quality at Entry and Implementation Performance Indicators			
Implementation Performance	Indicators	QAG Assessments (if any)	Rating
Potential Problem Project at any time (Yes/No):	Yes	Quality at Entry (QEA):	None
Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	None
GEO rating before Closing/Inactive status	Satisfactory		

D. Sector and Theme Codes		
	Original	Actual
Sector Code (as % of total Bank financing)		
Central government administration	33	33
General agriculture, fishing and forestry sector	43	43
Other social services	12	12
Sub-national government administration	12	12
Theme Code (as % of total Bank financing)		
Biodiversity	29	29
Environmental policies and institutions	28	14
Land administration and management	14	29
Participation and civic engagement	29	28

E. Bank Staff		
Positions	At ICR	At Approval
Vice President:	Obiageli Katryn Ezekwesili	Callisto E. Madavo
Country Director:	Ishac Diwan	Peter C. Harrold
Sector Manager:	Ashok K. Subramanian	Joseph Baah-Dwomoh
Project Team Leader:	Paola Agostini	Edward Felix Dwumfour
ICR Team Leader:	Matteo Marchisio	
ICR Primary Author:	Matteo Marchisio	

F. Results Framework Analysis

Global Environment Objectives (GEO) and Key Indicators(as approved)

The global environment objective is to identify, monitor and conserve key components of the biodiversity of the northern savanna zone.

Revised Global Environment Objectives (as approved by original approving authority) and Key Indicators and reasons/justifications

(a) GEO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	5 Policy issues considered critical in the forthcoming Savanna Biodiversity Policies approved by policy makers that recognize their importance by including potential solutions in their long term policy planning, as reflected in interviews to be conducted			
Value (quantitative or Qualitative)	0	At least 12 district and 3 regional planning/policy makers		
Date achieved	06/27/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 2 :	In IAs, by end of project, number of higher-level staff knowledgeable on savanna NRM issues has increased from beginning of project.			
Value (quantitative or Qualitative)	8	95		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 3 :	Management effectiveness of Gbele NP and forest reserves (those targeted for management under the project) has increased from baseline value as measured by WB/WWF PAs Scorecard.			
Value (quantitative or Qualitative)	Gbele: 37 retrospective ratings for forest reserves not available	Higher value of the scorecard than at baseline		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				

Indicator 4 :	Conservation-friendly livelihood NRM schemes supported by project have increased income/family by 20% in target families by end of project (taking into account income generation & assets).			
Value (quantitative or Qualitative)	GHsc35/year (year (family annual income)	GHc42/year (family annual income)		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 5 :	Number of communities cultivating one-acre plots of indigenous crops/varieties or with medicinal plant plots over a period of at least 3 yrs. (& thus viable after end of proj. financing).			
Value (quantitative or Qualitative)	4 communities (10 farmers) with indigenous crops cultivations 0 acres of medicinal plants planted	20 communities with indigenous crops 25 cultivating 50 acres 25 communities with medicinal plant plots		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Savanna Biodiversity Strategy and its action plan prepared during 2006 and submitted to Govt. late in 2006			
Value (quantitative or Qualitative)	No existing strategy for the savanna region	Prepared and submitted		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 2 :	Workshops to ensure consultation and participation on the Savanna Biodiversity Strategy			
Value (quantitative or Qualitative)	0	At least 2 consultation workshops.		
Date achieved	02/28/2003	02/28/2009		

Comments (incl. % achievement)				
Indicator 3 :	25 IA officers trained per year as of Year 2			
Value (quantitative or Qualitative)	0	100		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 4 :	5 training events/year as of Year 2			
Value (quantitative or Qualitative)	0	20		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 5 :	Gbele Mgmt. Plan completed in 2006			
Value (quantitative or Qualitative)	No plan of any kind exists	Plan completed		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 6 :	Participatory Forest Reserve plans completed in 2006			
Value (quantitative or Qualitative)	None exist	Forest biodiversity Management Plans completed		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 7 :	Key civil works infrastructure in Gbele and FRs on track			
Value (quantitative or Qualitative)	Very limited infrastructure in place	Planned infrastructure completed		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 8 :	825 families receiving assistance			
Value (quantitative or Qualitative)	0 families	825 families		

Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 9 :	60% survival rate of mango trees each year after planting			
Value (quantitative or Qualitative)	N/A as no plantations exist at project outset	Average of 60% is final goal		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 10 :	220 farmers receiving assistance for indigenous crops			
Value (quantitative or Qualitative)	0	220 farmers receiving assistance		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				
Indicator 11 :	Traditional Healers in 24 communities receiving assistance in cultivation of medicinal plants			
Value (quantitative or Qualitative)	0	Traditional Healers in 24 communities receiving assistance		
Date achieved	02/28/2003	02/28/2009		
Comments (incl. % achievement)				

G. Ratings of Project Performance in ISRs

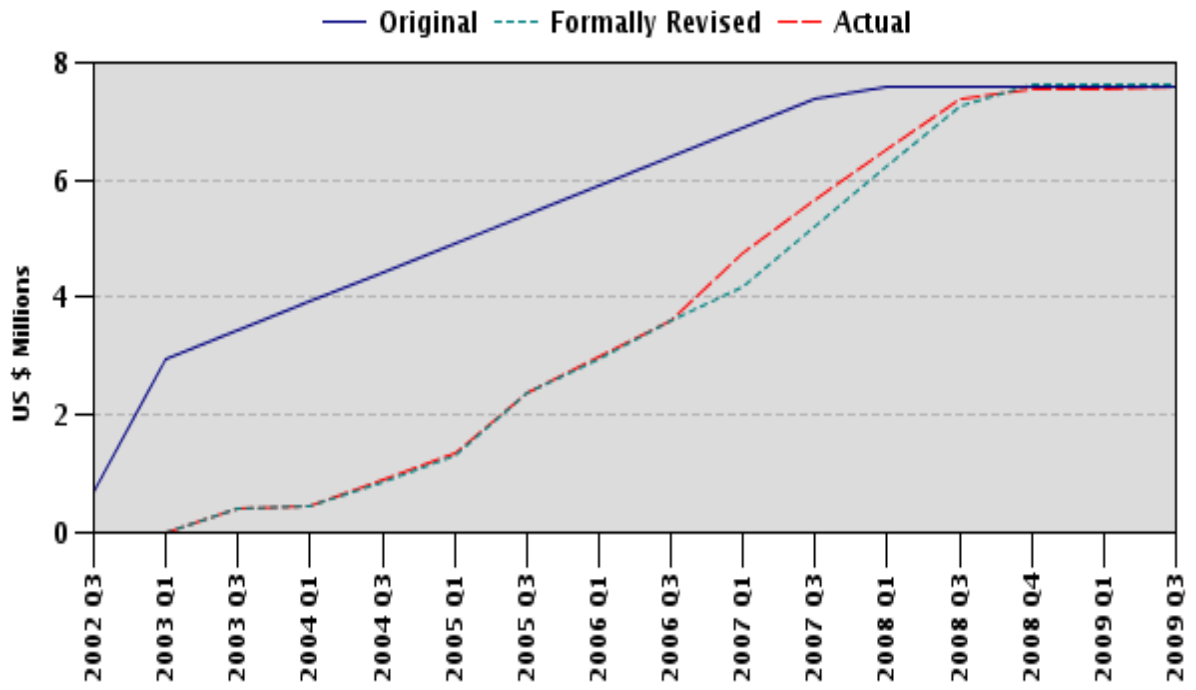
No.	Date ISR Archived	GEO	IP	Actual Disbursements (USD millions)
1	11/20/2002	Satisfactory	Satisfactory	0.00
2	06/06/2003	Satisfactory	Satisfactory	0.40
3	12/15/2003	Satisfactory	Unsatisfactory	0.72
4	05/28/2004	Satisfactory	Unsatisfactory	0.91
5	10/07/2004	Satisfactory	Satisfactory	1.35
6	05/06/2005	Moderately Satisfactory	Moderately Satisfactory	2.63
7	12/29/2005	Moderately Satisfactory	Moderately Satisfactory	3.40
8	06/22/2006	Moderately Satisfactory	Moderately Satisfactory	3.89

9	07/20/2006	Satisfactory	Satisfactory	4.20
10	01/20/2007	Satisfactory	Satisfactory	5.10
11	02/21/2007	Satisfactory	Satisfactory	5.36
12	07/14/2007	Satisfactory	Satisfactory	6.24
13	12/12/2007	Satisfactory	Satisfactory	6.84
14	05/28/2008	Satisfactory	Satisfactory	7.59
15	11/25/2008	Satisfactory	Satisfactory	7.59
16	01/18/2009	Satisfactory	Satisfactory	7.59

H. Restructuring (if any)

Restructuring Date(s)	Board Approved GEO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		GEO	IP		
10/24/2005	N		MS	3.40	The project team, in consultation with QK, decided at MTR to revise the structure of the components, key performance indicators, and budget allocation among components. Amendments to the Grant Agreement were approved by the Vice President of the Africa Region.

I. Disbursement Profile



1. PROJECT CONTEXT, GLOBAL ENVIRONMENT OBJECTIVES AND DESIGN

1.1 Context at Appraisal

1. **Sector background.** At the time of project design, about 60% of the total population in Ghana was rural. Poverty was highly concentrated in rural areas, particularly in the savanna zones. To ensure that growth in Ghana benefits the poor, the Government strategy focused on improving performance in agriculture by increasing food crops production and expanding opportunities in commercial crops. Such initiatives however placed pressure on the environment. The key natural resource management issues in Ghana were land degradation and deforestation, and the loss of biodiversity associated with unsustainable harvesting levels in the savanna, compounded by inappropriate farming practices and annual wildfires. The major causes of loss of biodiversity and natural resource degradation in the savanna zones were related to tremendous pressure from growing human and livestock populations, agricultural expansion, inappropriate farming practices, deforestation, annual bush fires, and introduction of crop varieties that were replacing indigenous varieties.

2. **Government strategy.** The above challenges were recognized in the key Government policies and strategies, i.e. the Forest and Wildlife Policy (1994), and the Forest Development Master Plan (1996). To address these challenges, the Government of Ghana was implementing a ten-year country-wide Adaptable Program Loan (APL): the Natural Resources Management Program (NRMP). The Program was divided in three phases of two, four, and four years respectively. The objective of the NRMP was to protect, rehabilitate and sustainably manage national land, forest and wildlife resources and to sustainably increase the income of rural communities who own these resources. The full program was designed to address issues of conservation, enhancement and sustainable utilization of Ghana's land, forest, savanna woodland and wildlife resources in full and active collaboration and consultation with rural communities and other rural institutions.

3. **Project's fit into Government's strategy.** A six-year GEF biodiversity component (US\$ 8.6 million), the High Forest Biodiversity Conservation Project, was linked to the NRMP I and II to specifically support the NRMP in the Southern High Forest. The Northern Savanna Biodiversity Conservation Project (NSBCP) (GEF US\$ 7.6 million) was designed to complement and support the implementation of the NRMP in the northern savanna region of Ghana. The project was 'partially blended' to the NRMP, and baseline activities for this project were expected to be covered under the NRMP II.

4. **Project's fit into Bank's assistance strategy.** One of the key objectives of the Bank's Country Assistance Strategy (CAS) at the time of project design and approval was to improve the performance of agriculture to reduce poverty while ensuring the sustainability of natural resources. The Bank's main instrument to support the government's efforts in ensuring sustainable utilization of natural resources was the above mentioned Natural Resources Management Program (NRMP) APL. This project, the Northern Savanna Biodiversity Conservation Project (NSBCP), was designed to incrementally complement the NRMP in the northern savanna region of Ghana.

1.2 Original Global Environment Objectives (GEO) and Key Indicators

5. The **Project Development Objective** (PDO) of the project was “to improve the livelihoods and health of communities in the northern savanna zone and the environment through the conservation and sustainable use of natural resources, including medicinal plants”. The **Global Environment Objective** (GEO) of the project was “to identify, monitor and conserve key components of the biodiversity of the northern savanna zone”.

6. The Grant Agreement refers only to the PDO.

7. **Key performance indicators.** The Project Appraisal Document (PAD) reports two different set of performance indicators.

Section A.2 - Key Performance Indicators (measuring both PDO and GEO)	Annex 1 - Project Design Summary
<ul style="list-style-type: none"> (1) N. of policy frameworks and strategies aimed at sustainable savanna resource management [...] developed and implemented by end of project (2) Increased public awareness on biodiversity issues [...] through targeted investment programs [...] (3) Measurable reduction in poverty and improved health care and livelihood systems among the resource fringing communities attributed to improved ecosystem management and the development of alternative livelihood systems as measured by secondary information, the Ghana Living Standard Survey (GLSS) (4) Functioning Northern Savanna Biodiversity database including a herbarium and information on medicinal plants and their use, traditional healers' associations (THA) and traditional birth attendants (TBA) developed and integrated with Savanna Resources Management Information System [...] (5) N. of hectares and areas of globally significant savanna biodiversity incorporated into the protected area system [...] (6) N. of hectares in six selected degraded areas fully rehabilitated through improved land and biodiversity conservation and sustainable use measures [...] (7) A network of corridors (two) established and developed [...] (8) N. of communities actively participating in conservation and management of biodiversity resources [...]; and N. of Wildlife Protected Area Management Committees (WPAMCs) and Forest Management Committees (FMCs) [...] established [...] 	<p>PDO:</p> <ul style="list-style-type: none"> (1) An effective biodiversity conservation policy framework (NBSAP) [...] (2) Increased adoption of improved plans and effective measures for biodiversity management and conservation in the savanna zone by communities (3) Increased awareness of biodiversity management and conservation issues by the public [...] (4) Increased acceptance by the public [...] to maintain agro-biodiversity in plant and crop genebanks <p>GEO:</p> <ul style="list-style-type: none"> (1) Hectares of savanna priority areas, including on and off reserves under effective management (2) N. of regeneration of threatened, endemic and rare biotic species in the priority areas (3) N. of communities effectively involved in propagation of important indigenous crops and medicinal plants (4) N. of hectares put under cultivation of farmer crop varieties and medicinal plant species (5) % reduction in encroachment of natural habitats (6) % rehabilitation of degraded lands and restocking of wildlife protected areas.

8. Implementation Supervision Reports (ISRs) referred to the indicators reported in Section A.2 of the PAD.

9. In addition, although not defined ‘key performance indicators’, Annex 12 of the PAD (Monitoring and Evaluation) includes another different set of (quite comprehensive) outcome indicators (over 30), as well as datasets, methods and frequency for measuring them. No indicators were reported in the Legal Agreement.

1.3 Revised GEO and Key Indicators, and reasons/justification

10. There were no revisions in the PDO and GEO.

11. At Mid-Term Review (MTR), key indicators for the PDO and GEO were revised as follows:

Key performance indicators at project entry	Revised Indicators at MTR
(1) N. of policy frameworks and strategies aimed at sustainable savanna resource management [...] developed and implemented by end of project	(1) Policy issues considered critical in the forthcoming Savanna Biodiversity Policy by policy makers that recognize their importance by including potential solutions in their long-term policy planning, as reflected in interviews to be conducted
(2) Increased public awareness on biodiversity issues [...] through targeted investment programs [...]	(2) In Implementing Agencies, by the end of the project, number of higher-level staff knowledgeable on Savanna NRM issues has increased from the beginning of project
(3) Measurable reduction in poverty and improved health care and livelihood systems among the resource fringing communities attributed to improved ecosystem management and the development of alternative livelihood systems as measured by secondary information, the Ghana Living Standard Survey (GLSS)	(3) Management effectiveness of Gbele National Park and forest reserves (those targeted for management under the project) has increased from baseline value as measured by WB/WWF PAs Scorecard
(4) Functioning Northern Savanna Biodiversity database including a herbarium and information on medicinal plants and their use, THAs and TBA developed and integrated with Savanna Resources Management Information System [...]	(4) Conservation-friendly livelihood NRM schemes supported by project have increased income/family by 20% in target families by end of project (taking into account income generating potential and assets)
(5) N. of hectares and areas of globally significant savanna biodiversity incorporated into the protected area system [...]	(5) Number of communities cultivating one-acre plots of indigenous crops/varieties or with medicinal plant plots over a period of at least three years (and thus viable independent of project financing)
(6) N. of hectares in six selected degraded areas fully rehabilitated through improved land and biodiversity conservation and sustainable use measures [...]	
(7) A network of corridors (two) established and developed [...]	
(8) N. of communities actively participating in conservation and management of biodiversity resources [...]; and N. of Wildlife Protected Area Management Committees and Forest Management Committees [...] established [...]	

12. In addition, 5 new outcome indicators were added to measure progress at component level. 11 new intermediate outcome indicators were defined to measure progress towards the PDO/GEO.

13. The new indicators were included in the amended Grant Agreement.

14. **Reasons for revising the key indicators.** During MTR, the supervision team assessed that the existing set of indicators did not allow an adequate monitoring and evaluation for two reasons: (i) there were too many indicators, thus scattering the focus of what was more important to measure, and (ii) most of the chosen indicators were not ‘impact’ indicators. In consultation with QK, it was then decided to streamline the result framework by (i) reducing the number of indicators (from 8 to 5), and (ii) define a new set of indicators against which to measure the progress and achievements of the project. The revision of the indicators was one of the actions taken in the restructuring proposed at MTR, and approved by the Vice President (VP) of the Africa Region (ref. par. 22). Revised indicators were included in the amended Grant Agreement.

1.4 Main Beneficiaries

15. According to the PAD, the project was expected to benefit people at three different levels:

- People at local/community level, who would benefit from improved biodiversity management and from sustainability of threatened natural and agro-biological resources. The project worked with over 76 forest fringe communities, providing training and support to develop alternative livelihood activities;
- People at regional and national level, who would benefit from the improved use of savanna resources and their direct or indirect contribution to the national economy. Specifically the project worked with Ministry of Lands Forestry and Mines (MLFM), Ministry of Food and Agriculture (MOFA), Ministry of Health (MOH), Ministry of Local Government and Rural Development (MLGRD), Ministry of Environment and Science (MES), and District Assemblies. These institutions benefited from capacity building support, in the form of trainings and equipment. In addition, three international and several national NGOs (e.g. IUCN, Tree Aid) were able to expand their programs thanks to partnership arrangements for the implementation of the project. Finally, research institutions and academia, such as the University of Development Studies (UDS) in Tamale and the Savanna Agricultural Research Institute (SARI) benefited from the project.
- People at global level, who would benefit from the conservation of the Ghana’s Northern Savanna ecosystems and biodiversity (including medicinal plants), whose uniqueness has a global value.

1.5 Original Components

16. The project was originally designed with the following four components (details on the activities supported under each component are reported in Annex 10):

- (a) **Formulation of a Policy Framework.** This component was aimed at improving the policy framework for biodiversity conservation.
- (b) **Capacity Building and Awareness Raising.** This component was aimed at strengthening the capacity of key government and non-governmental stakeholders in sustainable biodiversity conservation and management and at raising awareness on natural resources and biodiversity conservation throughout the northern savanna zone.
- (c) **Biodiversity Conservation, Research and Development.** This component was aimed at improving biodiversity conservation and management in selected areas in the northern savanna zone.
- (d) **Project Management, Monitoring and Evaluation.** This component was aimed at establishing a project management unit and strengthening the SRMC, which was responsible for supervising and monitoring the implementation of the project.

1.6 Revised Components

17. At MTR, project components were reorganized and renamed as follow:

1. Policy Framework Establishment	
1.1 Indigenous Knowledge Policies	1.1.1 Policies and Guidelines Related to Medicinal Plants and Bioprospecting
	1.1.2 A report to Support National Implementation of International PGR Treaty
	1.1.3 Consultation and Dissemination Activities
1.2 Support to National Biodiversity Strategy and Action Plan (NBSAP)	1.2.1 Paper on Policy Issues Related to Savanna Natural Resource Management
	1.2.2 Development of Savanna Biodiversity Strategy and Action Plan
	1.2.3 Development of National Biodiversity Action Plan
	1.2.4 Consultation, Dissemination and Follow-up on Policy Papers
2. Capacity Building and Awareness Creation	
2.1 Herbarium Establishment	2.1.1 Provision of Equipment
	2.1.2 Communication and Training
2.2 Biological Information System	2.2.1 Database Inventory
	2.2.2 Database Conversion Strategy and Training
	2.2.3 Database Conversion
	2.2.4 GIS Products

2.3 Implementing Agencies	2.3.1 Support to FSD 2.3.2 Support to TAMD 2.3.3 Support to SRMC 2.3.4 Support to WD 2.3.5 Support to EPA 2.3.6 Support to MOFA 2.3.7 Support to MFLM 2.3.8 Support to District Assemblies (in corridors)
2.4 Communication Program	2.4.1 Institutional Communication 2.4.2 Beneficiary Assessment and Communication Strategy Framework 2.4.3 Implementation of Strategy through NGOs and Civil Society 2.4.4 Community Fora / School Clubs
3. Biodiversity Conservation and Sustainable Livelihoods	
3.1 Conservation of Corridors	3.1.1 Corridor Definition 3.1.2 Wildlife Parks 3.1.3 Forest Reserves 3.1.4 Areas Outside of PAs and FRs (sign posting, ranger stations, vigilance)
3.2 Sustainable Livelihoods	3.2.1 Community-Based Corridor NRM Initiatives (e.g., fire control, nurseries and tree planting) 3.2.2 Sustainable Livelihoods – Mangoes (and bees) 3.2.3 Sustainable Livelihoods – Low tillage, small ruminants 3.2.4 Community-Based Enterprise Development (e.g., ecotourism, NTFP, Indigenous Crops, medicinal plants, etc.)
3.3 Medicinal Plants Conservation	3.3.1 Establishment of Medicinal Plants Garden 3.3.2 Establishment of MP Healers Network 3.3.3 Assessment of Medicinal Plants use
3.4 Indigenous Crops Conservation	3.4.1 Farmer networks and in-situ conservation of ICs 3.4.2 Ex-situ conservation of ICs 3.4.3 Scientific research on ICs 3.4.4 Capacity building around ICs
4. Project Coordination and Management	
4.1 Project Coordination	4.1.1 Project Coordinating Unit (PCU) 4.1.2 PCU training
4.2 Monitoring and Evaluation	4.2.1 Support to Communities and IA on M&E 4.2.2 Support to Project M&E Secretariat

18. The original structure of the project was maintained (4 components, only slightly renamed to reflect the new content), but the sub-components and activities were significantly re-organized. Some activities were cancelled or reduced in scope, whereas other were added or expanded. For example:

- (a) The scope of component 1 (Policy Framework Establishment) was scaled down, and it was decided to concentrate the focus of the component on the development of a Savanna Biodiversity Strategy and Action Plan (instead of a National Biodiversity Strategy and Action Plan) and on the development of a policy on Indigenous Knowledge related to Plant Genetic Resource (instead of the development of broad policies on Intellectual Property Rights and Bio-safety).

- (b) In component 2 (Capacity Building and Awareness Raising), support to the establishment of a Herbarium was reduced to the minimum requirements to make it functional.
- (c) In component 3 (Biodiversity Conservation and Sustainable Livelihoods), support to Gbele Reserve was increased, and a new sub-component on support to sustainable livelihoods activities (e.g. establishment of mango orchards, bee-farming, low tillage and small ruminant farming, eco-tourism, etc.) was introduced. The choice to give more emphasis to sustainable livelihoods activities was used on the one hand to bring the project more in line with the stated PDO, and on the other hand as an entry point to actively engage communities in natural resource management and release their pressure on the reserves.

19. **Reasons for revising the components.** During MTR, it was agreed that the way the project activities were clustered and organized in the project document was confusing and lacked consistency. Several different classification and coding systems were used in the PAD, the Annual Operating Plan, the Procurement Plan, the Project CostTab, and the Annual Reports. This made it difficult to clearly identify a clear nexus between procurement/inputs, disbursement, project activities, and impact. For this reason, it was decided to reorganize the sub-components and cluster of activities as described in the table above. Changes were approved by the Regional VP (ref. par. 22 for more details)

1.7 Other significant changes

20. In addition to revision of indicators and components, there were four significant changes during project implementation:

- (a) **Geographical re-focus of interventions.** During MTR it was observed that the activities were too geographically scattered to have a significant impact. It was then agreed to reduce the geographical scope of the operation and to focus the interventions around the two identified biological corridors, i.e. the Western Corridor, from Nazinga in Burkina Faso to Mole NP via Gbele RR; and Eastern Corridor, along the Border with Togo. The project worked in protected areas, forest reserves, and agricultural lands, adopting a more ‘landscape’ approach to conservation and natural resource management.
- (b) **Shift in project approach to conservation and sustainable management of natural resources.** Recognizing the difficulties in achieving conservation objectives without linking them to sustainable livelihoods objectives, the project, after MTR, put a lot of emphasis on supporting sustainable livelihoods activities (e.g. establishment of mango orchards, bee-farming, low tillage and small ruminant farming, eco-tourism, etc.), bringing the project more in line with the specification of the PDO. A specific sub-component on sustainable livelihoods was introduced, and a significant amount of resources were reallocated to this sub-component. This choice represented quite a significant shift in the overall project approach to conservation and sustainable management of natural resources. The project adopted a more ‘integrated’ approach to natural resource management,

where the objectives of biodiversity and agro-biodiversity conservation, production of environmental services, improved livelihoods were jointly pursued.

- (c) **Budget allocation among components and budget categories.** During MTR, it was agreed that the cost of the activities had not been correctly estimated during project design, and therefore the budget allocation among the various categories did not reflect the actual financial needs. In addition, following the reorganization of activities and sub-components, budget allocation among components needed also to be corrected. It was therefore agreed to reallocate the resources among the various components and budget categories as summarized in the two tables below:

Components	Budget at project entry (US\$)	Revised budget at MTR (US\$)
1. Policy Framework Establishment	292,100	245,370 (-46,730)
2. Capacity Building and Awareness Creation	2,375,100	1,049,100 (-1,326,000)
3. Biodiversity Conservation and Sustainable Livelihoods	3,582,800	5,476,360 (+1,326,000)
4. Project Coordination and Management	1,350,000	885,760 (-464,240)

Category	Initial allocation (US\$)	Reallocation (US\$)	Justification
1. Goods, including vehicles	1,400,000	1,561,000 (+161,000)	Need for more tools (e.g. seeds, bicycles, etc.) was observed as communities around the Mole NP were included in the project.
2. Civil Works	400,000	936,000 (+536,000)	Costs for infrastructures/buildings proved to be higher than initially estimated.
3. Consultant Services, Training and Audits	3,550,000	2,617,000 (-933,000)	As, during implementation, the PCU relied a lot on Governmental officials for the implementation/supervision of project activities, less consultancy services were needed.
4. Incremental Operating Costs	1,650,000	1,866,000 (+216,000)	As an increasing number of agencies were engaged in the implementation of the project, costs for coordination proved to be higher than initially estimated.
5. Unallocated	600,000	620,000 (+20,000)	

- (d) **Extension of the closing date.** Because of the delays in the start-up of the project (grant was signed in April 2002, but delays in meeting the effectiveness condition caused effectiveness to be declared only in November 2002, and project activities started only in January 2003), and initial difficulties in implementing project activities (31% disbursement only at MTR), most of the project activities could not be completed by the project closing date. The project closing date was thus extended by one year (from February 08 to February 09).

21. **Approval of changes.** The changes agreed at MTR [i.e. (i) modification of performance indicators; (ii) narrowing down of geographical scope; (iii) recasting of project components with some activities reduced, some scaled-up and some added; and (iv) reallocation of the proceeds of the Grant] resulted in the amendment of the Grant Agreement (as referred to in par. 13 and 19) and were approved by the VP of the Africa Region¹. These changes did not have a negative impact on the outcomes of the project. On the contrary, as discussed in the following sections (2.1-2.2), they substantively contributed to improve the performance of the project.

2. KEY FACTORS AFFECTING IMPLEMENTATION AND OUTCOMES

2.1 Project Preparation, Design and Quality at Entry

22. **Factors that have positively affected the quality at entry.**

- (a) **The choice to decentralize project management where the project is implemented.** The choice to host the Project Coordination Unit (PCU) to the Savanna Resource Management Center (SRMC) in Tamale, the capital of the Northern Region, revealed itself to be a good choice for two reasons. First, actual project management (i.e. planning, supervision, monitoring) was located close to where the project was implemented. Second, the choice of the SRMC, an institution where technical staff from MOFA, EPA, MLGRD, and FC is seconded, facilitated the coordination among agencies that had overlapping mandates and complementary roles in biodiversity conservation and project implementation (each agency was in fact responsible for the implementation of a component or a set of sub-components).
- (b) **The importance given to the involvement of local communities in NRM and to awareness rising.** This approach, quite innovative at that time in Ghana, initially encountered resistance from the Government, but eventually was one of the key factors of success of the project.

¹ The restructuring was done before the new Restructuring Guidelines.

23. **Factors that have negatively affected the quality at entry.**
- (a) **The cancellation of the second phase of the Natural Resource Management Project APL (NRMP-II).** In the initial design, the NRMP-II was expected to provide the baseline for the Northern Savannah Biodiversity Conservation Project (NSBCP), while the NSBCP was supposed to cover the incremental costs linked to the biodiversity of global significance in a US\$ 28 million package. However, when it became clear that the NRMP-II would have not materialized, the scope of the NSBCP was not reduced accordingly, and the objectives of the NSBCP ended up being too ambitious for its resources (US\$ 7.6 million). As a result, project activities became too fragmented and spread-out, both geographically and thematically, and the impact of the project limited. The attempt to link the NSBCP with the Community Based Rural Development Project (CBRDP) to address this issue did not materialize.
 - (b) **The inadequate design of the M&E system** (ref. section 2.3). The selected indicators did not allow to properly monitoring progress towards the PDO/GEO; baseline and target values were not defined².
 - (c) **Limited use of existing lessons and experience in community-based conservation available in the Region.** Several examples and lessons on community-based NRM from similar projects were available in the Region, e.g. the Partnership for Natural Ecosystem Management project (PAGEN) in Burkina Faso, the Pilot Community-Based Natural Resources and Wildlife Management project (GEPRENAF) in Cote d'Ivoire and Burkina Faso, among other projects. However, it seems that during project design examples and lessons from these projects have not been taken sufficiently into account. For instance, the experience from GEPRENAF showed that project activities were too spread-out to have an impact. Adequate key performance indicators were selected in PAGEN. These lessons could have been used to improve the quality of the design of the NSBCP.
 - (d) **Non inclusion of single-source clause for IUCN in project document.** According to an initial plan, coordination of transboundary planning of biological corridors in Burkina Faso, Mali, Cote d'Ivoire, and Ghana was supposed to be granted to IUCN. This meant that all Bank's projects dealing with transboundary corridors in these four countries were supposed to contract IUCN for this activity. However, the single-source clause for contracting IUCN was not included in the procurement arrangements of the project document. For this reason, partnership with IUCN was delayed, and several activities that IUCN was supposed to carry out (e.g. baselines) were delivered late.

² In partial justification to the weak M&E at entry, it has to be said that at the time of project design (2002) less emphasis was given to the design of the indicators and M&E. The concepts of 'outcome' indicators (vs 'performance' indicators) and 'SMART' indicators (i.e. specific, measurable, achievable, relevant, and time-bound) were still not clearly institutionalized. Log-frames (rather than Result Frameworks) were the tools used for project design.

2.2 Implementation

24. **Factors that have positively contributed to project implementation.**

- (a) **Partnerships between the Government and CSOs/NGOs:** The strategic choice to work in partnership with several civil society organizations (CSOs) and non-governmental organizations (NGOs) (taking advantage of the comparative advantages of each of them) has probably contributed to effectively reach-out and support many rural communities. Public institutions could not in fact fully cover the northern savanna territory, and could not be expected to possess all the necessary expertise and resources to adequately back-up all the activities carried-out under the project.
- (b) **The decision at MTR to narrow-down the geographical focus of the project, and to concentrate the activities around the two biological corridors.** During MTR it was observed that the activities were too geographically scattered to have a significant impact. It was then decided to reduce the geographical scope of the operation and to focus the interventions around the two identified biological corridors, working at the same time on different landscapes, i.e. protected areas, forest reserves, and agricultural lands. By focusing the different typologies of interventions into a relatively limited geographical space, the project exploited the synergies among the different activities and maximizing their impact. As discussed in the section on Lessons Learnt (Section 6), this is considered an important factor that positively contributed to the implementation of the project, and an important lesson that could be replicated.
- (c) **The decision to reorganize and streamline the design of the M&E system.** During MTR, the M&E system was improved. 5 new indicators were adopted (ref. Section 1.3), and baselines and targets established. This provided an adequate reference for monitoring progress towards project objectives. Even though these indicators remained imperfect (ref. Section 2.3), the reformulation of the indicators at MTR represented a clear improvement compared to what was agreed at project entry and a commendable effort to address one of the major shortcomings of project design.

25. **Factors that have negatively affected project implementation.**

- (a) **Limited political weight of the SRMC to influence political decisions.** While the choice to locate the PCU in Tamale, closer to where the project was implemented, positively contributed to the successful implementation of most of the activities, the distance of the PCU from the capital had negative impact in terms of its capacity to exert political influence and lobby for its interests. It is probably for this reason that the objectives of Component 1 of the project (i.e. developing a policy framework for biodiversity conservation) were only partially achieved (ref. Annex 2 for details).

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

26. The M&E arrangements appear to be one of the weakest aspects of the project.
- (a) **Design.** The PDO and GEO were defined rather broadly (ref. Section 1.2), and not backed-up by adequate indicators. In general, it is not clear which indicators were chosen to measure progress towards the objectives, as the PAD reports three sets of different indicators (i.e. in Section A.2, in Annex 1 and in Annex 12). Most of the selected indicators were not ‘outcome’ indicators - some of them cannot even be considered indicators (e.g. ‘increased public awareness on biodiversity issues’, or ‘measurable reduction in poverty and improved health care and livelihood systems’). No baselines or target values were set. An alternative M&E system was designed by the PCU, but data were not collected until MTR.
 - (b) **Implementation and Utilization.** The weakness of the M&E was not detected until MTR. The MTR recognized that the existing M&E was not conducive to measure progress and achievements, and that most of the indicators were not outcome indicators. Consequently, various actions to correct and improve the weaknesses of the M&E arrangements were taken: a new set of indicators was adopted (ref. Section 1.3), baselines and target values for these indicators established, and, since then, progress was regularly assessed against this new set of indicators.

The reformulation of the indicators at MTR represented a clear improvement compared to what was agreed at project entry. Albeit not perfect (some of the new indicators continued to be ‘process’ rather than ‘outcome’ indicators), the new indicators were commonly accepted as acceptable proxies to assess project outcomes at the time of the MTR, and provided an adequate reference to assess the project outcomes.

27. **Note of caution.** In partial justification to the weak M&E of the project, it has to be said that at the time of project design (2002) less emphasis was given to the design of the indicators and M&E. The concepts of ‘outcome’ indicators (vs ‘performance’ indicators) and ‘SMART’ indicators (i.e. specific, measurable, achievable, relevant, and time-bound) were still not clearly institutionalized. Log-frames (rather than Result Frameworks) were the tools used for project design. Even if the indicators proposed at MTR would probably be considered inadequate for today’ standards, at the time of MTR they were commonly accepted as sufficiently good proxies to assess project outcomes.

2.4 Safeguard and Fiduciary Compliance

28. **Compliance with safeguards.** The project was categorized as a Category B project under the World Bank safeguard policies and guidelines. The safeguards policies triggered by the project were Environmental Assessment (OP 4.01) Pest Management (OP 4.09) and Involuntary Resettlement (OP 4.12).

- (a) **Environmental safeguards.** To comply with the environmental safeguards, an Environmental and Social Impact Assessment (ESIA) was prepared during project preparation. The ESIA was discussed and disclosed both in country and at the Bank's Infoshop in 2001. The ESIA includes an Environmental and Social Management Plan (ESMP), which outlines the necessary measures to mitigate adverse impact that could emerge during implementation. The ESMP looked at component activities, impact levels, mitigation measures and status of monitoring.
- (b) **Involuntary Resettlement.** The version of the World Bank's Involuntary Resettlement Policy that applied to this project was Operational Directive (OD) 4.30. The newer Operational Policy and Bank Procedures (OP/BP) 4.12 took effect on January 1, 2002 and applies only to projects for which the Project Concept Review meeting takes place on or after that date. The Concept Review for this project took place during 1999-2000³. Because OD 4.30 (rather than OP/BP 4.12) was in effect during the preparation of this project, a formal Resettlement Process Framework was not required, and none was prepared. Nonetheless, OD 4.30 was triggered because of the need to take into account the livelihoods of people living in the vicinity of project-supported protected areas, and mechanisms to address livelihood-related issues were reflected within the project's ESMP. No physical displacement of people was ever envisaged during NSBCP preparation, and none was needed to carry out the project's stated objectives.

During project implementation in 2006, Government proposed the resettlement of the Gbele village (234 people in 24 households), as part of the consolidation of the Gbele Resource Reserve (RR), one of the project-supported protected areas⁴. The role of the NSBCP consisted in supporting in 2007 an analysis of alternatives to determine the feasibility and costs of carrying out such a resettlement (see Gbele Resettlement Socio-economic Survey). A multi-stakeholder Resettlement Committee⁵ was established. It identified a potential site for resettling the entire Gbele village, and agreed with local chiefs on the release of the entire land parcel needed to resettle this community. Following extensive stakeholder consultation, the Gbele community as a whole had fully agreed to the proposed resettlement, which Government considers to be voluntary in nature⁶. However, no Resettlement Action Plan had been prepared during the project, since this activity

³ The February 13, 2002 version of the PAD (page 30) erroneously mentions OP/BP 4.12 (rather than OD 4.30) as applying to this project.

⁴ Based on the Management Plan of the Gbele Resource Reserve, successful resettlement of the Gbele village out of the reserve would reduce the pressures on natural resources within this protected area, thereby improving the prospects for its long-term sustainable management.

⁵ Comprising, among other institutions, the Wildlife Department, the Forestry Department, the District Assembly, the Department of Social Welfare and Community Development, and representatives of the divisional and paramount chiefs of the area.

⁶ It is understood that the resettlement, if it were carried out with Bank support, might well be presumptively treated as if it were involuntary, since some households might conceivably have different preferences from the community as a whole.

was not planned as a part of the NSBCP and only arose as a possible follow-up action late during project implementation, and no budget had been allocated to finance it. Government might decide to proceed with this proposed resettlement in the near future, provided that it can mobilize the needed financial support from its national budget. If the resettlement were to proceed, the Government (MLNR) would take responsibility for the construction of houses and other civil works, as well as any compensation payments due to the community. If such resettlement were to be incorporated within any future Bank-supported operation, it would need to be carried out in accordance with OP/BP 4.12.

Based on the above, we can conclude that the Bank complied with its Involuntary Resettlement Policy, both during project design and implementation. There is no legacy or obligation for the Bank in relation to a possible resettlement of the Gbele community after the project closure.

29. **Fiduciary compliance.**

- (a) **Quality and compliance to procurement rules.** The quality and compliance to procurement is satisfactory. Project preparation involved qualified procurement specialists who provided qualitative inputs. The design of the procurement scope, procedures, review thresholds and frequency of supervision was based on analysis of Country Procurement Assessment, Country Performance Portfolio Review, procurement capacity assessment of the Ministry of Land and Forestry and NBCP Project Management Team. Lessons from previous programmes were incorporated and major risks and mitigation measures were identified. Trainings for the MLF procurement Unit and the NBCP Project Management Team were conducted to ensure adequate capacity for efficient procurement management. Procurement aspects were carefully monitored during supervision. Even though procurement performance was unsatisfactory until MTR (mainly because of poor procurement planning, the lack of procurement focal person at the PCU and cumbersome procedures for approvals), performance improved after MTR thanks to the recommendations made during the Review, and stabilized on ‘satisfactory’ until the end of the project.
- (b) **Factors that affected the quality of procurement during project implementation.** Among the factors that affected the quality of procurement, it is important to mention the weak coordination between the Project Management Unit (PMU) and the Procurement Unit. Although the overall responsibility for project administration, including procurement, rested on the PMU in Tamale, procurement management was vested in the Procurement Unit (PU) of MLF in Accra, according to the existing practice in Ghana. Coordination between the PMU and the PU was weak and this caused several delays in implementing procurement.
- (c) **Efficiency.** In several cases, goods could be purchased by the Ministry’s ‘procurement hub’ at a very low price, as similar items for different projects were purchased together through big contracts using competitive bidding. Assessment of cost of items procured through lower procurement methods (e.g shopping) was found to be reasonable. As far as contract management is concerned, few

shortcomings were observed. Protracted delays in payment for goods and service delivered were rampant due to slow processing of invoices. In the case of works contracts, delays of up to over six months, amounting to over 45% time overruns have been encountered, with the main reason being delay in payment.

2.5 Post-completion Operation/Next Phase

30. **Next phase.** Beside a small GEF Medium-Size Project (US\$ 1 million) (see below), a large Bank-funded second phase or follow-on project specifically on biodiversity conservation is not immediately planned. As discussed in Section 4, in several cases the awareness created, the capacity built, and the foundations for the community enterprises that have been established during the project would be sufficient to ensure the sustainability of the outcomes. In many other cases, however, additional support to consolidate and capitalize the achievements of the project will be necessary. Possible sources of support that could help consolidating the achievements of the project would include:

- (a) **CSOs/NGOs:** Several organizations that have, in various forms, collaborated and contributed to the project (e.g. SNV, Tree Aid, IUCN, RUMNET, etc.) will likely continue their support beyond the end of the project with other resources than the NSBCP's. Their support would possibly help to achieve sustainability of some of the outcomes of the project.
- (b) **Government's own budget/ Natural Resources and Environmental Governance (NREG) DPO:** Several activities that would guarantee long-term sustainability of the outcomes of the project could in theory be directly supported by the Government with its own budget. The likely increase in the Government's budget for natural resource management due to the budget support of the NREG DPO could possibly contribute to this. However, whether additional funds for natural resource management will be allocated to sustain the achievements of this project will ultimately depend on the Government's commitment to use these resources for this purpose vis-à-vis other priorities.
- (c) **GEF Medium-Size Project (MSP) for Landscape Management and Biodiversity:** A proposal for a MSP (US\$ 1 million) was submitted to GEF in December 2008 and approved. This proposal aims at supporting the implementation of the management plan of the Gbele Reserve, and of the management plans of the two corridors. While it would be important to guarantee an immediate follow-up to some of the activities of the NSBCP, these resources could only contribute to support some of the achievements of the project.

31. **Possible (alternative) way forward.** Although a specific Bank project on biodiversity conservation is not in the pipeline, there are various, non-exclusive, options to capitalize the lessons and results of this project into other Bank operations (Annex 11 describes how lessons from the project may have application in the wider context of sustainable development of the Northern Region):

- (a) **Mainstreaming the approach in rural development initiatives in the North:** The NSBCP has developed and tested an approach in Northern Ghana that, if

implemented in a defined space, could probably deliver significant results in terms of better NRM and sustainable livelihoods. This approach - characterized by Government-NGOs partnerships, inter-institutional cooperation, involvement and empowerment of communities in NRM, a set of different activities to stimulate better NRM specifically tailored to the characteristics and assets of the different communities, spatial planning, etc., could be adapted and replicated to different interventions in the field of rural development in the North (e.g. natural resource-based SafetyNets, community management of common resources to mitigate the risks/effects of natural hazards, sustainable land management, etc).

- (b) **Promoting a NRM-based tourism growth in North-Western Ghana:** The Northern Development Strategy and the Government's Manifesto for a better Ghana - among other policy strategies and action plans - identify tourism (including natural-based tourism) as a possible driver for economic growth in Northern Ghana. Achievements and lessons from the NSBCP set the foundations for a potential 'growth pole' in the North-West of Ghana based on tourism, in which Mole National Park would represent the central attraction, and Gbele Reserve, Bui National Park, and the South-Nazinga/Western Corridor the satellite attractions. The main products under this package would include nature-based tourism (e.g. eco-tourism, safari hunting), cultural tourism, and recreational tourism. To develop this vision, a relatively limited set of investments, including infrastructure development (e.g. roads, dams, offices, visitor centers), private sector development (e.g. brokerage), natural resource-based community enterprise development, and resource management in protected areas would be needed.

3. ASSESSMENT OF OUTCOMES

3.1 Relevance of Objectives, Design and Implementation

32. The project objectives remain relevant to the current country and Bank's assistance strategy, particularly in relation to their potential to support economic growth.

33. **Relevance to existing country strategies.**

- (a) **Growth and Poverty Reduction Strategy II (GPRS-II).** The country's main development strategy (2005-09) identifies degradation of the nation's forests; depletion of biomass; inefficient use and management of natural resources; inequality in sharing the benefits from natural resources, as some of the issues that affect economic growth, and sets 'restoration of degraded environment and natural resource management' as one of the key areas of focus. Among the strategies that the GPRS-II outlines to support this development objective: to ensure the involvement of communities in sustainable land, forest and wildlife resources; to promote integrated ecosystem management; and to develop multi-agency approaches to enhance NRM. Development of sustainable eco-tourism is also mentioned as a strategy to develop the tourism sector.

- (b) **Northern Development Strategy.** The Sustainable Development Initiative for Northern Ghana - or Northern Development Initiative (NDI) (2009-25) - sets the vision of a ‘forested North’ as the long-term vision for the northern regions. The Strategy recognizes: (i) the need for households to diversify their sources of income; (ii) sustainable land and water management as one of the key strategies to increase agricultural productivity; and (iii) the role that tourism (including eco-tourism) can play in sustaining economic growth in the regions. The Strategy also recognizes that the destruction of natural reserves and game-hunting (particularly in the precincts of the Mole NP and Gbele RR) have affected the ability of the North to offer viable eco-tourism potentials, and implicitly suggests that addressing this issue may contribute to economic growth in the North.
 - (c) **Manifesto for a better Ghana.** The Manifesto for a better Ghana, the political roadmap of the new Government that was elected in December 2008, sets “Reinforce protection and management of National Parks and other wildlife protected areas to sustain biodiversity [...] and eco-tourism” as one of the key objectives for the Government under the Economy pillar.
34. **Relevance to current Bank’s Country Assistance Strategy (CAS).** The current CAS (FY08-11) recognizes that the cost of depletion of natural resources (including forests and wildlife) in Ghana is reducing the potential for economic growth of the country by about 1% of the GDP. Sustainable natural resource management is one of the areas of Bank’ support under pillar 1 of the CAS - Enhance the Competitiveness of the Private Sector.

3.2 Achievement of Global Environmental Objectives

35. The assessment of the extent to which the operation’s objectives were achieved should take into consideration the fact that the PDO/GEO, while appropriate, were defined rather broadly. According to the ICR Guidelines, “... whenever the stated PDO/GEO are broad and/or vaguely worded [...] intended objectives [need to be] inferred [...] from key associated outcome targets”⁷.

36. Consistent with the approach recommended by the ICR Guidelines, the ICR team built its assessment by (i) outlining the logical linkage between key indicators (as revised at MTR) and project objectives (ref. Table 1 below), and (ii) complementing the observation and assessment of the extent to which the key performance indicators were achieved, with a qualitative and quantitative assessment of the outputs delivered under the project (ref. Table 2 below and Annex 2). Based on the above, the ICR team is of the opinion that the achievement of the project objectives can be considered overall *satisfactory*.

37. A more qualitative assessment of the achievement of the project objectives is reported in par. 38.

⁷ OPCS (August 2006, updated on 1/18/2007), *Implementation Completion and Results Report - Guidelines*, pg. 22.

Table 1 - Logical linkage between performance indicators and project objectives

Key performance indicators	Causal relationship between performance indicator and outcomes	Project objective related to performance indicator
<p>1. Policy issues considered critical in the forthcoming Savanna Biodiversity Policy by policy makers that recognize their importance by including potential solutions in their long-term policy planning, as reflected in interviews to be conducted</p>	<ul style="list-style-type: none"> - Increased awareness of policy makers on and inclusion of conservation and NRM considerations in policies, strategies and action plans at local level would likely lead to an improvement in the conservation and management of natural resources 	<p>To improve the <i>environment</i>⁸ of communities in the Northern Savanna zone</p> <p>To <i>conserve</i> key components of biodiversity in the Northern Savanna zone</p>
<p>2. In IAs, by the end of the project, number of higher-level staff knowledgeable on Savanna NRM issues has increased from the beginning of project</p>	<ul style="list-style-type: none"> - Improved Government’s capacity in NRM would lead to better capacity in Governmental officials to identify key issues in NRM, define better actions to promote sustainable NRM, monitor and technically back-up proposed activities, which eventually lead to an improvement in the conservation and management of natural resources 	<p>To improve the <i>environment</i> of communities in the Northern Savanna zone</p> <p>To <i>identify, monitor and conserve</i> key components of biodiversity in the Northern Savanna zone</p>
<p>3. Management effectiveness of Gbele National Park and forest reserves (those targeted for management under the project) has increased from baseline value as measured by WB/WWF PAs Scorecard</p>	<ul style="list-style-type: none"> - The WB/WWF PA is a commonly used and internationally recognized proxy for measuring the management effectiveness in protected areas. Improved management of protected areas would lead to improved natural habitats and healthier ecosystems, and thus improved conservation of natural resources 	<p>To improve the <i>environment</i> of communities in the Northern Savanna zone</p> <p>To <i>conserve</i> key components of biodiversity in the Northern Savanna zone</p>
<p>4. Conservation-friendly livelihood NRM schemes supported by project have increased income/family by 20% in target families by end of project (taking into account income generating potential and assets)</p>	<ul style="list-style-type: none"> - Reduced dependence of local communities on natural resources for their livelihoods thanks to alternative livelihoods scheme and/or improved management of natural resources thanks to conservation-friendly NRM schemes will decrease the pressure of communities on NR, thus improving the quality and health of the surrounding natural resources - Increased income thanks to additional livelihoods schemes will guarantee better access to food and health facilities, thus contributing to improve the health of communities 	<p>To improve the <i>livelihoods, health</i> and the <i>environment</i> of communities in the Northern Savanna zone</p>

⁸ Environment here interpreted as ‘natural resources available to a community’.

5. Number of communities cultivating one-acre plots of indigenous crops/varieties or with medicinal plant plots over a period of at least three years (and thus viable independent of project financing)	<ul style="list-style-type: none"> - Rediscovery and utilization of varieties of indigenous crops has a value in terms of agro-biodiversity, beside offering potential source of income and food in drought periods - Farming of medicinal plants may lead to “domestication” of wild plants with potential for market (thus source of income) and/or better accessibility 	<p>To improve the <i>livelihoods</i> and <i>health</i> of communities in the Northern Savanna zone</p> <p>To <i>identify, monitor</i> and <i>conserve</i> key components of biodiversity in the Northern Savanna zone</p>
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Table 2 - Assessment of the extent to which performance indicators have been achieved

Key performance indicators	Baseline	Target	Achievements	Assessment ⁹
1. Policy issues considered critical in the forthcoming Savanna Biodiversity Policy by policy makers that recognize their importance by including potential solutions in their long-term policy planning, as reflected in interviews to be conducted	0	At least 12 district and 3 regional planning/policy makers pronouncements on the 5 policy issues considered critical to the NBSAP	15 districts and 5 policy makers made reference to the SBSAP and Indigenous Knowledge Policy Paper	<i>Moderately Satisfactory</i> ¹⁰
2. In IAs, by the end of the project, number of higher-level staff knowledgeable on Savanna NRM issues has increased from the beginning of project	8	95 high level staff trained	127 trained	<i>Satisfactory</i> ¹¹

⁹ The assessment takes into consideration whether the set targets have been achieved, and not whether the outcomes of the project are sustainable. Sustainability of the project outcomes is discussed in Section 4.

¹⁰ Even though the target for this indicator has been achieved, the ICR team is of the opinion that this indicator was intended to measure a broader policy impact. With this understanding, the ICR team believes that this indicator was only partially achieved. Out of the intended activities to support of the establishment of a Policy Framework for biodiversity conservation (e.g. development of a Savanna Biodiversity Strategy and Action Plan, development of a National Biodiversity Action Plan, etc. - ref. Section 1.6), only a background paper on Savanna NRM issues has been delivered.

¹¹ The Beneficiary Assessment (ref. Section 3.6) reports that between 70-80% of the staff who attended these training activities considered its capacity improved. In addition, a herbarium was established at the University of Development Studies in Tamale, and various educational and public awareness raising activities implemented during the project (ref. Annex 2).

3. Management effectiveness of Gbele National Park and forest reserves (those targeted for management under the project) has increased from baseline value as measured by WB/WWF PAs Scorecard	Gbele RR: 37% ¹² Mole NP: 64% Mawbia FR: 40% Kulpawn FR: 34% Ambalara FR: 35% Kenikeni FR: 56% Sinsabligbini FR: 51%	Management Effectiveness score value higher than baseline	Gbele RR: 77% Mole NP: 75% Mawbia FR: 70% Kulpawn FR: 68% Ambalara FR: 69% Kenikeni FR: 68 Sinsabligbini FR: 71%	<i>Satisfactory</i> ¹³
4. Conservation-friendly livelihood NRM schemes supported by project have increased income/family by 20% in target families by end of project (taking into account income generating potential and assets)	GHc35/year (annual family income)	GHc42/year (annual family income)	Family annual income increased to GHc47/year ¹⁴ 850 farm-families benefiting from mango plantation Over 1300 farm families benefiting from alternative livelihood schemes (particularly from new beehives that have started yielding honey)	<i>Satisfactory</i> ¹⁵
5. Number of communities cultivating one-acre plots of indigenous crops/varieties or with medicinal plant plots over a period of at least three years (and thus viable independent of project financing)	4 communities (10 farmers) with indigenous crops cultivations. Zero acres of medicinal plants planted.	20 communities with indigenous crops communities (50 acres) for medicinal plants	45 communities cultivating 50 acres of indigenous crops.	<i>Satisfactory</i>

¹² Management Effectiveness values are incorrectly reported as percentages. In fact these values have to be read as absolute numbers.

¹³ The project in addition established two biological corridors, Corridor-Community Resource Management Committees (CORMCOs) in 20 communities, Community Resource Management Committees (CORMACs) in 27 communities, Forest Management Committees in 28 communities (see Annex 2).

¹⁴ Nominal.

¹⁵ The ICR team is aware the increase in income may not necessarily be directly and only attributed to the project, and that an impact evaluation would be needed to determine the actual attribution of the project to this outcome. However, for the sake of this exercise, the team here simply looked at the extent of which the approved indicators were achieved, complementing this information with a qualitative assessment of the outputs delivered (see Annex 2). In this case, the team considered that several community-based natural-resource based livelihood activities supported by the project (e.g. mango plantations, bee-farming, eco-tourism, etc.), though not yet fully profitable, have the potential to (and will likely) become profitable in the coming years. For this reason a 'satisfactory' rating was given.

38. **Qualitative assessment of the achievements of project objectives.** In addition to the above assessment, the ICR team was requested to provide a more qualitative assessment of the project achievements. By cross-referencing the field information with the information producing during implementation, the ICR team believes that the project produced *reasonable* (i.e. satisfactory) outcomes. Mango plantations for market exports, production of shea-nut and shea butter, community-based eco-tourism have improved or have the potential to improve the *livelihoods* of the communities targeted by the project. Better fire management and better surveillance of illegal activities in some areas have led to local improvements in the *environment*¹⁶ of the communities (e.g. better range of livestock, more small game for hunters, lesser distance to collect firewood). Finally, the wildlife baseline survey carried-out in corridors, the increased knowledge of indigenous crops, the establishment of the herbarium, the ex-situ storage and in-situ cultivation of germplasm, and the increased effectiveness in the management of Mole NP, Gbele RR, South Nazinga and 5 Forest Reserves have contributed to *identify, monitor, and conserve* key components¹⁷ of biodiversity.

3.3 Efficiency

39. An Economic and Financial Analysis was not conducted at the end of the project, and the Government's ICR does not include an assessment of the cost-effectiveness of the project. The ICR team analyzed the business plans of the Mongori Eco-Village and of the ITFC (Integrated Tamale Fruit Company, the agro-business company that commercializes organic mango in Northern Ghana). Both business plans estimated an increase in the business volume and net profits, suggesting that that costs for the start up of these activities (eco-tourism in the Mongori village and organic mango plantations) have been recovered, and these activities are profitable. However, generalizing these results to all the activities supported by the project is not possible.

40. As standard procedure for GEF projects, an Incremental Cost Analysis (to demonstrate the incremental global environmental benefits of the project) and not an Economic Analysis was carried out during project preparation. However, to demonstrate financial profitability of certain activities supported by the project (i.e. agro-forestry with cash tree crops such as mango and cashew), a financial analysis was made. Two farm models were developed comparing three scenarios: 'business as usual' and 'agro-forestry with cash tree crops' (one with mango and one with cashew). The Net Present Value (NPV) for the mango model was 1.57 million cedis, with an Internal Rate of Return (IRR) of 93%. The NPV for cashew model was 80,000 cedis, with an IRR of 52%.

¹⁶ here interpreted as availability of natural resources.

¹⁷ 'Component' interpreted as 'biodiversity of global value'.

3.4 Justification of Overall Outcome Rating

Rating: *Satisfactory*

41. Overall outcome rating is an average of the ratings given to (a) relevance of objectives/design; (b) achievement of development objectives; and (c) efficiency.

- (a) **Relevance of objectives/design (Section 3.1): Satisfactory.** Project objectives remain relevant to the current country and Bank's assistance strategy, particularly in relation to their potential to support economic growth.
- (b) **Achievement of development objectives (Section 3.2): Satisfactory.** As per ICR Guidelines, where the stated PDO/GEO are so broad and/or vaguely worded as to preclude any meaningful evaluation, intended objectives should be inferred from key associated outcome targets. As shown in Table 2 above, targets set for the indicators used to measure project objectives were achieved. A qualitative 'expert' assessment of the project achievements suggests that the project produced *reasonable* (i.e. satisfactory) outcomes.
- (c) **Efficiency (Section 3.3): Satisfactory.** An Economic and Financial Analysis was not conducted at the end of the project, and the Government's ICR does not include an assessment of the cost-effectiveness of the project. However, the financial analysis made during project preparation and the business plans of certain activities supported by the project suggest show the profitability of these activities.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

42. Not available.

(b) Institutional Change/Strengthening

43. The project definitively contributed to raise the profile of the governmental institutions involved in management of the savanna's natural resources (e.g. Forestry Commission, EPA, etc.). In this regard, the choice of the various implementing agencies to second their technical staff to the Savanna Resource Management Center ended up representing an excellent model for project implementation. Because of the multi-sectoral and cross-sectoral nature of this project, the idea of creating a venue up where institutions with overlapping roles and mandates as far as management of natural resources in the savanna zone could collaborate and coordinate their activities and maximize their synergies offered a workable model that could be replicated in the future in projects of multi-sectoral nature. However, the long-term sustainability of this institution is unclear. It seems in fact that cross-sectoral coordination and cooperation can be fostered only where a project acts as catalyst. In the case of the NSBCP, seconded staff from various institutions has been called back to their mother institution at the end of the project.

(c) **Other Unintended Outcomes and Impacts**

44. Two positive unintended outcomes were observed:

- (a) **Political profile of management of transboundary natural resources increased.** The project definitively contributed to increasing the political profile of management of transboundary natural resources, as demonstrated by the creation of biological corridors, use of territorial plans, and the signature of a Memorandum of Understanding between Burkina Faso and Ghana for the management of the Nazinga-Mole corridor.
- (b) **Collaboration between Ghanaian and Burkinabe communities along biological corridors strengthened.** Community members became more aware of the common challenges and on the need to collaborate on the management of common (transboundary) natural resources.

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

45. An independent Beneficiary Assessment was carried out to: (a) assess the perception of beneficiaries on their participation to and impact of the project, (b) document relevant behavioral changes attributable to project activities in the beneficiaries, and (c) identify key lessons in order to improve community-based natural resource management approaches. The results of the Assessment were presented and discussed during a Validation Workshop in October 2008.

46. **Major findings.**

- (a) **Beneficiaries' perception on impact of the project.** The impact of the NSBCP was considered remarkably high by beneficiaries. High levels of both awareness and adoption of conservation and sustainable use of natural resources were recorded among communities. Current awareness level of biodiversity conservation and sustainable use of resources among communities is about 76% with adoption rates of around 65% on the average. Positive impact on the livelihoods and income of communities was also perceived, mainly thanks to increased crop yields due to improved soil fertility, reduction of bushfires, and start-up of commercial mango plantations, and to the development of eco-tourism. Finally, improved health among communities in the northern savanna was perceived thanks to improved accessibility of indigenous medicinal plants.
- (b) **Beneficiaries' perception on effectiveness of project activities.** High level of participation from both institutions and communities to project activities was observed. Participation from staff of the key implementing institutions to training activities was rated very high (80%), and between 70-80% of the staff who attended these training activities considered its capacity improved. In addition, training activities generally resulted in improved motivation. Resources provided to implementing agencies through the project (e.g. vehicles, office and field equipment, etc.) were perceived by staff of those agencies as having improved the effectiveness of their work (70%), as well as the institutions' visibility. High effectiveness (80%) of the activities from which communities benefited (e.g. awareness creation activities) was also perceived by communities.

47. A more detailed summary of the Beneficiary Assessment, including key lessons learnt, is reported in Annexes 5 and 6.

48. **Note of caution.** The ICR team is of the opinion that the results of the Assessment should be considered with caution. Comparing the assessment of beneficiaries with the assessment of the team made during the completion mission, the ICR team had the perception that the beneficiaries’ assessment of project impact could be biased towards high. At the same time, the ICR team recognizes that a possible over-rating of the project outcomes from the beneficiaries may be due to the very low baseline that beneficiaries experienced.

4. ASSESSMENT OF RISK TO DEVELOPMENT OUTCOME

Rating: *Significant*

49. It is extremely difficult to make general statements on whether the outcomes of this project will be maintained over time. As the project was characterized by several different activities, the sustainability of the outcomes of the project critically depends on the specific conditions and circumstances in which the project activities were implemented.

50. In general, if long-term sustainability of the outcomes mainly depends on three factors, i.e. (a) the capacity of community natural resource-based enterprises to become profitable; (b) the likelihood of communities’ involvement in the management of natural resources generated by the project to be maintained over time; and (c) likelihood that resources leveraged/mobilized through the project would guarantee support to project activities beyond the life of the project - our assessment of the risks of development outcomes can be summarized as follows:

Criteria	Assessment	Sustainability Risk* (* Low or Negligible, Moderate, Significant, High)
(a) The capacity of the community natural-resource-based enterprises that have been established during the project to become profitable	<p>In some cases the community-enterprises established during the project have become or are likely to become profitable in the coming years. For instance, though not yet profitable, most of the mango plantations are likely to become profitable, according to the ITFC Business Plan. Similarly, according to the Mongori Eco-Village Business Plan, eco-tourism activities are likely to become profitable.</p> <p>In many other cases, additional support is necessary to consolidate and capitalize the achievements of the project. Without such support, the achievements of the project will not be maintained over time.</p>	<i>Significant</i>

(b) Likelihood of communities' involvement in the management of natural resources generated by the project to be maintained over time	Communities' involvement in natural resource management (NRM) has increased with the formal establishment of Community Resource Management Committees (CORMACs) and Community Resource Management Areas (CREMA) around Mole National Park and Gbele Resource Reserve.	<i>Moderate/Significant</i> ¹⁸
(c) Likelihood that resources leveraged/mobilized through the project would guarantee support to project activities beyond the life of the project	<p>Several organizations that have, in various forms, collaborated and contributed to the project (e.g. SNV, Tree Aid, IUCN, RUMNET, etc.) will likely continue their support beyond the end of the project with other resources than the NSBCP's. Their support would possibly help to achieve sustainability of some of the outcomes of the project¹⁹.</p> <p>Several activities that would guarantee long-term sustainability of the outcomes of the project could be directly supported by the Government with its own budget. The likely increase in the Government's budget for the natural resource management due to the budget support of the NREG DPO could possibly contribute to this. However, whether the additional funds for natural resource management will be allocated to sustain the achievements of this project will ultimately depend on the Government's commitment to use these resources for this purpose vis-à-vis other priorities.</p>	<i>Moderate</i>

¹⁸ The ICR team noted that in all those cases in which the involvement of communities into NRM has been created through alternative livelihood activities whose link to conservation of natural resources is not direct (e.g. mango plantations), there is an inherent risks that conservation outcomes are not sustainable. The issue here is whether the objectives of biodiversity conservation of this project should be 'strictly' interpreted as conservation of protected areas and reserves, or more broadly as conservation of landscapes. In the former case, the ICR team's concern seems appropriate, as alternative livelihoods with no direct link to conservation of natural resources seem not to provide enough strong incentives to individuals not to continue or return to unsustainable use of resources. In the latter case, increased vegetation cover thanks to (commercial) plantations may have actually contributed to improve the overall status of natural resources at landscape/corridor level.

¹⁹ One of the activities for which sustainability will critically depend on the immediate availability of resources is the implementation of the Gbele Reserve Management Plan. A proposal for a MSP (US\$ 1 million) was submitted to GEF and approved.

5. ASSESSMENT OF BANK AND BORROWER PERFORMANCE

5.1 Bank

(a) Bank Performance in Ensuring Quality at Entry

Rating: *Moderately Satisfactory*

51. There are a few critical shortcomings in the project design that have negatively affected the implementation of the project, and that have been rectified only during project implementation: (i) Indicators were inappropriate, M&E arrangements weak, and no initial baselines and targets were initially set; (ii) Project activities were too scattered, both geographically and thematically; (iii) the scope of the operation was not reduced once it became clear during preparation that the baseline project (NRMP-II) would not have been approved. However, the project design contained also several positive elements: the design was relevant and consistent to the country and Bank' strategies. It in addition included various elements that were innovative and proved to be successful (e.g. the implementation arrangements, partnership arrangements, etc.). In partial justification to the weak M&E at entry, it has in addition to be said that at the time of project design (2002) less emphasis was given to the design of the indicators and M&E. The concepts of 'outcome' indicators (vs 'performance' indicators) and 'SMART' indicators were still not clearly institutionalized. For these reasons, MS seems appropriate.

(b) Quality of Supervision

Rating: *Satisfactory*

52. Despite in the first few years the project team had to face some difficulties in implementation, as reflected by slow progress in procurement and project activities and low disbursement percentages, the team progressively managed to bring the project back on track, as demonstrated by ISRs ratings which moved from initial U/MU in the first years of implementation to MS/S until the end of the project. Particularly the team needs to be praised for recognizing some of the bottlenecks that affected the implementation of the project at MTR, and for taking a series of measures to refocus and reorganize the project. Project activities were in fact thematically reorganized to give more emphasis to the livelihoods of the communities (thus bringing the project activities more in line with the PDO), and geographically narrowed down. Indicators were reduced in number and revised. Evidence shows that the overall project implementation benefited from these measures. Disbursement improved, and, as mentioned above, overall implementation quality stabilized back to MS and S ratings. Another element that is worth mentioning, the Bank team facilitated the linkages between the NSBCP team and the project team of PAGEN, in Burkina Faso. A few joint missions were conducted. This helped exchange of experiences and ideas between the two Bank and Government' teams. An assessment on the quality of procurement is summarized in Section 2.4.

(c) Justification of Rating for Overall Bank Performance

Rating: *Moderately Satisfactory*

5.2 Borrower

(a) Government Performance

Rating: *Satisfactory*

53. Government performance is rated satisfactory. The Government demonstrated ownership and commitment in supporting the implementation of the project, as demonstrated by the release of counterpart funds (which actually were increased from the initially committed US\$ 139,550 to the eventually released 293,362.83), active participation during supervision, and lead role in the discussion and implementation of the voluntary resettlement of Gbele community. It is however to be noted the delays in developing the National Biodiversity Strategy and Action Plan, and the fact that the Savanna Biodiversity Strategy and Action Plan has not yet been approved.

(b) Implementing Agency or Agencies Performance

Rating: *Satisfactory*

54. Performance of the Implementing Agency is rated satisfactory. Beside compliance with credit agreements and financial management, two aspects in the implementation of the project deserve special praise. First, the active involvement of different governmental agencies with a mandate in biodiversity conservation in project implementation. MOFA, EPA, MLGRD and the FC seconded technical staff to the SRMC. Each seconded staff person was responsible for supervising the implementation of a sub-set of activities. Second, the recognition that governmental agencies did not have the (technical, human, and financial) capacity to adequately back-up all the activities carried-out under the project, and the consequent choice to work in partnership with several civil society organizations and non-governmental organizations.

(c) Justification of Rating for Overall Borrower Performance

Rating: *Satisfactory*

6. LESSONS LEARNED

55. The project delivered good results and produced some useful lessons that must be capitalized. For example:

(a) Institutional/ Implementation arrangements:

- **The implementation arrangements for this project provided an effective model for inter-institutional cooperation in the North - and could be replicated:** The institutional set-up for this project, i.e. an institution (the Savannah Resource Management Center) where staff from various governmental agencies (MLFM, Forestry Commission/Wildlife Division, MOFA, EPA) were seconded, proved to be an effective framework for inter-institutional cooperation, and provided a model that could be replicated for the implementation of other

multi-sectoral projects/programs. It may be useful to consider this option during the discussions for the design of the institutional arrangement for the implementation of the Northern Development Strategy.

- **Partnerships between the Government and CSOs/NGOs allowed the project to effectively penetrate communities:** Public institutions could not fully cover the northern savanna territory, and could not be expected to possess all the necessary expertise and resources to adequately back-up all the activities carried-out under the project. As a consequence, working in partnership with several civil society organizations (CSOs) and non-governmental organizations (NGOs) (taking advantage of the comparative advantages of each of them) has probably allowed the project to effectively reach-out and support many rural communities.

(b) Policy:

- **The proximity to the political center enhances the impact on policy outcomes:** The fact that the PCU was located in Tamale, in the Northern Region, limited the capacity of the project team to effectively exert political influence and lobby for its interests. As a result, the component on the establishment of a policy framework was the one that had more difficulties in being implemented. As a lesson, it is important to strengthen the linkages with the center whenever a project aims at broader policy outcomes.

(c) Natural Resource Management and Sustainable Livelihoods:

- **The approach to NRM and sustainable livelihoods tested by the project could deliver significant results in Northern Ghana - if spatially focused:** The project tested in various locations of Northern Ghana a number of different activities²⁰ and approaches²¹ to stimulate better natural resource management (NRM) that, individually, delivered encouraging results. Until when these activities were geographically scattered (i.e. MTR), their impact in terms of conservation output and outcomes remained limited. After MTR, once these activities began to be implemented in a defined space, this approach (based on partnerships, involvement and empowerment of communities, a set of different activities to stimulate better natural resource management, spatial planning, etc.) offered promising results in terms of improved NRM and sustainable livelihoods. (Annex 11 describes how lessons from the project may have application in the wider context of sustainable development of the Northern Region).
- **The concept of ‘wildlife corridors’ is a useful concept for spatial planning of and transboundary collaboration on NRM - but needs follow-up:** One of the achievements of the project is the establishment of two biological corridors between Ghana and Burkina Faso to connect the two ecological blocks of the

²⁰ E.g. tree planting, bee-keeping, shea-butter production, community-based eco-tourism, cultivation of medicinal plants and indigenous crop varieties, etc. These activities were specifically tailored to the characteristics and assets of the different communities.

²¹ E.g. partnerships, involvement and empowerment of communities, spatial planning, etc.

two countries and allow free movement of wildlife between these blocks. The creation of the corridors also resulted in the signature of a memorandum of understanding (MoU) between the two countries on the management of transfrontier resources. Beside the formal establishment of the two corridors, the acquis of this component resides in (i) the introduction of the concept of spatial planning in NRM, and (ii) the generation of a political momentum on transboundary resource management. However, immediate follow-up is needed to sustain and capitalize these achievements: (i) the concept of spatial planning needs to be integrated in District plans, and (ii) the plan for the management of the corridors has to be implemented.

(d) Design:

- **Possibility to address a transboundary issue through two national projects.** Cooperation and collaboration established among the project teams of the Ghana NSBCP and Burkina Faso PAGEN demonstrated how it is possible to deal with a transboundary issue such as the management of natural resources through the implementation of two national projects. This lesson can be repeated in cases where only two countries are concerned, and therefore a regional project is not possible.

7. COMMENTS ON ISSUES RAISED BY BORROWER/IMPLEMENTING AGENCIES/PARTNERS

(a) Borrower/implementing agencies

N/A

(b) Cofinanciers

N/A

(c) Other partners and stakeholders

Annex 1. Project Costs and Financing

(a) Project Cost by Component (in USD Million equivalent)

Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
FORMULATING THE POLICY FRAMEWORK	292.10	296.55	102%
CAPACITY BUILDING AND AWARENESS RAISING	2,375.10	1,174.78	49%
BIODIVERSITY CONSERVATION, RESEARCH AND DEVELOPMENT	3,582.80	5,342.26	149%
PROJECT MANAGEMENT, MONITORING AND EVALUATION	1,350.00	1,109.48	82%
Total Baseline Cost	7,600.00	7,923.07²²	104%
Total Project Costs			
Project Preparation Facility (PPF)	330.00	289.65	88%
Total Financing Required			

(b) Financing²³

Source of Funds	Type of Cofinancing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Borrower		2.00		
DENMARK: Danish Intl. Dev. Assistance (DANIDA)		2.10		
Global Environment Facility (GEF)		7.60	7.60	100%
NETHERLANDS: Min. of Foreign Affairs / Min. of Dev. Coop.		4.80		

²² Includes Government contribution.

²³ Co-financing from bilateral were included in the baseline project (NRMP II).

Annex 2. Outputs by Component

Component	Sub-components/planned cluster of activities (at MTR)	Outputs (at project completion)
1. Policy Framework Establishment	1.1 Indigenous Knowledge Policies 1.1.1 Policies and Guidelines Related to Medicinal Plants and Bioprospecting 1.1.2 A report to Support National Implementation of International PGR Treaty 1.1.3 Consultation and Dissemination Activities	<ul style="list-style-type: none"> - Policy document on Indigenous Knowledge related to Plant Genetic Resources completed and submitted to cabinet for approval - Guidelines for Intellectual Property Protection for Indigenous Knowledge related to health and medical plant resources published
	1.2 Support to National Biodiversity Strategy and Action Plan (NBSAP) 1.2.1 Paper on Policy Issues Related to Savanna Natural Resource Management 1.2.2 Development of Savanna Biodiversity Strategy and Action Plan 1.2.3 Development of National Biodiversity Action Plan 1.2.4 Consultation, Dissemination and Follow-up on Policy Papers	<ul style="list-style-type: none"> - Background paper on Savanna NRM issues prepared for discussion among national stakeholders, and used to develop the SBSAP
2 Capacity Building and Awareness Creation	2.1 Herbarium Establishment 2.1.1 Provision of Equipment 2.1.2 Communication and Training	<ul style="list-style-type: none"> - Herbarium established at UDS with equipment and plant database
	2.2 Biological Information System 2.2.1 Database Inventory 2.2.2 Database Conversion Strategy and Training 2.2.3 Database Conversion 2.2.4 GIS Products	
	2.3 Implementing Agencies 2.3.1 Support to FSD 2.3.2 Support to TAMD 2.3.3 Support to SRMC 2.3.4 Support to WD	<ul style="list-style-type: none"> - Various trainings and direct logistical and operational support provided to Governmental agencies

	<p>2.3.5 Support to EPA</p> <p>2.3.6 Support to MOFA</p> <p>2.3.7 Support to MFLM</p> <p>2.3.8 Support to District Assemblies (in corridors)</p>	
	<p>2.4 Communication Program</p> <p>2.4.1 Institutional Communication</p> <p>2.4.2 Beneficiary Assessment and Communication Strategy Framework</p> <p>2.4.3 Implementation of Strategy through NGOs and Civil Society</p> <p>2.4.4 Community Fora / School Clubs</p>	<ul style="list-style-type: none"> - Education and public awareness strategies developed - Communication Strategy implemented (by RUMNET in collaboration with 8 local NGOs/CBOs) - 3 Workshops organized to improve NGOs/CBOs capacity to deliver awareness creation programs
<p>3 Biodiversity Conservation and Sustainable Livelihoods</p>	<p>3.1 Conservation of Corridors</p> <p>3.1.1 Corridor Definition</p> <p>3.1.2 Wildlife Parks</p> <p>3.1.3 Forest Reserves</p> <p>3.1.4 Areas Outside of PAs and FRs (sign posting, ranger stations, vigilance)</p>	<ul style="list-style-type: none"> - Two biological corridors established - MoU with Burkina Faso for management of corridors signed - Corridors feasibility report and biological resources inventory conducted - Corridors community resource management committees (CORMCOs) established in 20 communities - Guidelines for piloting CREMAs in corridor areas developed - Wildlife ranger quarters, staff bungalows and office accommodation for the Forestry Commission staff in Bolgatanga completed - CORMACs established in 27 communities surrounding Mole NP - Various general biological surveys and specific surveys (including aerial surveys) conducted in Mole NP - Support to various eco-tourism activities (including tourism shops and Mongori eco-village) to communities around Mole NP - Operational support to park patrols, vigilance and boundary maintenance provided to Gbele RR - CORMACs established in communities surrounding Gbele RR

		<ul style="list-style-type: none"> - New infrastructures including 4 unit ranger for field staff, park information center, tended camp for researchers, new patrol tracks and satellite camps for field patrol and accommodation for park manager in Gbele RR - Various logistical support (patrol vehicles, bicycles, motorcycles, field equipment, etc.) provided to GRR - Guidelines to implement CREMAs around the Gbele RR developed - Management plans for 5 forest reserves completed - Forest Service Division staff provided with logistical support - Bee-framing established in 18 communities fringing forest reserves - 10 community nurseries established to support forest reserves management - Forest boundaries and maintenance supported - Forest Management Committees established in 28 communities to support reserve management - Office accommodations/ranger stations
	<p>3.2 Sustainable Livelihoods</p> <p>3.2.1 Community-Based Corridor NRM Initiatives (e.g., fire control, nurseries and tree planting)</p> <p>3.2.2 Sustainable Livelihoods – Mangoes (and bees)</p> <p>3.2.3 Sustainable Livelihoods – Low tillage, small ruminants</p> <p>3.2.4 Community-Based Enterprise Development (e.g., ecotourism, NTFP, Indigenous Crops, medicinal plants, etc.)</p>	<ul style="list-style-type: none"> - About 500 acres of mango orchards established in 40 communities fringing biological corridors - Bee-hives in 10 communities established in 10 communities - Low tillage and small ruminants programs implemented in communities: 24 beneficiaries in 12 communities received improved ruminants - 70 farmers in 10 communities received training in soil and water conservation techniques - Village Tree Enterprises established in 8 communities
	<p>3.3 Medicinal Plants Conservation</p> <p>3.3.1 Establishment of Medicinal Plants Garden</p> <p>3.3.2 Establishment of MP Healers Network</p> <p>3.3.3 Assessment of Medicinal Plants use</p>	<ul style="list-style-type: none"> - Northern Ghana healer survey conducted - 250 traditional healers trained in sustainable harvesting techniques - Training Manual developed to enable the THAs to train more healers

		<ul style="list-style-type: none"> - Medicinal plant home gardens established - Square mile farms for conservation of identified endangered species established - 3 THAs supported with office equipment, transport, and training activities, including support to establish medicinal plant demonstration farms - 10 leader healers trained - Trainings on hygienic handling of preparations, handling of patients provided to Traditional Healer Associations
	<p>3.4 Indigenous Crops Conservation</p> <p>3.4.1 Farmer networks and in-situ conservation of ICs</p> <p>3.4.2 Ex-situ conservation of ICs</p> <p>3.4.3 Scientific research on ICs</p> <p>3.4.4 Capacity building around ICs</p>	<ul style="list-style-type: none"> - Inventory of endangered indigenous crops species and hotspots for in-situ conservation conducted - Manuals for the cultivation of some indigenous crop species developed - A network of over 300 farmers that introduce ICs established - Promotion material for indigenous crop conservation produced - Staff of MOFA, SARI, trained on conservation of ICs

Annex 3. Economic and Financial Analysis

1. An Economic and Financial Analysis was not conducted at the end of the project, and the Government's ICR does not include an assessment of the cost-effectiveness of the project. The ICR team analyzed the business plans of the Mongori Eco-Village and of the ITFC (Integrated Tamale Fruit Company, the agro-business company that commercializes organic mango in Northern Ghana). Both business plans estimated an increase in the business volume and net profits, suggesting that that costs for the start up of these activities (eco-tourism in the Mongori village and organic mango plantations) have been recovered, and these activities are profitable. However, generalizing these results to all the activities supported by the project is not possible.

2. As standard procedure for GEF projects, an Incremental Cost Analysis (to demonstrate the incremental global environmental benefits of the project) and not an Economic Analysis was carried out during project preparation. However, to demonstrate financial profitability of certain activities supported by the project (i.e. agro-forestry with cash tree crops such as mango and cashew), a financial analysis was made. Two farm models were developed comparing three scenarios: 'business as usual' and 'agro-forestry with cash tree crops' (one with mango and one with cashew). The Net Present Value (NPV) for the mango model was 1.57 million cedis, with an Internal Rate of Return (IRR) of 93%. The NPV for cashew model was 80,000 cedis, with an IRR of 52%.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Edward Felix Dwumfour	Sr Environmental Spec.	AFTEN	Task Team Leader
Enos E. Esikuri	Sr Environmental Spec.	ENV	
John D. H. Lambert	Consultant	AFTH1	
Patience Mensah	Consultant		
Hassan Mohamed Hassan	Consultant	AFTWR	
Huong-Giang Lucie Tran	Operation Officer	MNSAR	
Frederick Yankey	Sr Financial Management Specialist	AFTFM	
Ferdinand Tsri Apronti	Procurement Specialist	AFTPC	
Rose Abena Ampadu	Program Assistant	AFCW1	
Supervision/			
Paola Agostini	Sr Economist	AFTEN	Task Team Leader
Edward Felix Dwumfour	Sr Environmental Spec.	AFTEN	Co-TTL
Douglas J. Graham	Sr Environmental Spec.	EASVS	
Beatrix Allah-Mensah	Social Development Spec.	AFTCS	
Emmanuel Y. Nikiema	Sr Natural Resources Mgmt. Spe	AFTEN	
Ibrahim B. Nebie	Sr Agric. Extension Spec.	AFTAR	
Richard A. Cambridge	Adviser	AFRVP	
Christine E. Kimes	Sr Operation Officer	SACNP	
Edeltraut Gilgan-Hunt	Environmental Specialist	AFTEN	
Emanuele Santi	Communications Officer	EXTCD	
Robert Wallace DeGraft-Hanson	Financial Management Specialist	AFTFM	
Samuel Bruce-Smith	Consultant	AFTFM	
Amadou Tidiane Toure	Lead Procurement Specialist	SARPS	
Mbuba Mbungu	Sr Procurement Specialist		
Rajiv Sondhi	Sr Finance Officer	CTRFC	
Ferdinand Tsri Apronti	Procurement Specialist	AFTPC	
Subrata Pradhan	Finance Analyst	CTRDM	
Satish Kumar Shivakumar	Finance Assistant	CTRDM	
Clemencia R. Onesty	Portfolio Officer	CTRCF	
George Kofi Agbatichi Marrah	Consultant		
Anthony Mensa-Bonsu	Consultant	AFTPC	
Benjamin Burckhart	ET Consultant	AFTCS	
Victoria Ahlonkoba Bruce-Goga	Team Assistant	AFCW1	
Rohan G. Selvaratnam	Sr Program Assistant	ECSSD	

Sandra Jo Bulls	Program Assistant	AFTEN	
Marie-Jeanne Ndiaye	Program Assistant	IEGSE	
Joan S. Grigsby	Program Assistant		
Akosua Gada	Staff Assistant	AFCS1	
Josep Garí	Social Specialist	FAO CP	
Alexia Baldascini	Community-Based Enterprise Development Specialist	FAO CP	
Sandra Carrese	Costab Specialist	FAO CP	
Clare O'Farrel	Communication Specialist	FAO CP	
ICR			
Matteo Marchisio	ET Consultant	AFTEN	ICR Team Leader
Jean-Michel Pavy	Sr Environmental Specialist	AFTEN	
Emmanuel Nikiema	Sr NRM Specialist	AFTEN	
Anders Jensen	M&E Specialist	AFTRL	
Beatrix Allah-Mensah	Social Development Spec.	AFTCS	
Adu-Gyamfi Abunyewa	Procurement Specialist	AFTPC	
Robert Wallace DeGraft-Hanson	Financial Management Specialist	AFTFM	
Victoria Ahlonkoba Bruce-Goga	Team Assistant	AFCW1	
Sandra Jo Bulls	Program Assistant	AFTEN	

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
FY00		49.67
FY01		81.71
FY02		25.75
FY03		38.57
FY04		0.00
FY05		0.00
FY06		0.00
FY07		0.00
FY08		0.00
Total:		195.70
Supervision/ICR		
FY00		0.00
FY01		0.00
FY02		0.00
FY03		1.64
FY04		58.57
FY05		43.50
FY06		124.80
FY07		76.36
FY08		68.24
Total:		373.11

Annex 5. Beneficiary Survey Results

1. An independent Beneficiary Assessment was carried out to assess the perceptions of the beneficiaries on their participation in, and effectiveness of implementation and impact of the NSBCP activities in order to support the assessment of project performance and achievement.
2. **Terms of reference.** The Beneficiary Assessment was expected to:
 - (a) Assess not only the impact of the project on beneficiaries, but also the *perception* of the beneficiaries on the activities conducted, the results obtained and the institutions involved (Project, implementing agencies, NGOs).
 - (b) Document relevant behaviour changes in the beneficiaries and/or the population at large that are related to the project activities (training, awareness, investments, capacity-building, etc.)
 - (c) Identify key lessons learnt of the Project in order to improve community approaches for the purposes of wildlife and forest conservation, natural resource management, and sustainable livelihoods.
3. **Methodology.** The methodology involved four steps, i.e. (i) documentary review, (ii) primary data collection, (iii) data analysis, and (iv) validation workshop. Data collection in the Northern Savannah Zone (which includes Northern Region, Upper East Region and Upper West Region), was carried out in September and October 2008. The validation workshop was conducted on October 9, 2008.
4. The analysis framework for the Assessment followed the following methodology/steps. In exploring the implementation and impact of the NSBCP on the beneficiaries, it was assessed the perception of the beneficiaries (intentions and communities) (i) on their participation, and (ii) on the effectiveness of the activities and the results (level of awareness and skills improvement) and the institutions involved. The results at the institutional level included the changes in the abilities and motivation to function both as individuals and collectively with regards to biodiversity conservation. At the community level, the results included the level of beneficiaries' awareness and biodiversity conservation behavior or adoption rates. The impact refers to the broader goal of the NSBCP which in this case is to improve the livelihood and health of communities in the northern savannah zone of Ghana, and the environment through the conservation and sustainable use of natural resources including medicinal plants. Thus at the community level, the impact are indicated by benefits of the community members' change in behavior on their livelihood and health of the community members through the conservation and sustainable use of natural resources including medicinal plants.
5. **Summary and conclusions of major findings and their significance** (from Beneficiary Assessment Report).
 - (a) **Beneficiaries' perception on impact of the project.** The impact of the NSBCP has been remarkably high. High levels of both awareness and adoption of conservation and sustainable use of natural resources has been recorded. Current awareness level of biodiversity conservation and sustainable use of resources is about 76% with adoption rates of around 65% on the average. This indicates that

significant majority of the men and women or households in the northern savannah zone of Ghana are now engaged in environmental conservation and sustainable use of the environment. Thus, there is now increased quantities and diversity of plants and wildlife in the northern savannah zone. As a result, there has been a positive impact on livelihoods and health care in the zone.

The NSBCP has also had a positive impact on the livelihoods of the community members in the zone. Improved income resulting from improved soil fertility and the associated increases in crop yields, as well as improved sheanut collection resulting from higher yields of butter tree yield due to reduction in bushfires have been observed by the community members. The re-appearance of some wildlife coupled with existence tourist facilities, which have brought in their wake tourists coming into the fringe communities has created opportunities for enhanced income generating activities in these communities. Commercial mango cultivation is increasingly becoming an important cash crop for farmers in the area. Mango plantations have been cultivated on degraded land, and are protected from bushfires by the community members. The other livelihood benefits of the NSBCP include the emergent social networks such as the Indigenous Crop Network Groups, the strengthened Traditional healers Associations, the communally operated mango plantations, , which serves as pressure groups for propelling the maintenance of the gains made as part of the NSBCP. In this regard, the membership of Traditional Healers Associations in the northern savannah zone have got its members to improve on the hygiene, shelf life, packaging and labeling of their products and enhanced their competitiveness on the market thereby increasing their incomes. The indigenous crops cultivation is also expanding and increasingly filling in as important food security crop during the hunger season in the zone. During the hunger season, the indigenous crops attract higher prices and gives good income as a result of its ability to store longer than the non-indigenous crop varieties.

The project has also contributed greatly to improving healthcare for the people in the northern savannah zone and beyond. The increased availability and accessibility of all especially indigenous and medicinal plants resulting from conservation sustainable use of natural resources means improved access to cheaper healthcare.

- (b) **Beneficiaries' perception on effectiveness of project activities.** The remarkable impact of the NSBCP has been achieved because of the high level of participation of the institutional and community level beneficiaries, and the high level of effectiveness of the activities undertaken in the implementation.

At the **institutional beneficiaries' level**, the activities undertaken included training of multiple hierarchies of staff in the organizations. The trainings embodied multiple formats and durations. For example it and included formal post-graduate level training for a staff each of WD and EPA respectively. In addition, various short courses and training workshops have been organized for the staff of the implementing agencies. The focus of the courses depends on the specific implementation agency and the thematic area they are working on. The EPA focused wildlife and forest conservation, bushfires control, and alternative

livelihoods, whilst the Ministry of Food and Agriculture, focused on indigenous crops conservation and alternative livelihoods. For the WD, FSD and EPA, they included training in community entry, conflict resolution, wildlife law and community mobilization and outreach activities. Specifically FSD participated in training on mango grafting, and tree nursery management, whilst EPA participated in training in M&E and gender and advocacy. Ministry of Food and Agriculture staff participated in multiplication and preparation of plant material for in-situ and ex-situ conservation. In addition, MoFA staff participated in training in animal traction, contour farming and small ruminant husbandry.

Participation in these training activities is rated very high (i.e. 80%+) by the staff of WD, FSD and EPA. Even though the MoFA staff who participated in the indigenous crops training rated it very high (80%+), the regional staff and staff from the non-fringe districts rated participation low (33%), because only the staff from the fringe communities benefited from the training on indigenous crops conservation. Similarly, the effectiveness of the training activities is rated very high (80%+) by the WD, FSD and MoFA staff and high (60%-70%) by EPA.

In addition to the training, resources were provided to all the implementation agencies by the NSBCP secretariat. There was construction of new offices, staff quarters, access roads, viewing facilities, and tourist camps for the WD and or the FSD. All the implementing agencies received vehicles, office and field equipment, in addition operational funds. These resources provided were perceived by the staff of the implementing agencies as effective, as they were rated about 70%. Among others, to the staff, they enabled the staff of the implementing agencies to be mobilised to hitherto inaccessible areas in the reserves, and reduced the tedium of work involved in routine reporting. In addition, the improved resources gave them and their organisations more visibility.

The first results or outcome of the training activities is that the capacity of the staff of the implementing agencies has been greatly enhanced. The perception of the staff is that between 70%-80% of the staff have their human capacity improved as result of the training they have received. This together, with the resourcing of the implementing agencies has resulted in well motivated staff. The improvements in the staff's capacity and their organisations' capacity imply that the NSBCP has contributed to enhancing the capacity of the implementation agencies to work more effectively in the communities.

At the **community beneficiaries' level, the training activities** generally include awareness creation on the state of the natural resources, sustainable use of the resources and establishment of representative community structures, conflict resolution and policing natural resource uses. These were undertaken by almost all the implementing agencies. However, in addition to these, each implantation agency provided training in or awareness creation activities at the community level appropriate for its focus.

Whatever the case, the community members indicated a high level of participation in the community activities, which they rated 80% or above. Similarly, activity effectiveness was also rated very high (80%+).

Another, community level activity is the use of multiple layers of NGOs to implement a well designed communication strategy. The selection of messages in the development of the communication strategy aimed “to let people know and be motivated to do what is “right” or beneficial” or “to stop what is “wrong” or not beneficial with regards to the development goal or objective of the thematic area”.

The channels that have been used for the awareness creation have been largely what the community members use and have credibility, and therefore largely appropriate. In addition, extensive range of appropriate media has been used for the awareness creation activities. Most provide opportunity for feedback and are preferred by the community members.

6. **Lessons learnt.**

(a) **At institutional level:**

- Institutional capacity building which includes both training the staff of implementing agencies and provides needed resources for functioning of the implementing agencies is likely to results in high impact.
- The training component of the institutional capacity building which include high proportion of staff of the organisation, from multiple hierarchies, selected as transparently as possible ensure a sense inclusiveness within the organisation and tend to result in high effectiveness.
- The training activities which use different formats, with targeted content to specific thematic area focus of the organisations results in enhanced knowledge and skills acquisition for the staff.
- Resources provided as part of the capacity building activities, should be adequate for the whole range of requirements for the institution to reap the required benefits. In the NSBCP, resources were provided for offices, residential quarters, vehicles, office and field equipment as well as operational funds, in order to achieve the level staff and organisational motivation which resulted in the high impact.
- The resources need to be provided and managed in a transparent through proper documentation to and in the recipient organisation. This is to avoid the situation when it becomes impossible to trace such resources once personnel changes occur.

(b) **At community level:**

- At the community level, an awareness creation activity which focuses on the current state of the natural resources and its’ sustainable usage now and the future enhances the impact of the community activities.

- High level of community participation and inclusion of representative of the different social strata in the training and the community natural resources committees enhances the impact of the community level activities.
- The use of a well researched and designed communication strategy implemented by the project's implementation agencies and NGOs ensures dissemination activities are more effective and achieves the expected impact.

Annex 6. Stakeholder Workshop Report and Results

Results of the Stakeholder Workshop (i.e. Validation Workshop) conducted on October 9, 2008 to discuss and validate the results of the Beneficiary Assessment are synthesized in Annex 5.

Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR

1. Government of Ghana obtained a grant from the Global Environment Facility (GEF) for a Northern Savannah Biodiversity Conservation Project (NSBCP) to support the conservation of biodiversity, agro-biodiversity and the sustainable utilization of medicinal plants in the three northern regions of Ghana. The project was implemented by the Ministry of Lands, Forestry and Mines (MLFM) in collaboration with the Ministries of Food and Agriculture (MoFA), Health (MoH), Local Government, Rural Development and Environment (MLGRDE), and the Ministry of Science through their regional and district agencies, a number of local and international NGOs and several communities in the three northern regions.
2. Implementation commenced in September 2002 and is scheduled to close in February 2009. The present report is Government of Ghana's implementation report (ICR) which documents and assesses the project implementation performance and achievements based on the stated project objectives

1. OVERALL PROJECT ACHIEVEMENT

3. Over all, progress towards achieving the project development objectives has been good, and targets have been achieved in most of the components. In some cases, achievements went beyond set targets, e.g. the number officers trained on NRM issues, number of communities cultivating indigenous crops, among others).
4. The project has responded directly to a number of national policies related to the environment, especially natural resource management, and biodiversity conservation as stipulated in the National Environment Action Plan, as well as the Growth and Poverty Reduction Strategy of Ghana (GPRS-II).
5. Targeting beneficiaries at different levels, the project has improved the capacities of over 76 forest fringe communities, government institutions, CBOs and NGOs, research institutions and academia, private enterprises, traditional authorities, DAs and traditional healers and birth attendants for biodiversity conservation through training, biodiversity conservation awareness and direct logistic support.
6. Beneficiaries believe that the impact of the NSBCP has been remarkably high. High levels of both awareness and adoption of conservation and sustainable use of natural resources has been recorded. Current awareness level of biodiversity conservation and sustainable use of resources is about 76% with adoption rates of around 65% on the average. Independent beneficiary assessment indicates considerable majority of the households in the selected communities along the forest corridors in the northern savannah zone are now engaged in environmental conservation and sustainable use of the environment. There are also increased sightings of wildlife in the Wildlife Parks and corridors.
7. A Savannah Biodiversity Strategy and Action Plan (SBSAP) document and a policy and guidelines on Indigenous Knowledge related to Plant Genetic Resources (IKPGR) provide direction for future strategies for sustainable management of savanna natural resource and protection of savanna endangered species. Implementation of the

medicinal plant and livelihood components has even in the short term contributed to incomes and health care of particularly forest fringe communities.

2. SPECIFIC PROJECT ACHIEVEMENTS

8. Specific achievements through project implementation demonstrate the direct correlation between the project's outputs and their resulting outcomes. For example;

- Biodiversity management is now fully integrated into the core business planning of the participating government institutions such as the FC, EPA, DAs and communities. Many high government policy makers have made public acknowledgement of the importance of biodiversity and the need to conserve it.
- Awareness on the importance, willingness and need to protect biodiversity around them by community members has been high as they now appreciate and recognize a link between forest health and their own livelihoods.
- Biodiversity issues have been incorporated into some school science curriculum through operational biodiversity/science clubs.
- Communities, traditional leaders and District Assemblies are now involved in natural resource management, monitoring and coordination of environmental protection and improvement of activities at district and community levels.
- Through the MA&D program the project might have contributed towards the establishment of positive relationship between economic development and natural resource conservation within the rural economies. This has made environmental quality a key element in supporting rural economic and social development in particularly forest fringe communities.
- Management effectiveness, as measured by the WWF/WB Protected Areas score card) has increased in the savanna zone wildlife protected areas and for some Forest reserves.

9. The establishment of two wildlife corridors has created a relationship between the Ghanaian communities along the biodiversity reserve corridors and their Burkinabe counterparts. This in the long term will increase free movement of wildlife between the two countries. A more collaborative relationship has been established between the communities along the selected corridors for implementation of wildlife management plan (WMP) using the community resource management area (CREMA) concept of the forest and wildlife policy.

3. UNINTENDED OUTCOMES OF THE PROJECT

10. The project recorded a number of unintended outcomes. For example:

- The indigenous crops and medicinal plants components proved very useful and fruitful, crafting farmers as conservationists, and questioning the widespread

perception of migrating farmers as destroyers of natural resources and insensitive to indigenous cultures.

- The project also generated a rich inter-cultural dynamic, beyond what was intended and could be expected given the collaboration with the Burkina Faso communities. Community members got closer and became more aware of their specific and common challenges to the extent that they were willing and ready to volunteer information faster to the project office.

4. PERFORMANCE OF THE WORLD BANK

11. The World Bank played a major facilitation role in the implementation of the project. The Bank was generally very responsive in granting approvals of annual work plans and procurement schedules. In addition, the facilitating role of the Bank enabled the project and that in Burkina Faso to sign an agreement to implement the corridor sub-component. This created synergies and benefits for project beneficiaries especially those on the wildlife corridors. The Task Team Leaders (TTL) played a key role in setting out some activities, e.g. collaboration with ITFC for community mango orchards, the setting up of the Gbele tented camp and the inclusion of the Market Analysis and Development Strategy (MA & D) to support enterprise development. Restructuring of project and setting of indicators at mid-term with the assistance of the WB enabled the project to sharpen its focus.

12. Despite this overall positive performance of the World Bank GoG wishes indicate that the impact of project would have been more visible to beneficiaries if the bank had not withdrawn the second phase of the Natural Resources Management Program (NRMP 2), a US\$28million project that would have supported attainment of the PDO as it would have paid for livelihood investments and other infrastructures (poverty reduction and healthcare), by releasing funds and implementation teams time to focus on other aspects of the PDO (i.e. biodiversity conservation and medicinal plant conservation). The bank also tended to provide confusing guidance on the M&E indicators.

5. PERFORMANCE OF GOVERNMENT, THE PROJECT TEAM, AND IMPLEMENTING AGENCIES

13. The performance of the Ghana Government in the release of counterpart funds which was an integral part of the process was satisfactory. The project management complied with the credit agreements and program accounts were audited regularly. A Project Coordination Committee (PCC) was established, under the chairmanship of the Deputy Minister in charge of Forestry of the MLFM. The overall responsibility for project administration, procurement and financial management and coordination rested on the Project Management Team which was headed by the Technical Director in charge of Forestry at the MLFM. The performance of implementing agencies was satisfactory.

6. LESSONS LEARNT

14. A number of useful lessons were learnt in the course of implementing the project. These lessons related to wildlife corridors, indigenous crops, community entry approaches, inter-institutional frameworks, and procurement and financial decentralization. Other lessons learnt include project focus and management, natural resource management and livelihood support, government-civil society partnerships, and monitoring and evaluation.

- (a) **Wildlife Corridors.** The establishment of corridors is an effective and novel scheme for wildlife conservation and sustainable Natural Resource Management, with both conservation and production objectives. It serves to enhance the conservation of protected areas (widening the conservation belt), while engaging communities in both conservation efforts and sustainable production activities. It creates many synergies between conservation and production, as well as across conservation stakeholders (from Forestry Commission's staff to the local population, including community resource management committees that were established). In addition, developing the wildlife corridors together with neighbouring Burkina Faso (in order to establish transfrontier corridors) allowed a rich exchange of experiences, bringing into Ghana's savannah new approaches that were developed successfully in Burkina Faso, as well as raising awareness on the cross-border dimensions of wildlife and environmental protection.
- (b) **Indigenous Crops.** The identification and promotion of indigenous crops is a successful and popular component. There is much room for scaling up. Indigenous crops revealed a valuable resource and technology for sustainable land management, with simultaneous roles in *in-situ* conservation of agricultural biodiversity in the savannah, combating climate change, improving nutrition and revitalising the knowledge and cultural specificity of the savannah ecosystem.
- (c) **Community entry approaches.** The process of raising awareness and engaging communities in conservation and sustainable use of natural resources is very slow process, requiring continued support, coaching, innovative participatory approaches and the engagement of different local stakeholders (chiefs, healers, women leaders, etc.). The project learnt two effective approaches. First, to identify, train and support "champions" for certain issues, in order to set example for the community or to raise awareness locally (this approach was used in project activities on traditional healers, indigenous crops, community conservation committees, and wildfire management groups). In addition, community-based organisations (CREMAs, FMCs, COMCOs, etc), even if they tend to have weak capacities, proved valuable agents for project implementation, engaging the beneficiaries and ensuring the achievement of impacts.
- (d) **Inter-institutional implementation framework.** The project operated under an inter-institutional structure, engaging professionals from various public agencies (FC, MOFA, EPA, District Assemblies etc.). It created many synergies and cross-sectoral collaboration opportunities, and revealed the importance in an inter-institutional engagement in solving the many conservation, environmental and poverty issues in northern Ghana. Unfortunately, the project did not

anticipate the need to consolidate the SRMC before the project ended (for instance, by ensuring that operational costs were increasingly covered with counterpart funds). That would have facilitated the perpetuation of such inter-institutional approach to the conservation and sustainable use of savannah resources.

- (e) **Procurement and financial decentralisation.** Projects with a geographical focus and with many activities on the ground need a more decentralised funding mechanism. In the case of the NSBCP, the Accra-based control of release of funds delayed and disrupted the pace of project implementation. Future GEF projects with a geographical focus should therefore be designed in ways that accommodate the implementation dynamic on the ground.
- (f) **Project focus and management.** During the Mid-Term Review (MTR), the Project experienced a relevant operative shift, consisting mainly in: (i) geographical focus, mostly around wildlife corridors, to avoid the dispersion of activities with weaker impact and high implementation burden; and (ii) simplification of project structure and introduction of a coding system, which eased the preparation of AWPBs (annual work plan and budgets) and monitoring. It was important to review indicators to make them simple, meaningful and feasible to be monitored.
- (g) **Natural Resource Management (NRM) and Livelihood Support.** A relevant component of the project was to engage communities in NRM and to engage them in sustainable livelihoods. The Project learnt that an entrepreneurial approach, such as the one currently supported by the partner TreeAid, proves more effective and sustainable than the usual provision of full grants. This change of approach needs to be further considered in the north of Ghana, where an approach of giving grants and assets is endemic and tends to weaken community's and individuals' efforts.
- (h) **Government – Civil Society partnerships.** Civil society (particularly professional and genuine non-governmental organisations) is a valid partner in channelling public funds and interventions. In conditions where public institutions are poorly present or lack legitimacy, civil society is a critical partner and, in fact, its engagement with the public sector can precisely introduce the institutional dynamic and the spirit of collective decision-making that is missing. However, the engagement of non-public partners in managing public funds and investments requires a careful design of the institutional framework, ensuring that roles, disbursement flows and reporting requirements, among other elements, are well defined and mutually agreed.
- (i) **Monitoring and Evaluation (M&E).** An M&E system is an essential ingredient of a project and, accordingly, its basics should be defined during a project's design, not leaving it as a task for the project implementation (as it occurred with this project, leading to a tedious and delayed process of elaborating the M&E system). At the same time, M&E systems should be simple and adapted to a diverse range of users (e.g. coordinators, auditors, beneficiaries), especially when a project foresees many micro-projects and community-level activities. The

M&E system that the project finally elaborated and implemented is probably too sophisticated and rather user-unfriendly; consequently, its value is limited. In conclusion, M&E systems should be simpler than often designed.

7. CONCLUSION AND RECOMMENDATIONS

15. The project has fully and satisfactorily completed. At completion, the project team has conducted a solid analysis of the execution, its results and impacts, and the main lessons learnt. A Stakeholders' Workshop was successfully carried out, with representatives from most of the organisations engaged throughout the project. The project has kept its legitimacy in the northern savannah zone, and has actually gained a more powerful operational capacity for community-based sustainable development.

16. At the community level, community members have become collaborators in resource management as they have appreciated and are convinced of the benefits of conservation of natural resources but the incidence of lack of funds for community activities such as boundary cleaning, patrolling, anti-poaching, and wildfire control is real. At the district level, District Assemblies will continue to provide the implementing agencies with the same kind of support given during implementation. At the central level, the project activities have been mainstreamed into the regular operation of the government institutions particularly the FC, MoFA, and EPA, which would be adequately financed from their IGFs and budgetary allocation from the treasury.

17. At post-completion stage there are however some concerns on the future of the project. The project office has undergone many changes (structural reforms, decline in staff, and reduction in funding sources) due to various external and internal factors; In addition, there are relevant risks to the endurance of the development outcome of the project due to various exogenous factors, principally as follows:

- The project has had a decline in personnel due to high labour turn-over and in funding, and therefore experiences a difficulty to replicate and expand the lessons learnt;
- The project's learning process and modus operandi have not been sufficiently institutionalised, so a continuing dissemination and collaborative spirit among stakeholders in the region are necessary.
- The inclusion of the livelihood strategies increased the cost of the project which increased the tendency of financial problems for the continuation of the project;

18. From the onset, the program begun with handouts which has made the sustainability of the project after the fold-up a bit of a problem because this increased the expectations of the intended beneficiary communities. The lessons learnt from the implementation of the project are a useful guide to government for future projects, as well as in the up scaling of similar projects within the limits of the specific contexts and resources available.

Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders

N/A

Annex 9. List of Supporting Documents

1. Ministry of Lands, Forestry and Mines (March 2009), *Implementation Completion Report of the Northern Savannah Biodiversity Conservation Project (TF 050723)*
2. Ministry of Lands, Forestry and Mines (December 2008), *BENEFICIARY ASSESSMENT OF THE NORTHERN SAVANNA BIODIVERSITY CONSERVATION PROJECT*
3. Ministry of Lands, Forestry and Mines (March 2007), *National Policy on Traditional Knowledge Related to Plant Genetic Resources*
4. *COOPERATION AGREEMENT FOR THE CONSERVATION OF NATURAL RESOURCES SHARED BY BURKINA FASO AND GHANA*
5. Ministry of Lands, Forestry and Mines/ Savannah Resource Management Center (August 2004), *Northern Savannah Biodiversity Conservation Project – Framework for Monitoring and Evaluation*
6. Savannah Resource Management Center, *Map of NSBCP sites*
7. Savannah Resource Management Center, *NSBCP SAFEGUARD POLICIES (ENVIRONMENTAL AND SOCIAL MITIGATION PLAN) JANUARY-DECEMBER, 2008*
8. Savannah Resource Management Center, *NSBCP SAFEGUARD POLICIES (Environmental and Social Mitigation Plan - Implementation and Monitoring Table, 2008)*
9. University of Cape Coast – Centre for Development Studies (June 2007), *Gbele Resettlement Project*
10. *REPORT ON STAKEHOLDER MEETING ON GBELE VILLAGE RESETTLEMENT STUDY HELD AT SISSALA WEST DISTRICT ASSEMBLY HALL, GWOLLU, ON 26TH SEPTEMBER 2007*
- 11.

Annex 10 (Additional). Detailed description of Project Components

(a) Project Components at Entry

<p>(a) Formulation of a Policy Framework</p>	<p>This component was aimed at improving the policy framework for biodiversity conservation.</p> <p>More specifically, this component aimed at supporting:</p> <ul style="list-style-type: none"> (i) the development of a policy framework and strategies for the conservation and management of biodiversity in the northern savanna zone; (ii) the development of specific plans and strategies for ten forest reserves, two wildlife reserves and two faunal corridors; (iii) the finalization and publishing of the National Biodiversity Strategy and Action Plan; and (iv) the development of policies and guidelines on Intellectual Property Rights (IPR) for regulating bio-resources collection and prospecting and for protecting and sharing indigenous knowledge and benefits accruing from conservation and mgt.
<p>(b) Capacity Building and Awareness Raising</p>	<p>This component was aimed at strengthening the capacity of key government and non-governmental stakeholders in sustainable biodiversity conservation and management and at raising awareness on natural resources and biodiversity conservation throughout the northern savanna zone.</p> <p>More specifically this component supported:</p> <ul style="list-style-type: none"> (i) capacity building activities to strengthen the capacity of government agencies²⁴ at national, regional, and district level, and other stakeholders (e.g. private sector organizations, research and academia, rural NGOs and CBOs, environmental associations, local communities, traditional medicine and healer associations, etc.) on biodiversity utilization, conservation and management; (ii) the development of a geographic information system database and of a biodiversity management information system to provide reliable and easily accessible information; (iii) the development of a monitoring and evaluation system, to be built into the MIS, to monitor changes in the ecosystem and socio-economics of the project areas; (iv) the establishment of a herbarium in Tamale, to be linked with other research institutions; and (v) the development of formal and non-formal education and public awareness programs on natural resources and biodiversity conservation throughout the northern savanna zone.

²⁴ Ministry of Land and Forestry (MLF), Ministry of Health (MOH), Ministry of Local Government and Rural Development (MLGRD), Ministry of Environment, Science and Technology (MEST), EPA (Environmental Protection Agency), Ministry of Food and Agriculture (MOFA), Savanna Resource Management Center (SRMC).

<p>(c) Biodiversity Conservation, Research and Development</p>	<p>This component was aimed at improving biodiversity conservation and management in selected areas in the northern savanna zone.</p> <p>More specifically, this component aimed at supporting:</p> <ul style="list-style-type: none"> (i) the development and implementation of biodiversity management and conservation systems in 12 protected areas, (ii) the improvement of land management, and restoration of degraded lands in 6 pilot areas; (iii) the development on a sustainable basis of biodiversity in wildlife corridors; (iv) the conservation of threatened medicinal plant resources; (v) the development and conservation of in-situ and ex-situ germplasms; (vi) the documentation and identification of threatened varieties, the establishment of gene banks with abandoned indigenous crop varieties and medicinal plant species, and the cultivation and propagation of reintroduced farmer crop varieties; (vii) the institutionalization of joint forest resource management in the high forest zone through the participation of communities in the management of forest and wildlife reserves and national parks; and (viii) the development and implementation of community resource management action plans and the establishment of community dedicated reserves.
<p>(d) Project Management, Monitoring and Evaluation:</p>	<p>This component was aimed at establishing a project management unit and strengthening the SRMC, which was responsible for supervising and monitoring the implementation of the project.</p>

(b) **Project Components at MTR**

Components	Sub-components	Activity Clusters
1. Policy Framework Establishment	1.1 Indigenous Knowledge Policies	1.1.1 Policies and Guidelines Related to Medicinal Plants and Bioprospecting 1.1.2 A report to Support National Implementation of International PGR Treaty 1.1.3 Consultation and Dissemination Activities
	1.2 Support to National Biodiversity Strategy and Action Plan (NBSAP)	1.2.1 Paper on Policy Issues Related to Savanna Natural Resource Management 1.2.2 Development of Savanna Biodiversity Strategy and Action Plan 1.2.3 Development of National Biodiversity Action Plan 1.2.4 Consultation, Dissemination and Follow-up on Policy Papers
2. Capacity Building and Awareness Creation	2.1 Herbarium Establishment	2.1.1 Provision of Equipment 2.1.2 Communication and Training
	2.2 Biological Information System	2.2.1 Database Inventory 2.2.2 Database Conversion Strategy and Training 2.2.3 Database Conversion 2.2.4 GIS Products

	2.3 Implementing Agencies	2.3.1 Support to FSD 2.3.2 Support to TAMD 2.3.3 Support to SRMC 2.3.4 Support to WD 2.3.5 Support to EPA 2.3.6 Support to MOFA 2.3.7 Support to MFLM 2.3.8 Support to District Assemblies (in corridors)
	2.4 Communication Program	2.4.1 Institutional Communication 2.4.2 Beneficiary Assessment and Communication Strategy Framework 2.4.3 Implementation of Strategy through NGOs and Civil Society 2.4.4 Community Fora / School Clubs
3. Biodiversity Conservation and Sustainable Livelihoods	3.1 Conservation of Corridors	3.1.1 Corridor Definition 3.1.2 Wildlife Parks 3.1.3 Forest Reserves 3.1.4 Areas Outside of PAs and FRs (sign posting, ranger stations, vigilance)
	3.2 Sustainable Livelihoods	3.2.1 Community-Based Corridor NRM Initiatives (e.g., fire control, nurseries and tree planting) 3.2.2 Sustainable Livelihoods – Mangoes (and bees) 3.2.3 Sustainable Livelihoods – Low tillage, small ruminants 3.2.4 Community-Based Enterprise Development (e.g., ecotourism, NTFP, Indigenous Crops, medicinal plants, etc.)

	3.3 Medicinal Plants Conservation	3.3.1 Establishment of Medicinal Plants Garden 3.3.2 Establishment of MP Healers Network 3.3.3 Assessment of Medicinal Plants use
	3.4 Indigenous Crops Conservation	3.4.1 Farmer networks and in-situ conservation of ICs 3.4.2 Ex-situ conservation of ICs 3.4.3 Scientific research on ICs 3.4.4 Capacity building around ICs
4. Project Coordination and Management	4.1 Project Coordination	4.1.1 Project Coordinating Unit (PCU) 4.1.2 PCU training
	4.2 Monitoring and Evaluation	4.2.1 Support to Communities and IA on M&E 4.2.2 Support to Project M&E Secretariat

Annex 11 (Additional). Application of NSBCP’s lessons to a wider context of sustainable in the Northern Region

1. Even if not in the initial ToR of the mission, the team was encouraged by the Sector Leader and the CMU to (i) draw lessons that may have application in the wider context of sustainable development of the Northern Region, and (ii) to explore opportunities to capitalize the results of this projects and continuing the engagement/support in this field.
2. The matrix below summarizes how lessons from the project can have an immediate application in two priority areas of Bank' support in the North (Agriculture Development and Safety-Net/Food Security), and, vice-versa, how interventions in support of Agric. Devt and Food Security can contribute to Biodiversity conservation.

	How lessons from NSBCP can contribute to Agriculture Development/ Safety-Net/Food Security	How Agriculture Development/ Safety-Net/Food Security can contribute to Biodiversity conservation
Agriculture development	<p>Grant scheme for mango plantations: Grant scheme for mango plantations supported by the project seem to have mixed results to support out-grower scheme. However, it may be valid (a) for vulnerable but organized groups, (b) when a ready market is available.</p> <p>Conservation and utilization of indigenous crops: Indigenous crops have often been abandoned because of their lack of market competitiveness with more modern varieties. However, the project seems to have shown that sometimes some of the indigenous crops’ traits may have a competitive advantage in today’s market and in today’s climatic variability. While the project has not been able to identify a specific variety that can compete successfully yet, the enthusiasm of farmers indicate that they see advantage that we don't.</p> <p>Conservation of medicinal plants farming: Tentative farming of medicinal plants may lead to "domestication" of wild plants with ready market. However the project has not reached that yet.</p>	<p>Maintaining a broad gene pool in crop varieties: Maintaining a broader gene pool in crop varieties offers several advantages, including (i) keeps varieties that can become competitive and marketable when their advantage traits are needed, and (ii) preserve varieties that have a lesser impact on biodiversity loss than many modern alternatives if the key traits include the need for less pesticides, less nutrient and this less land resources.</p> <p>Preserving medicinal plants as an incentive for conservation of NR: The very need that communities have for medicinal plants could create an incentive for natural ecosystem conservation. However, for now the incentive framework is insufficient or inadequate in itself to stimulate a significant behavior change. Preserving medicinal plants should be one of the incentives or tools to promote sustainable NRM.</p>

<p>Safety-Net/Food Security</p>	<p>Indigenous crops: Farmers have (re)discovered varieties of indigenous crops (e.g. varieties of yam) that conserve better and can be kept available during junction time. It is worth searching further.</p> <p>NRM-based alternative livelihoods: Shea nut production and bee-keeping are two alternative-livelihood enterprises supported by the project that provide additional income to households. Like all of the above can be seen in the context of diversification of the sources of revenues in the same household. However, like for all commercial ventures, the use of grant is to be discouraged.</p> <p>The value of biodiversity as a safety-net: Biodiversity provides a safety net for many people in the north, be it for health (medicinal plants), food (bush-meat, honey), energy (firewood) and housing (thatch). However, the value and effectiveness of that safety net is not measured.</p>	<p>NR-based Safety-Net: The safety/livelihoods (food, health, shelter, energy, drink, etc.) of poor rural communities largely depend on natural resources. However, as natural resources are often a common good, sustainable management of these resources is often problematic. Several labor intensive NR-based activities (afforestation, bush-fire control, maintenance of protected areas boundaries, etc.) can be included in a menu of activities to be used as a productive activity within a Safety-Net program.</p>
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