

Document of
The World Bank
FOR OFFICIAL USE ONLY

Report No: ICR00004343

IMPLEMENTATION COMPLETION AND RESULTS REPORT

<IDA-51160>

<TF-121414>

<TF-51160>

ON A

CREDIT

IN THE AMOUNT OF SDR 16.20 MILLION

(US\$25.00 MILLION EQUIVALENT)

A GRANT FROM THE

GLOBAL ENVIRONMENTAL FACILITY TRUST FUND

IN THE AMOUNT OF US\$4.62 MILLION

AND A GRANT FROM THE

LEAST DEVELOPED COUNTRIES FUND

IN THE AMOUNT OF US\$4.62 MILLION

TO THE
Republic of Chad

FOR THE

AGRICULTURE PRODUCTION SUPPORT PROJECT (P126576)

December 21, 2017

Agriculture Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {June 30, 2017})

Currency Unit =

XAF574 = US\$1

US\$1.39 = SDR 1

FISCAL YEAR

July 1 - June 30

Regional Vice President: Makhtar Diop

Country Director: Soukeyna Kane

Senior Global Practice Director: Juergen Vogeler

Practice Manager: Marianne Grosclaude

Task Team Leader(s): Amadou Ba

ICR Main Contributor: Daniel P. Gerber

ABBREVIATIONS AND ACRONYMS

CAADP	Comprehensive Africa Agricultural Development Program
CAR	Central African Republic
CASSET	Federation of Herder Associations of Chad
CDA	<i>Comité Départemental d'Actions</i> (Departmental Action Committee)
CDD	Community Driven Development
CDP	Communal Development Plan
CNCPR	<i>Conseil National pour le Dialogue des Producteurs Ruraux au Chad</i> (National Dialogue Council for the Rural Producers of Chad)
DACs	Departmental Action Committees
ESMF	Environmental and Social Management Framework
ESSAF	Environmental and Social Screening Framework
FAO	Food and Agricultural Organization of the United Nations
FRR	Financial Rate of Return
GEF	GEF Global Environment Facility
GEO	Global Environmental Objective
LAC	Legally-recognized Community Organizations
LDCF	Least Developed Countries Fund
LDPSP	Local Development Program Support Project
LDP	Local Development Plan
M&E	Monitoring and Evaluation
MAI	Ministry of Agriculture and Irrigation
MEF	Ministry of Environment and Fisheries
MPDAP	Ministry of Pastoral Development and Animal Production
NAPA	National Action Program of Adaptation to Climate Change
NFSP	National Food Security Program
NGO	Non-Governmental Organization
NPRS	National Poverty Reduction Strategy
NPV	Net Present Value
ONDR	<i>Office National de Développement Rural</i> (National Agency for Rural Development)
ORAF	Operational Risks Assessment Framework
PCU	Project Coordination Unit
PDO	Project Development Objective
PIM	Project Implementation Manual
RCU	Regional Coordination Unit
SIL	Sector Investment Loan
SLWM	Sustainable Land and Water Management

TABLE OF CONTENTS

DATA SHEET	ERROR! BOOKMARK NOT DEFINED.
I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES	6
A. CONTEXT AT APPRAISAL	6
B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)	9
II. OUTCOME	11
A. RELEVANCE OF PDOs	11
B. ACHIEVEMENT OF PDOs (EFFICACY)	12
C. EFFICIENCY	14
D. JUSTIFICATION OF OVERALL OUTCOME RATING	14
E. OTHER OUTCOMES AND IMPACTS (IF ANY)	15
III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME	16
A. KEY FACTORS DURING PREPARATION	17
B. KEY FACTORS DURING IMPLEMENTATION	18
IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME ...	20
A. QUALITY OF MONITORING AND EVALUATION (M&E)	20
B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE	22
C. BANK PERFORMANCE	23
D. RISK TO DEVELOPMENT OUTCOME	24
V. LESSONS AND RECOMMENDATIONS	25
ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS	28
ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION	32
ANNEX 3. PROJECT COST BY COMPONENT	34
ANNEX 4. EFFICIENCY ANALYSIS	35
ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS	41



DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P126576	AGRICULTURE PRODUCTION SUPPORT PROJECT (P126576)
Country	Financing Instrument
Chad	Emergency Recovery Loan
Original EA Category	Revised EA Category

Related Projects

Relationship	Project	Approval	Product Line
Supplement	P131019-TD-Ag.Prod. Support Project GEF (PSG)	17-May-2012	Global Environment Project

Organizations

Borrower	Implementing Agency
Republic of Chad	PAPAT PCU, Ministry of Agriculture

Project Development Objective (PDO)

Original PDO

Project development objective: To support rural communities and producer organizations in increasing (i) the production of selected crops and livestock species in selected areas of the Recipient's territory; and (ii) the use of sustainable land and water management practices in climate vulnerable ecosystems.



FINANCING

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
P126576 IDA-51160	25,000,000	22,891,411	18,731,185
P131019 TF-12415	4,629,629	4,629,629	2,348,319
P131019 TF-12414	4,629,629	4,629,629	3,002,588
Total	34,259,258	32,150,669	24,082,092
Non-World Bank Financing			
Borrower	0	0	0
Total	0	0	0
Total Project Cost	34,259,258	32,150,669	24,082,092

KEY DATES

Project	Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
P126576	17-May-2012	10-Jan-2013	31-Dec-2014	31-Dec-2016	30-Jun-2017
P131019	17-May-2012	10-Jan-2013	31-Dec-2014	31-Dec-2016	30-Jun-2017

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
18-Jul-2014	4.43	
30-Dec-2016	15.76	Change in Loan Closing Date(s) Reallocation between Disbursement Categories
27-Jun-2017	18.43	Reallocation between Disbursement Categories

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Moderately Unsatisfactory	Unsatisfactory	Substantial



RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	31-Oct-2012	Satisfactory	Satisfactory	0
02	15-Dec-2012	Moderately Satisfactory	Moderately Satisfactory	0
03	01-Jul-2013	Moderately Satisfactory	Moderately Satisfactory	1.63
04	26-Feb-2014	Moderately Satisfactory	Moderately Satisfactory	3.04
05	30-May-2014	Moderately Satisfactory	Moderately Satisfactory	3.79
06	01-Dec-2014	Moderately Satisfactory	Moderately Satisfactory	9.66
07	02-Jun-2015	Moderately Satisfactory	Moderately Satisfactory	10.84
08	16-Jan-2016	Moderately Unsatisfactory	Moderately Unsatisfactory	13.46
09	30-Sep-2016	Moderately Satisfactory	Moderately Satisfactory	15.07
10	25-Apr-2017	Moderately Satisfactory	Moderately Unsatisfactory	17.04
11	11-Jul-2017	Moderately Satisfactory	Moderately Satisfactory	18.43

SECTORS AND THEMES

Sectors

Major Sector/Sector (%)

Agriculture, Fishing and Forestry 100

Fisheries 3

Crops 4

Public Administration - Agriculture, Fishing & Forestry 28

Livestock 3

Forestry 1

Other Agriculture, Fishing and Forestry 61

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)



Finance	13
Finance for Development	13
Agriculture Finance	13
Human Development and Gender	23
Gender	14
Nutrition and Food Security	9
Food Security	9
Urban and Rural Development	53
Rural Development	53
Rural Markets	13
Rural Infrastructure and service delivery	34
Land Administration and Management	6
Environment and Natural Resource Management	48
Climate change	36
Mitigation	18
Adaptation	18
Renewable Natural Resources Asset Management	12
Biodiversity	6
Landscape Management	6

ADM STAFF

Role	At Approval	At ICR
Regional Vice President:	Obiageli Katryn Ezekwesili	Makhtar Diop
Country Director:	Ousmane Diagana	Soukeyna Kane
Senior Global Practice Director:	Jamal Saghir	Juergen Voegele
Practice Manager:		Marianne Grosclaude
Task Team Leader(s):	Manievel Sene	Amadou Ba
ICR Contributing Author:		Daniel P. Gerber





I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

1. In 2010, a prolonged drought in Chad led to widespread crop failures and the loss of large number of livestock. The delayed onset of the rainy season the following year with significantly lower than normal precipitation levels led to a steep reduction in cultivated area leading to a fall in cereals production of nearly 40 percent while other food crops fell by approximately 28 percent. Altogether food production fell by an estimated 56 percent in the entire Sahelian region. The national cereals deficit was estimated at appraisal at 455,000 Metric Tons (MT).
2. Agriculture in Chad had been performing far below its potential. Crop productivity was very low, and average crop yields lagged far behind those achieved in neighboring countries. Only 6 percent of the land area was cultivated, and water resources remained largely untapped (only 9 percent of the potential was used). Livestock productivity also was very low, reflecting the widespread use of traditional extensive management practices and limited use of improved genetics and purchased veterinary inputs. As pressure increases on natural resources, endemic food insecurity and recurring tension between farmers and pastoralists over access to land and water resources had become major challenges. The 2010 and 2011 food shortages had lasting impacts, leaving many rural households severely decapitalized and paving the way for the full-blown humanitarian crisis.
3. Agricultural growth in Chad was constrained by many factors, many of them related to the country's challenging agro-climatic conditions. Natural disasters related to erratic climate conditions represent a strong handicap to the development of the sector. These climate-related challenges were compounded by a wide range of technical and institutional constraints, including inadequate infrastructure, limited access to markets, market uncertainty, weak capacity of producer organizations, lack of financing, poor sectoral coordination, and political instability. Recognizing the risks to agriculture posed by climate change, and in line with the priority actions identified in the National Food Security Program (NFSP-II) for improvement of land and water management, the World Bank and the Republic of Chad had agreed to associate grants from GEF and LDFC with the IDA-funded emergency operation. The blending of these resources was expected to build sustainability into the emergency operation by allowing increased agricultural productivity to be pursued in a sustainable manner, contributing to more climate-resilient agricultural production and enhanced food security.
4. In developing this operation, the Bank expected to both address the long-standing food deficit risks of the country and simultaneously respond to an emergency request by the Government of Chad to help it address immediate needs emerging from the 2011 drought.

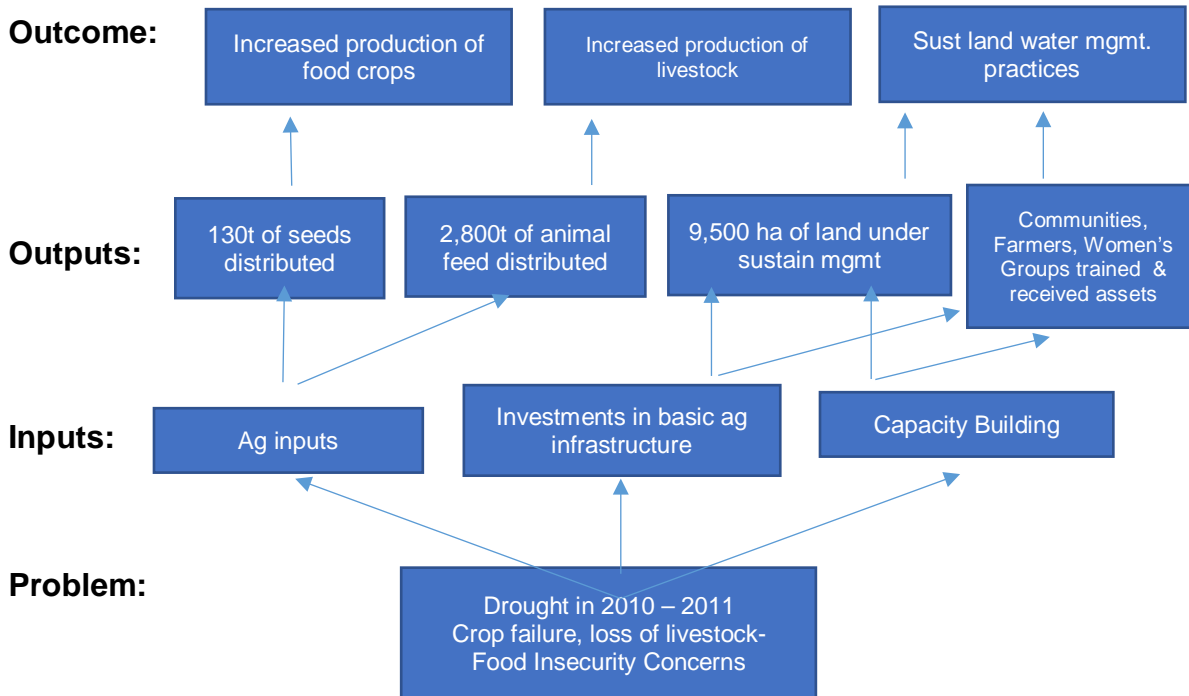
Theory of Change (Results Chain)

5. A key aim of the intervention was to respond quickly and directly to the emergency appeal issued in December 2011 by the Republic of Chad and help finance the costs associated with addressing food insecurity in the country. It was assumed that by providing inputs, supporting improvements in means for crop production,



livestock and land management longer term food security in project areas could be achieved. This was to be achieved by strengthening the capacity of local communities and producer organizations and facilitating their productive investment in sustainable land management and in the production, processing, and marketing of selected food crops and livestock species.

6. The project’s theory of change is below summarized



Project Development Objectives (PDOs)

7. The PDO was to support communities and producer organizations in increasing (i) the production of selected crops and livestock species in selected areas of the Recipient’s territory, and (ii) the use of sustainable land and water management practices in climate vulnerable ecosystems.

Key Expected Outcomes and Outcome Indicators

8. The key Outcomes and Outcome Indicators to measure achievement of the PDOs were:

- i. Increased production of targeted food crops by direct beneficiaries in the targeted regions (tons) [IDA] compared to baseline (989,900 tons);
- ii. Increased production of targeted animal species by direct beneficiaries in the targeted regions (number) [IDA] compared to baseline (Sheep 650,000; goats 1,178,500; poultry 10,878,400 and pigs 24,400);



- iii. Additional area under sustainable land and water management (SLWM) practices (hectares) [GEF/LDCF] and compared to baseline (9,500 ha) and
- iv. Direct project beneficiaries (number), of which female (percentage) [IDA and GEF/LDCF] compared to baseline (95,300)

Components

The project consisted of five components as follows:

9. **Component 1: Provision of agricultural inputs.** The emergency component of the project aimed at increasing access to seeds and animal feed, with the goal of improving livelihoods, ensuring food security, and preventing livestock decapitalization in areas of northern Chad most affected by drought. The component was to finance the purchase of 128 tons of seeds and 2,800 tons of animal feed (groundnut/cotton seed cake) for distribution to 23,500 farmers/herders to enhance domestic food production capacity. The seeds were to be sufficient to sow approximately 15,000 hectares, including approximately 11,250 hectares planted to rainfed sorghum and approximately 3,750 hectares planted to flood-recession sorghum to lead to production of an additional 10,500 tons of cereals with normal rainfalls. The animal feed to be distributed would be sufficient to keep alive approximately 42,500 head of animals (sheep, goats, and cattle). This component also provided training and extension services, to optimize the use of the inputs. The training and extension services were to be delivered by public agencies, NGOs, and private service providers.

10. **Component 2: Support to food production.** The overall objective of this component was to enhance crop and livestock production and productivity in a sustainable manner. Two disbursement windows focusing respectively on investments to benefit communities (micro-projects) and investments to benefit producer organizations and women's groups (sub-projects) were established. The 180 micro-projects would produce public goods, mainly infrastructure and were implemented by local government bodies for the benefit of the entire community. The 260 sub-project investment with producer organizations and women (220 sub-projects) were designed to finance semi-public goods, mainly productive and income generating assets. Given the high vulnerability of the country to natural disasters and climate change, productive investments were supported by complementary investments made under Component 3 to enhance the sustainability of productive activities and make them more climate-resilient, while protecting and enhancing the natural resource base on which agriculture depends. Implementation arrangements for micro-projects and sub-projects were to be described and elaborated in greater detail in the Project Implementation Manual (PIM).

11. **Component 3: Sustainable land and ecosystem management** This component was to complement the productive investments being made through micro-projects and sub-projects, and support sustainable management and protection of ecosystems. The component was composed of: (i) Sustainable land management and climate change adaptation; and (ii) Ecosystem management. It intervened in the same regions than the project except in Kanem and Bahr El Ghazel that only had emergency activities. LDCF resources helped improve the efficiency, sustainability, and climate resilience



of agricultural investments carried out under Component 2, by financing activities that promote better management of natural resources. The component was to finance the introduction of 3 Innovative SLWM practices in targeted zones and implementation of 40 SLWM micro- projects implemented on time. This component would also provide training to Community groups trained on SLWM and climate resilience

12. **Component 4: Capacity building and institutional support to public services.** This component supported implementation of Components 1, 2, and 3 by providing institutional support to the Ministry of Agriculture and Irrigation (MAI), Ministry of Environment and Fisheries (MEF), and Ministry of Pastoral Development and Animal Production (MPDAP), and their related decentralized services involved in the Project at all levels. This involved capacity building for: (i) accompanying communities and producer organizations in preparing and implementing their investments; (ii) providing services to Rural Councils in the monitoring, management and maintenance of infrastructure; (iii) provide services to producer organizations in the areas of animal health services supply, advisory services supply, and necessary trainings; and (iv) contributing to the monitoring of work undertaken by these institutions. The Project furthermore provided support to the two major apex producer organizations (National Dialogue Council for the Rural Producers of Chad - CNCPRT and Federation of Herder Associations of Chad - CASSET), to improve their ability to provide services to their members.

13. **Component 5: Project Coordination and Management.** This component supported project implementation activities, including operating costs of a lean Project Coordination Unit (PCU) under MAI with offices at national and regional levels. Financing covered goods and equipment, consulting services, trainings and study tours, and operating costs. The PCU would also set up a communication system that would (i) provide support to production of crops and livestock, which would be oriented toward the main actors in the relevant value chains, and (ii) communication to publicize the impact of the Project, which would be shared with the stakeholders and partners and the larger public.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

14. The project was formally restructured 3 times. The first time on July 14, 2014 at the request of the Government to help manage an emerging crisis caused by the migration of Chadian refugees fleeing from violent conflicts in neighboring CAR, which was compounded by a severe drought that adversely affected the Pastoralists. The changes consisted of: (i) reducing component 2 and component 5 to reallocate US\$3.5 million in IDA resources to the component 1 and (ii) outsourcing the implementation of emergency activities to the FAO under a signed MOU with the Government. The other two times involved minor changes as explained below.

Revised PDOs and Outcome Targets

15. There were no changes to the PDOs.



Revised PDO Indicators

16. The PDO indicators were not revised with this Restructuring. Although more resource were allocated to the component 1, the Task did not change the target for households and beneficiaries receiving emergency assistance. However, two Intermediate Results (IR) were revised. The final target for the IR#1 (Improved seeds -rainfed Sorghum and Berebere (white sorghum cultivated in lowlands)- procured and distributed) was increased from 130 to 230 tons and the target value of the IR#2 (Animal feed procured and distributed) was increased from 28 to 4,550 tons.

Revised Components

- (a) **Component 1: Provision of agricultural inputs:** Consistent with the Government's request, further resources were allocated to Component 1 to expand crisis relief interventions already being supported either by the Government or other development partners. No new activities were introduced in the component. It is worth mentioning that to avoid any unforeseen conflict, seeds and inputs were distributed only to communities which had integrated returnees facing food shortage and were also ready to facilitate access to land for the returnees.
- (b) **Component 2: Support to food production.** IDA Financing of this component was reduced from US\$15.0 to 12.0 million but the type of activities remained the same as in the original design.
- (c) **Component 5: Project coordination and management.** The IDA resource for this component were reduced from US\$5.7 million to US\$5.5 million to support component 1 expansion.

Other Changes

17. The two minor changes referred to above were both made at the request of the Government.
18. The first was Change in Loan Closing Date from December 31, 2016 to June 30, 2017, which was granted in December 2016. The change would allow the recipient to (i) reach the development objective targets by completing the pipeline of approved micro projects and (ii) provide the opportunity to carry out a technical and financial audit of the sub/micro-projects to confirm sustainability and compliance with procedures, as well as to carry out a beneficiary impact assessment.
19. Second was the partial cancellation of the project's uncommitted funds, granted in June 2017 to ensure that non-committed IDA funds would remain allocated to Chad and could be reallocated to priority activities of the country. This resulted to the cancellation of US\$1.56 million as it could not be used on the remaining planned activities before project closing.

Rationale for Changes and Their Implication on the Original Theory of Change

20. The Government of Chad was facing a serious and potentially destabilizing emergency crisis, with hundreds of thousands of Chadians fleeing from the outbreak of a violent conflict in neighboring Central Africa Republic (CAR). This problem was compounded by a climatic shock with a devastating drought especially for the livestock sector. The pastoralists could not take their herds to conflict-prone CAR for water and pasture. Moreover, the Government was very concerned about the proliferation of animal diseases in Chad as a result of the concentration of the returning pastoralists and their herds. The project was seen as an effective first step to



address to mitigate the crisis before more comprehensive measures would be in place.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

The relevance of the project development objective is rated High.

21. There was some confusion at the inception of the project as to what the nature of the operation was expected to be. At PCN stage it was conceived as a classical investment operation with the objective of increasing food production however without the aspect of increased area under improved landscape management. Albeit an Emergency operation the project was well aligned with the Chad Country Interim Assistance Strategy (CIAS- FY11-FY12) aimed at supporting the National Poverty Reduction Strategy (NPRS-II 2008-11) and would complement the Bank's rural portfolio in Chad under implementation at the time, which included the Local Development Program Support Project (LDPSP-II).
22. The Bank produced a new Country Partnership Framework (CPF) in November 03, 2015 that identified three main themes of engagement as follows:
 - Strengthening management of public resources
 - Improving returns to agriculture and building value chains
 - Building human capital and reducing vulnerability
23. In July 2017, the Government introduced a new National Development Plan that generally coincides with the objectives of the Bank's CPF of 2015. As such the relevance of the PDO is high and remains fully in line with policy priorities of the government and the Bank. Project activities were focused on reducing vulnerabilities caused by drought, food insecurity and instability caused from refugee movements and degrading landscapes. Interventions boosted agricultural production by increasing cultivated areas and inputs to improve animal health and maintain livestock, as well as protect the landscape to secure agricultural production thus building capacity at the level of government services and aggregators to secure the food chain and improve access to food by a rapidly growing population.
24. Surprisingly, the PDO did not include a clear variable nor indicator that would define the project's success as an emergency operation responding to a crisis in a timely fashion. As such the project was more characterized by measurements of its effectiveness in supporting the recovery from an emergency and in mitigating the recurrence of a new crisis. As such, measuring basic numbers of population reached, food production as a consequence of the provision of inputs, along with measures that would reduce vulnerabilities stemming from degraded land were sensible PDO indicators. The challenge with these indicators however, is that they would need to rely on existing databases or an extensive surveying/census system that captures the changes. For an emergency intervention, an intermediate indicator reflecting the timeliness of the interventions would have been useful.
25. From a longer development perspective, the PDOs were relevant because they remain the drivers of the government's agriculture and poverty reduction strategy. Agriculture, the main livelihood source for most



Chadians, in spite of its vulnerability to weather has considerable potential and is expected to continue being a major engine of growth and poverty reduction. A constant in the Government's agricultural development strategy for decades is the country's vulnerability to climate-related risks, both short-term risks associated with climatic variability and long-term risks associated with climate change. The project development objectives of (i) increased crop and livestock production and (ii) widespread adoption of sustainable land and water management practices to ensure greater resilience of agricultural production to the effects of climate change, are very relevant to current government strategy as they were at appraisal.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

26. According to the data provided, the project achieved most its development outcomes (PDOs) indicators to increase the production of selected crops and livestock in the target regions while increasing the use of sustainable land and water management practices. These objectives were achieved in spite of implementation delays due to a steep learning curve for the adoption of the project's decentralized implementation approach and general weaknesses in implementation capacity by its stakeholders.
27. The achievement of the PDO is examined below by assessing the achievement of each of the outcome indicators.
- a) ***The Achievement of Increased production of targeted food crops by direct beneficiaries in the targeted regions (Metric ton) is rated Moderately Satisfactory.*** This target estimated production to rise to 989,900 metric tons of food crops. The actual achievement of 956,426 mt is roughly 97% of the original estimate. It must be noted however that this increase is the result of a considerably larger emergency component that supplied seeds and inputs to farmers and positively affected the outcome without significant changes in productivity.
 - b) ***The Achievement of Increased production of targeted animal species by direct beneficiaries in the targeted regions (Number) is rated Moderately Satisfactory.*** Livestock numbers except for poultry have increased quite dramatically, including more than 80,000 additional sheep, 140,000 additional goats, as well as increases in pigs and chicken production. As such the outcome target of this indicator has been 100 percent achieved at project end with livestock numbers increased from 12.39 to 12.73 million or about 330,000 additional animals. The development of small ruminant rearing at the service provider-level and in certain producer organizations, were drivers of the positive achievements. The expansion in both number of cattle and direct beneficiaries resulting from the restructuring undertaken in 2014 to provide emergency support to address the migrant crisis associated with the return of about 150,000 Chadians and their herds fleeing the conflict in neighboring CAR substantially contributed to this result. The figures stem from the Livestock census conducted by the Ministry of Livestock with support from FAO and financed by the African Development Bank and the European Union in 2015.
 - c) ***The achievement of the Direct project beneficiaries (Number) is rated Satisfactory.*** As at the end of the project, the total number of direct beneficiaries was 289,689.0, representing 254.5 percent achievement rate. These figures were collected as part of the beneficiary survey conducted at the closure of the project: Beneficiaries were subdivided in the following categories each representing an output indicator:



- a. **An estimated at 107,856 beneficiaries enjoyed emergency support at end of project, exceeding the outcome target of 48,000 by 126 percent.** Much of this achievement is to be attributed to the 2014 restructuring to address the emergency Chadian returnees-crisis resulting from the violent conflict in neighboring CAR.
 - b. **At project end, 12,800 agricultural producers benefited from project support against a target of 30,000 estimated at appraisal.** The resources reallocated at restructuring went disproportionately to herders/pastoralists at the expense of sedentary farmers in the regions where the refugees were settled and integrated which explains the lower level of achievement.
 - c. **Female beneficiaries (Percentage).** This outcome target indicator is the result of the unbundling of outcome indicator 3 (Direct Beneficiaries). The number of women beneficiaries was 51 percent compared to 32 percent output target end of project. This high number is in part the result of the income generating activities that were entirely targeted to women.
 - d. **Livestock owners (Number).** This outcome target indicator was added during the restructuring of 2014. It was introduced in response to the large number of pastoralists among the returning Chadians fleeing the CAR conflict and the few non-Chadian herders who might follow their Chadian brothers out and away from harm's way. The outcome target indicator was 18,000, while the actual was 95,056 of livestock beneficiaries were recorded at project closing more than four times the original estimate. The number of returnees from CAR, estimated at more than 150,000 is part of the reason for this high number.
- d) **The achievement of the GEF/LDCF Objective Indicator--Additional area under sustainable land and water management (SLWM) practices (Hectare) is rated Moderately Satisfactory.** The actual area brought under sustainable land and water management practices to enhance the capacity of the beneficiaries to cope with climate change and to make agricultural production resilient to the effects of climate change, is estimated at some 235,520ha compared to 95,000 ha estimated at project inception. That is more than 2.5 time higher than appraisal estimates because SLWM measures were disseminated and adopted on wider scale along the entire transhumance corridor of Tchad. However, for more in depth conservations measures of the three SLWM measures envisaged at appraisal only two were effectively implemented and of some 200 communities envisaged at appraisal to be trained only 85 participated in the program involving micro-projects.

Justification of Overall Efficacy Rating

Overall Rating: **Modest**

28. For an emergency operation the project was rather complex given the challenging in-country environment. Ultimately long implementation delays adversely affected much of the project. Delivery of goods under the emergency component were substantially delayed and seeds and inputs were only received the following sowing/planting season. The micro -infrastructure, and productive and income-generating activities were only begun to be implemented in earnest during the last two years of project implementation. The micro- and sub- projects of the beneficiaries did not begin to generate a revenue stream until the final year of the project. There were weaknesses in the implementation coordination function of the supervising ministry, the contracted public service technical departments most of which provide little support to the decentralized implementation structures and field agents operating on the ground. The lack of adequate time to follow-up with beneficiaries with TA and advisory services undermines the sustainability of the investments in the micro-and sub-projects in doubt. The indispensable training and technical assistance support after the completion and closure of this project is unlikely to be continued.



C. EFFICIENCY

Assessment of Efficiency and Rating

Overall Rating: **Modest**

29. **Economic Analysis.** The analysis is based on a representative sample of micro-and sub-project enterprise models developed as a basis for the assessment of probable returns from investments in the various micro-and sub-project revenue-generating production activities. The analysis assumed the “with” and “without” project situation. And the “before” and “after” financing situation scenarios. Only direct costs and benefits have been estimated and quantified. Social and other non-quantifiable benefits such as structural investments and capacity building support arising from the project have not been taken into account. The period of analysis is 15 years as in **ex ante** scenario. Considering the full economic costs, the re-estimated overall **ex-post** Economic Rate of Return (ERR) for the Project was 15.9 percent, which shows satisfactory efficiency in the use of project resources, although lower than the **ex ante** estimate of 19 percent. The ex-post NPV was \$ 2.635 million compared to the ex ante NPV of \$11.65 million. The lower efficiency performance rating ex post is attributable to the long delay (of about 3 years) before the execution of the micro- and productive sub-projects and the generation of benefit streams from these investments by the beneficiary-communities. With an ERR still well above the opportunity cost of capital, which was 12 percent, the Project remains a positive investment for the government of Chad.
30. **Cost-Effectiveness.** All procurement was performed in line with the contracting procedures, especially the community-based procurement guidelines prescribed in the PIM. Legally-recognized Community Organizations (LACs) solicited three bids for the subproject and chose the least-cost bid compared to subprojects of similar quality financed by the central government to ensure costs were contained.
31. **Technical Efficiency.** Standardized designs were developed (including engineering, aspects of technical, financial and economic feasibility, O&M, simple environmental guidelines and cost parameters) for most of the subproject demanded by the communities. Field evidence demonstrates that these simple, practical standards have enhanced subproject quality, sustainability and cost-effectiveness. The PCU also administered training programs for service providers, facilitators and develops community-capacity to prepare, implement, operate and maintain subprojects.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

Overall Rating: **Moderately Unsatisfactory**

32. Reading all the documentation available the project provides for quite a compelling story. Approximately 97 percent of the key outcome indicators targets (results targets 1-4) have been achieved. This means that, overall, the project has significantly enhanced the Government’s capacity to cope with the severe food insecurity crisis in the country compared to when the project was being



prepared. The production of the selected food crops increased substantially as did the production of the selected livestock, including small ruminants. The area devoted to SLWM practices also increased significantly relative to the baseline scenario and the number of direct beneficiaries increased by about 300 percent compared to the baseline data. However, there are considerable attribution issues with the achievement of some of the outcomes. For instance, as it relates to impact on livestock numbers, as well as the adoption of SLWM measures, the Bank and other donors financed other projects in Chad for a number of years addressing concerns very similar to those addressed under this project. It does not appear possible to easily segregate the impacts of all these projects along the transhumance corridor. A further caveat is that much of this increases in livestock and food production may be mostly as a result of the reallocation of about \$3.5 million to the Emergency component. The PDO achievement falls short also due in large part to the long implementation delays; the poor implementation capacity at all levels of Government, the recurrent problems in management of the fiduciary issues, and long delays in the sub-projects processing and approval process. Finally, despite the critical needs that remain unaddressed, the project only disbursed about two-third of the resources available . In light of all these elements in spite of meeting most of the output indicators and substantially a PDO that was very output oriented, the project can only be rated as **Moderately Unsatisfactory**.

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

33. Through sub-component 3-- support for access to **income generating assets for women (AGR)**--, the project targeted an especially vulnerable segment of the population whose members had fewer reserves of food or cash to fall back on, and who disposed of fewer options for generating additional income. Women's groups, many of which were actively involved in post-harvest activities, were given priority when sub-projects were selected. This gender-targeted production support enabled the women groups to add value to their products and increase their incomes amounting to some FCA 300 million in the aggregate compared to the before-project scenario, according to Government estimates. By promoting access to and the rapid deployment of assets, the project successfully facilitated adoption of productive capital by smallholder farmers and microenterprises in the poor rural areas of the country. Furthermore, the targeted assistance provided by the project to women enhanced their capacity to cope with recurrent droughts and other weather-induced shocks as well as helped to reduce their vulnerability to post-harvest losses and food shortages. The targeted support to women significantly decreased the risk of food insecurity which the communities in the project zone face constantly in the before -project environment. Furthermore, women beneficiaries benefited from the capacity building support and training in the successful adoption of SLWM practices.

Institutional Strengthening

34. Perhaps the project's most outstanding contribution to institution building has to do with the successful introduction of the Community Driven Development (CDD) in Chad, in spite of the steeper learning curve before it began to gain traction. Local development planning was promoted by the project. This concept sought to assist all users of the scarce land and water resources in a given community/geographic location, organized into a viable and legally-recognized common economic interest groups (EIGs) to follow a socially-inclusive and participatory process to prepare



local development plans (LDPs) and the associated budget. The participating community organizations are thus encouraged to take charge of their own development agenda by articulating, according to a participatory and socially-inclusive process, their LDPs. These plans serve as the basis for the financing of community sub-projects. The LDP process was also intended to serve as an instrument for social cohesion and for managing conflicts arising from competition to access scarce water and land resources, such as the tradition-bound farmer-pastoralist conflicts.

35. The project’s contribution to social capital formation occurred at two levels, viz: (a) as the service delivery mechanism became more decentralized. Thanks to the Government’s Decentralization policy—there was increasing devolution of responsibility closer to the field through the Departmental Action Committees (DACs) and the legally-recognized community organizations (LACs). The LACs and DACs served as a participatory vehicle for communities to address their collective needs in a socially-inclusive manner. Through this process, the DACs have been effective in:(b) strengthening the capacity of both communities and Local Councils to select, prioritize and implement investment decisions; (c) creating partnerships between communities, Councils and service providers; (d) increasing community voice in the use of public resources; and (e) fostering citizenship through increased awareness of social responsibilities of citizens, their representatives and public authorities in community and public matters; and (f) reducing clientelism and political meddling and potential elite capture. The development of this instrument could be a major element in the formulation of future projects and implementation of common good activities related to SLWM or small scale infrastructure.
36. The public service agencies and departments were also expected to benefit from support provided under the capacity building component. The field offices of the technical departments of the participating line Ministries however, did not always have access to the resources meant for the decentralized project execution function. The Departments at the center reportedly either delayed transfer of project funds to the field offices or used the funds for other purposes. Future projects supporting objectives similar to this one will need to take note of the weak capacity at the level of the various government institutions and decide whether external services are not better suited to support project implementation.

Poverty Reduction and Shared Prosperity

37. The Project was successful in averting and responding to crises that affected the project area and played a role in ensuring stability and reduce the immediate vulnerability of the population. By design, the project focused on averting the worst fall-out from the drought and the subsequent refugee movements stemming for instability in neighboring countries. It effectively targeted women by providing for small income generating activities that are part of their typical household activities.

Other Unintended Outcomes and Impacts

38. None identified.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME



A. KEY FACTORS DURING PREPARATION

39. The project had a very ambitious agenda with very little time to achieve all the stated objectives. The intent by the Bank to use this project to quickly respond to the request of the Government of Chad for Emergency assistance in face of a food insecurity crisis, the project ended up with a somewhat confused design composed of longer term food security objectives and sustainable land management objectives while responding to an immediate crisis. However, the background analysis was sound. Project design drew heavily from the (i) Agricultural Sector Review (2011) jointly undertaken by the WB and the French Development Agency (AFD); (ii) NFSP II, Second Phase—2011-2015; (iii) National Program of Adaptation -NAPA-(2010); and (iv) the Sahel and West Africa Program (SAWAP). The following lists the main design issues that were considered at preparation.
40. *Choice of a climate-resilient agricultural production strategy* - Recognizing the climate change risks, and in line with the priority actions identified in the NRSP-II for improvement of land and water management, the World Bank and the Republic of Chad agreed to associate grants from GEF and LDFC with the IDA-funded emergency operation. The blending of these resources would build sustainability into the emergency operation by allowing increased agricultural productivity to be pursued in a sustainable manner, contributing to more climate-resilient agricultural production and enhanced food security
41. *Urgency of a response to the Emergency Food Insecurity Crisis* - At concept stage, the Government of Chad issued an emergency appeal to development partners for assistance. The World Bank had already confirmed its intention to finance a four-year Agricultural Production Support Project (P126576) at the time of the request. To allow the World Bank to respond more quickly, the proposed IDA-financed Agricultural Production Support Project had to be converted into an Emergency Agriculture Production Support Project. The emergency operation would be designed to maintain many of the design elements of the original SIL, but adjustments would be made to redirect resources toward quick-disbursing activities that had the greatest potential to improve food security in the short run. At the same time using GEF/LDCF support to reduce future vulnerabilities and safeguard food security over the longer term. The design of the core components of the project—components 2 and 3, representing more than 65 percent of total project cost, drew heavily from the abandoned SIL and the findings of the 2011 agricultural sector review (by WB and FDA), but also aligned with NFSP II and the priorities of NAPA.
42. *Choice of a decentralized implementation approach*. The Bank was aware that the institutional framework for doing business in the agriculture and rural sector in Chad was top-heavy-down, centralized and supply-driven. The civil service bureaucracy managing agricultural projects was plagued by governance issues with regards to the management of public resources. This was a major finding of a Financial Management Assessment of the supervising ministry, the Ministry of Agriculture and Irrigation (MAI) which the Bank conducted in accordance with the Financial Management Manual issued on March 1, 2010. The Assessment revealed that the Financial Management (FM) system of MAI had the following capacity constraints: (i) lack of capable FM staff with experience working with World Bank procedures; (ii) lack of accounting software; (iii) weak internal control environments that need to be strengthened; and (iv) risk of fraud and corruption



inherent to CDD operations. The weaknesses reflect the more fundamental problem of a lack of implementation capacity at both the central and local levels of government in the country.

43. To address this implementation risk, the Bank established Regional Coordination Units (RCUs) and a project coordination unit (PCU) at the central level to carry out the implementation coordination functions.
44. *Complex Project Design.* World Bank experience with emergency response operations at the time of the preparation of the project underscored the need to approach challenges such as the one that Chad was facing with realism and simplicity. A major source of the complexity of this project was that it was designed as an agricultural production support project, which was structured as a Sector Investment Loan (SIL) and not an Emergency operation. It was, however, being implemented as an Emergency project, based on a CDD approach, to be introduced in a country characterized by extremely weak institutional capacity at both the central and regional levels and a top-heavy-down and centralized approach to the management of development projects and rural development in general. Expecting the project to be successfully implemented within the 4-year project life raises issues about the degree of realism of the project design. None of the key government and Bank strategy documents used to inform project design shed light on the institutional framework of agriculture and rural development to determine whether there was in-country capacity to implement the proposed project, which already appeared to have a very ambitious agenda.
45. *Inadequate Implementation Preparedness.* At appraisal, there was very little in-country experience with the CDD approach. The Bank failed to do the head-start work that was necessary to create the conditions for the introduction of this major institutional innovation. The assumptions made with regards to the Local Development Plans (LDPs), which were a condition for disbursement of funds to finance micro-and sub-projects at the community level turned out to be fallacious or never held out. Firstly, the beneficiaries never received any training in the preparation of LDPs. Secondly, the Project team and their service providers did not have any training on the LDPs for the types of micro-sub-projects (mainly productive, infrastructure and income-generating investments) being promoted under the new project. The experience of the former was limited to the LDPs for social micro-projects. Consequently, the training and technical assistance support, proper, for sub-micro-project identification, LDP development and the associated sensitization work did not begin till the start of the third year of the 4-year project. This oversight was prejudicial to a satisfactory rating of achievement of the PDO outcome target indicators.

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to government and/or implementing entities control

46. **Commitment and Leadership.** Lack of commitment and leadership from the supervising Ministry of Agriculture and Irrigation (MAI), as the supervising ministry and the Government in general, was not favorable to the decentralized execution of the Project. Cumbersome procurement procedures and the inability of the Government to fix this problem plagued the project. Despite numerous appeals by the Bank to overhaul the procurement process or to set up a Special Commission to accelerate



disbursement under the project apparently fell on deaf years. This lack of commitment resulted in implementation delays of more than 2 years.

47. The same issue contributed to several other implementation problems, including: (i) lack of follow-up on actions recommended by Bank Management after project implementation missions in a timely manner, (ii) underfunding the decentralized implementation function which the PCU finances through the technical departments of the line ministries of the RCUs and other partnering local level technical departments and services and (iii) inadequate oversight of the execution of the project. In this regard and for the same reason, the Department in charge of supervising the execution of the project for MAI did not visit the PCU until the final year of the project.
48. **Fiduciary.** A flawed fiduciary management system and a lack of attention by the Bank to its fiduciary obligations adversely affected project implementation. This was illustrated by the inability by counterparts to manage the Bank's procurement process in an effective manner which caused very long implementation delays and the recurrent financial mismanagement issues in both the PCU and RCUs.

Factors subject to World Bank control

49. Given the known weaknesses of the project stakeholders, the Bank did not provide adequate supervision capacity to ensure adequate implementation support of the project. The security situation compounded the situation since regular field visits were not undertaken to verify the functionality of the decentralized implementation mechanism involving many stakeholders involved in this project. The following main shortcomings could be observed.
- Inadequacy of supervision (on average once a year);
 - MTR Mission not undertaken on time;
 - Frequent changes of TTL (the Project has experienced 5 TTLs in 4 years), resulting in inconsistencies in messages and instability in performance of role of TTL;
 - Composition of members of Implementation Support Missions (ISMs) were incomplete. Key competencies were frequently missing, notably M&E, Procurement and financial management;
 - Inadequate coverage of ISMs (and frequency of Interim ISRs) with a lack of attention to realism in performance ratings.
50. A lack of Proactivity, expressed by the failure to approve Borrower's request for 18 months extension of closing date to make up for the lost time due to the implementation delays further exacerbated the outcomes. This is particularly galling given that the MTR Mission had Recommended Bank approval of the same request well before project closure.
51. **Mid-term Review Mission.** A Mid-term Review Mission was finally undertaken from June 6-14, 2016 - about 6 months before the project's original closing date. The mission's key finding was that although the project had substantially met the PDO outcome indicator targets many of its Intermediate results indicator targets would not be met within the given timeframe. The Mission's key recommendation was that the Bank should approve a request submitted by the Government for an extension of Closing Date by 18 months which would allow achievement of all the project's PDOs. Bank Management did not agree to grant the request for extension of the Loan Closing Date mainly



because as an emergency operation it was estimated that it should have delivered its outcomes within four years and because of the ongoing challenges related to the administration of the project.

3. Factors outside the control of government and/or implementing entities

52. *Conflict and Instability.* The violent conflict in neighboring CAR in 2014 resulted in the Returnees-crisis. Project restructuring to address this emergency contributed positively to the implementation of the project in terms of achieving the number of people reached. The restructuring also led to improvements in the overall disbursement performance of the project. The second has to do with the insecurity of the conflict zones which were a no-go zone for Bank Implementation Support Missions. The inability to undertake field visits had a negative impact the quality of supervision and project implementation.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

53. The M&E system was rated Moderately satisfactory in the Final archived ISR in June 2017, the overall M&E rating in the ICR is Substantial as explained below in detail below.

M&E Design

54. The overall M&E design was quite sound it however omitted a measurement by which the emergency activities could be segregated from the more longer development objectives. As such It was designed as a participative process involving all the stakeholders in operating the system to participate in each step of the operation from data collection, storage and diffusion of M&E information to be used for decision-making and to facilitate a robust monitoring and evaluation of project activities. The system would have required a systematic review of the working of the process to ensure each stakeholder in the system is adequately performing its role. The project did not have an M&E manual. Process monitoring typical for decentralized implementation with communities would have allowed the PCU to assess the extent to which the disadvantaged groups were included in the process of project selection, design and implementation at the LAC level, focusing on the integrity and effectiveness of the LDP tool and process. The lack of proper segregation of project impacts given the types of Outcome indicators provide for an overwhelmingly positive picture in terms of project achievement, without saying much about the difference in extent of project impacts between the various different project beneficiaries under either emergency, SLWM or productivity enhancing activities.

M&E Implementation

55. Consultations involving the concerned stakeholders at the central and sub-national levels participated in a workshop devoted to M&E during the project Launch Workshop in Nov. 2013. Further sessions were held to train M&E staff at PCU, the RCUs and partnering service providers/actors on methodology, data collection on the indicators and data treatment/processing.



The Project Manual of Procedures (PIM), was not operationalized until the MTR Mission in 2016. Consequently there was no baseline data in usable form to monitor systematically the physical and financial results of the project, and M&E activities related to implementation of components 2,3 and 4 had been largely neglected until that point.

56. To collect data in spite of a lack of adequate methodology and processes, consultants were tasked to collect data directly from beneficiaries and the regional technical departments. These were the treated at the RCUs and then forwarded to the M&E office at the PCU, where they consolidate the information, verify them and submit to the National Coordinator for validation. Once validated, the Coordinator shared them with participating technical Ministries, the Regional Coordinators and other concerned stakeholders.
57. Overall, the supervision of the project by the Ministry of Agriculture and Irrigation (MAI) was clearly inadequate. Two points need emphasis in this regard:
 - a. inadequacy of supervision by the Director of Programs and Statistics of the Supervising Ministry (MAI), which was assigned the supervisory function of MAI who neglected to conduct regular field visits to verify implementation on the ground ; and
 - b. the lack of involvement of the National Extension Service/Department-the Office National de Development Rural (ONDR) denied the project of professional extension services support. ONDR decided to boycott the project on the grounds that the budget allocated for their services was insufficient. The PCU had to contract out extension services to private sector service providers.

M&E Utilization

58. In spite of M&E weaknesses and the lack of an operational M&E Manual and a PIM, sufficient M&E data and related information was collected which allowed the PCU to address certain implementation weaknesses. Annual M&E Workshops were held between November and December at which the utilization, weaknesses and the associated corrective measures of the M&E system were discussed. The outcome of these workshops was shared with all the stakeholders, such as the Regional Action Committees (RCAs), at their periodic meetings and during the official annual launch of the agricultural campaign in which the PCU participated and held a display stand. These fora provided the platform to display and discuss the performance of the project and to draw lessons.

Justification of Overall Rating of Quality of M&E

59. The early project implementation period was executed without the benefit of a functioning M&E system. The implementation Manual only became available half way through the project at which time the M&E system became more robust and user-friendly. Nonetheless efforts were made to collect data even before the MTR Mission. The data was updated periodically and shared widely among key stakeholders. The lack of proper baseline, the difficulty in segregating project impacts between the emergency intervention and the conventional community based activities lead to questions as to the veracity of some of the data provided. As such the M&E system can only be qualified as Moderately Unsatisfactory.



B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

60. **Safeguards.** The Project was classified as a Category B project, because the potentially adverse impacts on human populations and environmentally important areas were assessed as being low. The environmental and social impacts were thought to be local and very limited, for which specific mitigation measures were introduced. The interventions included (i) supply of fertilizer, seeds, animal feed, and veterinary inputs; and (ii) financing basic agricultural infrastructure and equipment and excluded pesticides. The GEF/LDCF funding supported activities were expected to generate positive environmental impacts.
61. An Environmental and Social Screening and Assessment Framework (ESSAF) was prepared, and appropriate elements were incorporated into the Project Implementation Manual once it was prepared. The emphasis in the ESSAF was on developing simple guidelines for activities by (i) identifying environmental and social risks; and (ii) providing relevant mitigation measures. The potential negative impacts of the project broadly focused on the following: (i) depletion and deterioration of water supply; (ii) deterioration of soil quality; (iii) surface water and groundwater pollution risks due to the increased use of pesticides; (iv) loss of vegetation and landscape transformation following the installation of infrastructures (pastures, irrigations schemes, rural roads, storage facilities); (v) risks of conflict between shedders and agriculturalists; and (vi) risks to protected areas. The LDCF supported measures to identify and mitigate those risks and negative impacts and the possibility for updating of these guidelines based on project implementation experience, as well as the addition of new guidelines, should additional needs be identified. From a social perspective implications on access to either common assets/resources or livelihoods were anticipated for small-scale irrigation infrastructure and/or rehabilitation or construction of rural roads. A Resettlement Policy Framework (RPF) was prepared, outlining the overarching framework whereby potential resettlement issues would be addressed. It included the principles and procedures for resettlement and/or compensation of project affected people, and establishes standards for identifying, assessing and mitigating negative impacts of project supported activities. The RPF guided the preparation and implementation of Resettlement Action Plans (RAPs) for each individual investment sites that triggers OP 4.12 (Involuntary Resettlement Policy). While all these measures and documents provided for an adequate basis at mitigating safeguards risks during implementation, the lack of regular review and reporting on safeguards by the client makes it difficult to assess the effectiveness by which safeguards measures were applied on the ground. ISRs consistently gave ratings between Moderately Satisfactory and Satisfactory. As such Safeguards compliance is rated moderately satisfactory

Fiduciary Compliance

62. The World Bank conducted a financial management assessment of the PCU to be set up within MAI. The assessment concluded that the fiduciary capacity of MAI to implement Bank-financed programs was weak with the following capacity constraints: (i) lack of qualified FM staff with experience working with World Bank procedures; (ii) lack of accounting software; (iii) weak internal control environments that need to be strengthened; and (iv) risk of fraud and corruption inherent to CDD



operations. FM capacity was weak at both the central and regional levels of government.

63. ISRs and supervision packages made constant references to a flawed financial architecture however at no point is there a suggestion on how this structure could have been modified to improve its performance. The architecture was blamed for recurrent financial mismanagement issues, including: (i) overdue Financial Statements; (ii) recurrent cases of ineligible expenses revealed by audits at the level of the PCU and the RCUs, (iii) lack of supporting documents for operating costs. Clearly the project has been in contravention of the legal covenant on fiduciary compliance during much of project life. The accountability and monitoring that were expected to be provided by the beneficiary-communities were lacking primarily because of inadequate implementation preparedness. The lack of clarity as to whether the operation was primarily a centrally managed emergency operation to deliver goods on the ground versus an operation with a decentralized structure involving many stakeholders harmed the effective design of a functional fiduciary system. As such the rating of financial management is rated Unsatisfactory.

C. BANK PERFORMANCE

Quality at Entry

Quality at Entry

Rating: Unsatisfactory

64. Quality at Entry is rated Unsatisfactory for three main reasons. Firstly, the project was oversized relative to the in-country capacity to implement it properly. Weaknesses in implementation capacity at both the central and local levels of government became major constraints on the project's implementation performance and successful achievement of the PDOs. This risk was captured in the ORAF but the mitigation measures were simplistic reflecting an underestimation of the magnitude of this problem and the associated risk. The RCUs did not become effectively operational until 18 months into project life; and coordination between them and PCU plus lack of support from their technical departments in the central government negatively affected their performing the critical implementation coordination function at the local level where virtually all the project activities are carried out.
65. The second reason was lack of implementation preparedness. Where community based operations were successfully introduced, Bank investments upstream during the project preparation process turned out to be key. The assumption made by the Bank that this would learn from the LDSP II project was flawed. The LDSP II ICR Mission that was fielded around the same period declared the LDSP II was a failed project. A head-start on the indispensable social mobilization and training work for both the beneficiary-organizations and participating stakeholders during the project preparation phase would have been beneficial.
66. Thirdly, Fiduciary aspects did not receive sufficient attention at the entry point. The overall Risk ranking of financial management in the ORAF was High, but the mitigation measures fell short of achieving the stated objectives. LEGAF recommended at the QER meeting that the recruitment of the 5 Regional Accountants as a Dated Covenant. Financial mismanagement, especially in the PCU and RCU have been a constant in virtually every Bank implementation support mission.



Quality of Supervision

67. Bank Performance on Supervision is rated **Unsatisfactory**, for the following reasons:

- In the life of the Project, the Bank has undertaken only four (4) Full Supervision Missions, including the MTR and 2 Interim Supervision Missions, one of which was for only one day. The norm is 2 Full Supervision Missions per year, excluding the MTR.
- **Lack of proactivity.** The Bank failed to take appropriate measures to address the long implementation delays, Bank should have approved the Client's request for an Extension of 18 months, especially after it was found to be a justified request by the MTR Mission to make up for the lost time and to achieve all the development objectives.
- **Failure to ensure that the project implementation coordination function at the local level was adequately funded.** The PCU was responsible for the funds of the incremental operating budget of the Regional implementation units but paid directly to their supervising technical departments at Headquarters. Proper supervision would have discovered this discrepancy and address it effectively
- **Availability of M&E Manual.** The M&E and project implementation manuals should have been available before or soon after project start or at least have made it a disbursement condition.
- **Multiple Task Team Leaders.** The project had 5 different task managers which coupled with insufficient supervision contributed to the lack of proactivity on the part of the Bank supervision.

Justification of Overall Rating of Bank Performance

68. The Bank designed a project that was suffering from a conflict between addressing emergency needs in a difficult country and the delivery of longer term lasting development impacts involving numerous stakeholders and a long chain of responsibilities. While the project was sound in terms of its strategic relevance it did not sufficiently address the inherent conflicts that emerge from emergency recovery vs long term sustainable development. Implementation arrangements with decentralized functions in a country with little experience in doing so led to conflicts between centralized and decentralized institutions and neglecting adequate project administrative documentation up front, provided for weak checks and balances at the level of the various stakeholders. The design weaknesses were then compounded by a lax supervision and implementation support that could have helped in straightening up some of the design gaps with sufficient intensity. In its defense, the Bank did well in restructuring the project and focusing on the emergency portion of the project as that way it has managed to reach a maximum of people and materially contribute to mitigate the effects of a brewing crisis resulting from drought and conflict. It also can take some solace in the fact the poor security situation that only increased as the years went on did pose a special challenge to effective supervision. Nonetheless, the ultimate achievement of reasonably good outcomes at the end of the project meeting most of the outcome indicators was possibly more a matter of luck than of design. As such overall Bank performance can be rated at best as unsatisfactory.

D. RISK TO DEVELOPMENT OUTCOME

69. The greatest Risk to Development Outcome at the time of completion, is that they will not be maintained.



70. The sustainability of the subprojects was found to be enhanced by a sense of community **buy-in and-ownership**, by the co-financing subproject costs and by the responsibility of the communities for operations and maintenance of the investment. The LACs have generally been able to establish internal rules for charging user fees, thus ensuring the sustainability of these investments. The project experience shows that by assigning greater responsibility and influence on local level organizations, including DACs and local government councils, the project can successfully support decentralized resource allocation and creation of social capital in the rural areas. This is however conditioned on proper community mobilization, ensuring buy in by all stakeholders public and private and proper documentation providing the rules of the game up front.
71. **Physical Sustainability.** Beneficiary participation at all stages of the subproject cycle, as well as significant levels of community contribution (cash/in-kind) are likely to help ensure that projects are maintained. Furthermore, the democratic process intrinsic in the DACs, the local government councils and the LACs would ensure better selection and prioritization of subprojects by beneficiaries, enhancing long-term sustainability. In a possible Follow-On project, performance incentives for proper operations and maintenance would be included in project design.
72. **Sustainability of Government Commitment to the Community Driven Development.** There remains considerable skepticism by government towards decentralized and community driven project implementation.. Government behavior and actions during implementation, hampered rather than aided the successful adoption of the CDD approach. The Regional Technical services charged with the implementation coordination function on the ground were denied much of the budgetary allocations from the PCU by their supervising technical departments in the line Ministries at Headquarters. As such the necessary technical support accompanying newly formed community based ventures necessary for the sustainability of micro-projects in not likely materialize.

V. LESSONS AND RECOMMENDATIONS

73. The following lessons learned are applicable to this project and to future food security/emergency projects in Chad:

Financing emergency operations

- **Focus on emergency aspects.** The project's implementation shows that emergency operations are most effective when they prioritize actions oriented on the immediate restoration of productive assets for food-insecure rural households, instead of trying to build complex CDD systems.
- **Emergency Response Financing.** The project's preparation context and changes at implementation shows that in a country such as Chad there is a need to have very strong mechanism to respond promptly to crisis. The systematic inclusion of Contingency Emergency Response Component (CERC) in the project design and tapping to the Refugee Crisis Window are



key to afford crisis management and allow structural investment to take place. In this context, building the client capacity in disaster and crisis management is key factor of success.

Project design in fragile context such as Chad:

- **A Project with a simple design** is easier to implement than one with a complex design. A top-down and administered participatory approach to micro- and sub-project approval undermines the underlying principles of empowerment, transparency and democratic decision-making which are central to the success of the CDD approach;

CDD mechanisms

- **Adopting the CDD Approach:** A steeper learning curve and long implementation delays for adoption of the CDD approach are inevitable if resources are not deployed to finance, up-front, capacity building, social mobilization and communications and information dissemination campaigns. These are required for successful adoption of this innovation. Steeper learning curves, in turn, result in longer disbursement lags and implementation delays.
- **Subproject financing envelope:** Flexibility in the implementation of local development plans (LDPs) and subproject financing envelopes is necessary to make changes during implementation for technical efficiency and to create conditions for maximum impact of the investments. Care must, however, be taken to avoid making budget decisions open-ended.
- **Selection and management of subprojects** by communities and their cost sharing through cash/in-kind counterpart contributions to financing subprojects create sound conditions for sustainability and permits monitoring to ensure accountability in funds flow and management.

Gender and poverty targeting mechanisms

- **Gender/Poverty targeting mechanisms** that are simple, verifiable and based on objective criteria can foster transparency, minimize political interference in project resource allocation and ensure that project resources reach the target beneficiary/ies;
- **Participation of beneficiaries** in the selection, financing, execution and O&M of subprojects has ensured that investments meet genuine community needs, lead to cost savings, and has increased community “ownership” leading to improved sustainability of investments. This approach/methodology should be continued in a possible Follow-on project.;

Monitoring and evaluation

- **A user-friendly M&E system** facilitates the subproject evaluation process, provides feedback and necessary information to improve targeting efficiency, and is an essential management and planning tool. Under a possible follow-on project, important revisions will be undertaken to add an MIS to improve real time monitoring of the entire project cycle. Training M&E staff during the project preparation phase is essential for the smooth take off of the M&E system. A more



comprehensive impact evaluation component will also be introduced to measure income, welfare and social capital gains.

Supervision quality and capacity building

- **Supervision** has been found to be an indispensable determinant of success in many CDD projects. It needs to be reinforced and strengthened through (i) adequate funding, (ii) improvements in technical quality, scope and frequency; (iii) coverage of the key relevant competencies; and proactivity in following up on Mission-findings and recommendations;
- **Lack of Government commitment to the project approach and the supervisory and oversight functions for the project** undermines the implementation success of a project; Local commitment and ownership creates optimal conditions to the successful implementation of a project and the sustainability of the development outcomes;
- **Capacity building support** through training and technical assistance enhances the ability of community associations and Councils to identify prepare and implement subprojects, thereby augmenting their capacity to compete for investment funds. Technical assistance needs to be targeted to weaker local government councils to improve their planning, management and financial capacity to participate in the project. Locating and/or developing sources of technical assistance in rural areas require significant attention and needs to be monitored at the local level.
- **Technical Support.** Sound and consistent technical support, upstream and downstream of productive and social infrastructure investments has a good chance to ensure sound execution of and good returns from such investments;



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Increase the production of selected crops and livestock species in selected areas of the Recipient's territory

A.2 Intermediate Results Indicators

Component: Provision of agricultural inputs

Component: Support to food production

Component: Component 3 : Sustainable land and ecosystem management

Component: Capacity Building and Institutional Support to Public Services



B. KEY OUTPUTS BY COMPONENT

- a) **Improved seeds (rainfed Sorghum and Berebere) procured and distributed (Metric ton).** Under the Emergency component of the project (component 1), the project provided seeds and animal feed with the goal of improving livelihoods, ensuring food security, and preventing livestock decapitalization in areas of northern Chad most affected by the 2010-2011 drought. Households in Kanem and Bahr El Ghazel were provided with animal feed only, while households in Guera were provided with seeds only. As indicated on table 2, the achievement on this intermediate results indicator was 100 percent . The target at the project end was 230 metric tons and the actual distributed was the same—230 Mt. While all the other components of the project struggled to even take-off due to the long implementation delays, the Emergency component of the Project was completed before December 2014, for understandable reasons. It was designed as the rapidly-disbursing component, consistent with its raison d’etre. The distributed sorghum seeds to producers in the Guera province helped to plant 12,800 hectares with a total production of 5,166 MT, lower than expected due to the drought which caused a delay in sowing.
- b) **Quantity of animal feed procured and distributed (Metric ton).** Under the same component as above, the project supported the purchase of 128 tons 2,800 tons of animal feed (groundnut/cotton seed cake) for distribution to herders. The seeds and animal feed were distributed to 23,500 farmers/herders to enhance domestic food production capacity. In June 2104 alone, 2,800 MT were distributed to 8,300 herders benefitting 42,500 animals which have been maintained in good health in the Karen and Bahr El Ghazel severely affected by drought. As at the project end date, 4, 550.0 animal feed was distributed against a target at project end of the same quantity. The achievement rate here too was 100 percent.
- c) **Food insecure populations receiving training and extension services (Number).** The free distribution of inputs under the emergency component was combined with the provision of training and extension services, as transfer of know-how to the beneficiaries on the proper use of the inputs. The training and extension services were delivered by public agencies, NGOs, and private service providers. This activity was very popular, and the training sessions were always oversubscribed. The actual intermediate results achievement rate was a prenominal 428 percent. The actual achievement on this indicator as at end project was a staggering 99, 774 trainees/attendants, while the indicator target was 23,300 by project end.
- d) **Sub-projects on productive assets financed (Number).** The sub-projects were designed to benefit producer organizations and women’s groups, while micro-projects designed to benefit communities and they consisted mainly of community-owned infrastructure or social micro-projects. Both micro-and sub-projects were financed under Component 2, Support to Food Production accounted for a little over 50 percent of total project costs. The investments included a sub-set of the value chains targeted by NFSP-II, including: (i) cereals (sorghum, millet, maize, and rice); (ii) vegetables, and (iii) livestock (goats, poultry, and cattle). The lists of activities that would be eligible for micro-project financing were to be developed based on the priorities identified in LDPs and spelled out in the PIM. Eligible micro-projects were to be included in the



Local Development Plans and confirmed as priorities by local communities. However, LDPs were not available during much of project life and the PIM did not become operational until around the final year of the project. This delay plus the long implementation delays adversely affected the achievement of intermediate results targets for the CDD micro-and sub-project investment activities. As indicated in table 2, the achievement rate on the results indicator target for sub-projects on productive assets took a nose dive relative to the results indicated so far in this assessment of achievement of the intermediate results target indicators. The target for this category of sub-projects was 260 by the project end date. The actual was 196 representing an achievement rate of, for the first time, less than 100 percent at only 75 percent. This outcome is the beginning of the downward spiral of the achievement rate on the intermediate results target indicators, notably on all the community-level micro-and sub-project-type investment activities, including the GEF/LDCF micro-projects.

- e) **Micro-projects on rural infrastructures financed (Number).** Micro-project investments made at the community level to support the targeted value chains included (i) small-scale watershed management schemes for cereal production; (ii) village irrigation schemes used mainly for rice production; (iii) water resource development for recession cropping; (iv) community storage facilities; (v) feeder roads; and (vi) animal health infrastructure. Demand for the first three types of investment was particularly strong, due to the critical importance of water resources for agriculture and livestock production. The results in table 2 show that the actual number of community-level infrastructure micro-projects at project end stood at 43. The intermediate results indicator target was 180. The achievement rate here was very low at only 23 percent.
- f) **Sub-projects for women's organizations financed (Number).** The first category of these sub-projects includes investments in small-scale agro-processing equipment. The Project financed processing equipment for cereals and oilseeds, including rice hullers, maize mills, groundnut shellers, oilseed presses (mainly for sesame) and maize threshers. The Project also financed equipment used for processing livestock products, including meat, skins, and hides. These activities did add value to agricultural outputs and improved access to more lucrative markets. Women organization were also preponderant in sub-projects on horticulture, representing about 53 percent of total beneficiaries engaged in vegetable gardening. The second category consists of investments in village level storage capacity. These investments helped greatly with: (i) reduction of post-harvest losses (by protecting against pest damage, reductions in quality due to mold, and theft); (ii) improvement in traditional storage practices (response strategies to food shortages, response to crop failure); (iii) allowing producers to strike a better balance between food security stocks and marketable stocks; and (iv) allowing producers to obtain better prices for products that are marketed.
- g) Similarly, and according to the results summarized in table 2, the targeted support for the women groups through the income-generating assets-type sub-projects experienced a disappointing performance. As at the project end date, only 74 sub-projects for women's organizations were financed against a target of 200 by the end of the project. This represents an achievement rate of only 34 percent on this intermediate results indicator target.
- h) The remaining four intermediate results indicators relate to the GEF/LDCF supported activities. As



indicated in table 2, they too show a less-than satisfactory performance. According to the last archived ISR, almost all the sub-projects under these TF have been financed during the last project implementation year, as was true for the CDD-based micro-and sub-project investments examined above.

- ***Innovative SLWM practices introduced in targeted zones (Number)***. This action field is from the Sustainable land and ecosystem management component (Component 3), funded jointly by GEF/LDCF resources. The overall objectives of this component were: (i) to complement the productive investments being made through micro-projects and sub-projects funded under Component 2, and (ii) to support sustainable management and protection of ecosystems. Component 3 included two sub-components: (i) Sustainable land management and climate change adaptation; and (ii) Ecosystem management. The achievement rate on this intermediate results indicator target was 2 actual as at the project end date against a target of 3, representing an achievement rate of 67 percent. These two innovations introduced include agroforestry and rangeland management through the development of transhumance corridors
- ***GEF/SLWM micro- projects implemented on time (Number)***. According to the results in table 2, 90 percent of the intermediate results indicator target was achieved by the project end date or 36 actual against the target of 40 GEF/SLWM micro-projects.
- ***Farmers receiving advisory services or training (Number)***. Capacity building at the community level touched on issues related to natural resource and ecosystem management and climate change based on a framework for enabling environment, awareness and education, with related activities for NRM (under Subcomponent 4.3); and (iii) provision of advisory and technical services to communities and organizations. The achievement rate on this intermediate results indicator target was 73 percent.
- ***Community groups trained on SLWM and climate resilience (Number)***. LDCF resources were used to help improve the efficiency, sustainability, and climate resilience of agricultural investments carried out under Component 2, by financing activities that promote better management of the natural resource base on which agriculture depends. Examples of activities supported include promotion of water harvesting and water conservation technologies in dryland farming zones, introduction of improved water management practices in small-scale irrigation systems (irrigation and drainage), protection of vegetation on hillsides surrounding irrigated lowlands, and adoption of integrated watershed management approaches to maximize returns to scarce water resources in the face of competing demands. Attention should be paid to crop-livestock interactions, and the Project would support the establishment of water extraction points to allow irrigated crop production during the dry season, as well as animal watering points along transhumance corridors. The achievement rate on this intermediate results indicator target was only 42 percent, or 85 community groups trained against a target of 200 at the project end date.



ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Supervision/ICR	
Amadou Ba	Task Team Leader(s)
Haoussia Tchaoussala	Procurement Specialist(s)
Josue Akre	Financial Management Specialist
Ibrahim B. Nebie	Team Member
Juvenal Nzambimana	Team Member
Lucienne M. M'Baipor	Social Safeguards Specialist
Bleoue Nicaise Ehoue	Team Member
Sossena Tassew	Team Member
Jane C. Hopkins	Team Member
Paulette C.E. Aida Thioun Zoua	Team Member
Emeran Serge M. Menang Evouna	Environmental Safeguards Specialist
Maya Abi Karam	Counsel

B. STAFF TIME AND COST



Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY11	7.975	39,829.61
FY12	23.545	203,883.48
Total	31.52	243,713.09
Supervision/ICR		
FY13	9.657	78,856.88
FY14	13.739	75,847.80
FY15	12.996	74,816.15
FY16	11.410	77,337.11
FY17	16.769	81,847.97
FY18	1.572	29,062.00
Total	66.14	417,767.91



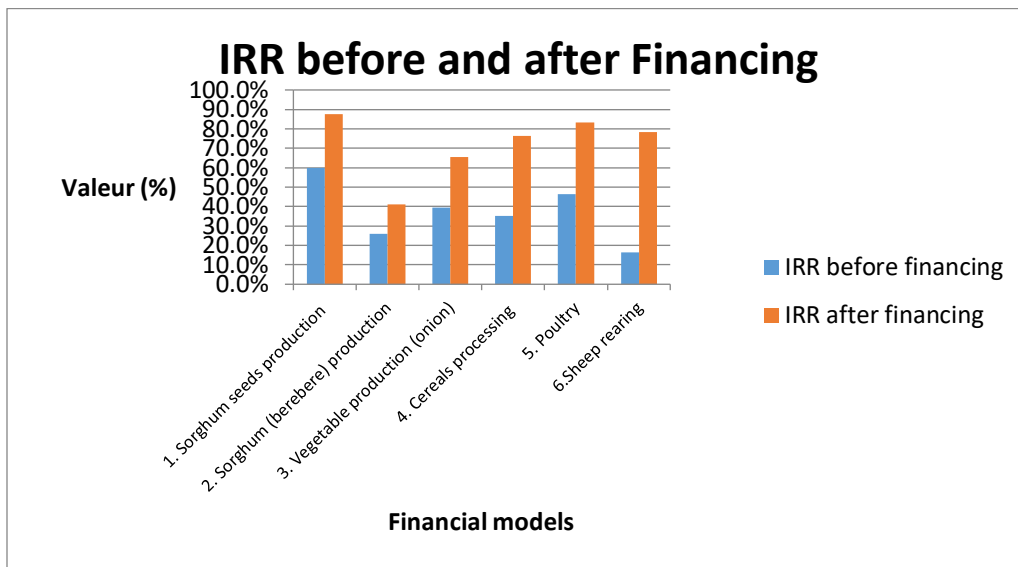
ANNEX 3. PROJECT COST BY COMPONENT

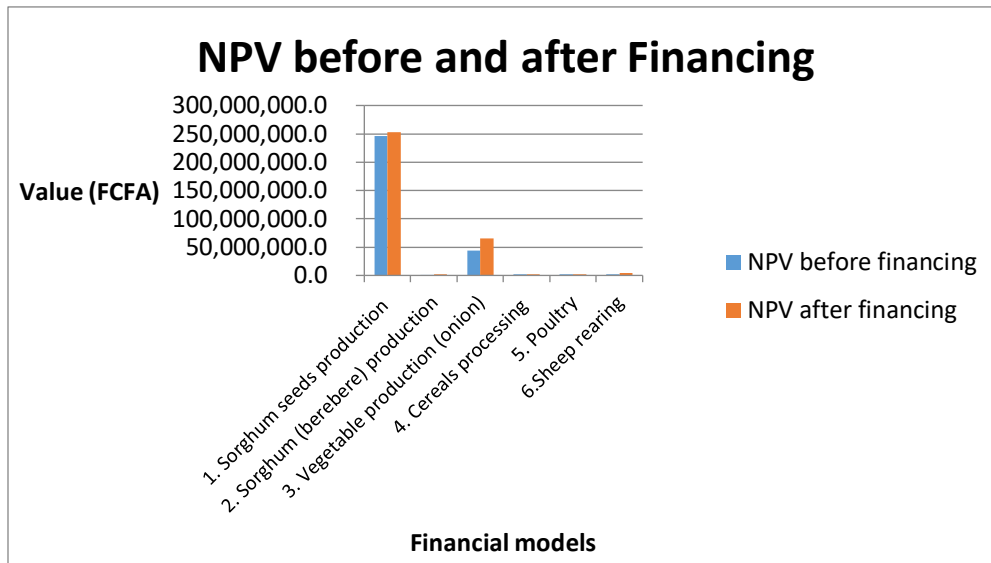
Components	Amount at Approval (US\$M)	Actual at Project Closing (US\$M)	Percentage of Approval (US\$M)
Provision of agricultural inputs	1.84	5.37	0
Support to food production	17.88	14.88	0
Sustainable land and ecosystem management	3.89	3.88	0
Capacity building and institutional support to public services	4.30	4.38	0
Project coordination and management	5.12	6.22	0
Cancellation		-1.56	
Total	34.03	32.67	0.00



ANNEX 4. EFFICIENCY ANALYSIS

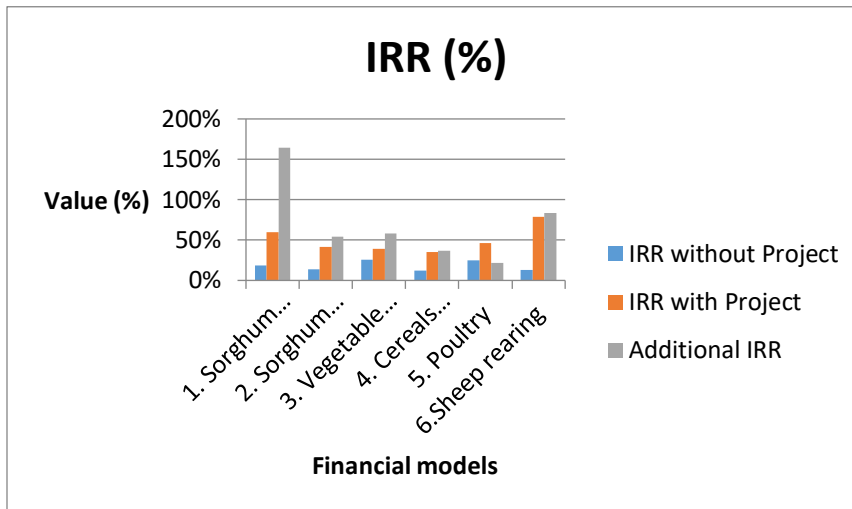
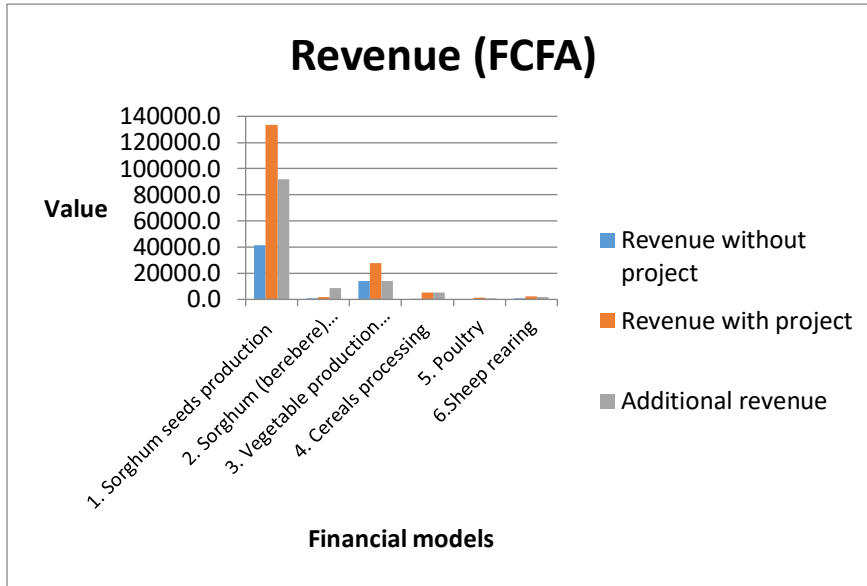
1. Economic and financial analysis. PAPAT was designed to help reduce food insecurity and poverty especially in rural areas. These phenomena stem from, among other things, the adverse effects of climate change on people's livelihoods and the Libyan and Central African crises, which led many people to return to Chad in conditions of extreme deprivation and vulnerability. Thus, PAPAT aimed to develop, support rural communities and producer organizations in increasing the production of selected crops and livestock species while developing sustainable land and water management practices in climate-vulnerable ecosystems.
2. The project was closed on June 30, 2017. As at appraisal, a financial and economic analysis of the investments made under the project was carried out. It aims to measure the financial viability and sustainability of the investments, their effects and the impact of the project on the beneficiaries and the country. In order to determine the additional performance of the project, the performance of the beneficiaries (situation with project) was compared with that of the situation without project. These performances were also compared with those of the ex-ante financial and economic analysis (at project appraisal). At the level of the situation with project, an analysis of the profitability (IRR and NPV before project financing) of the investments and that of the profitability after obtaining the project grant (IRR and NPV after financing) were conducted.
3. The PAPAT has, inter alia, promoted high-performance technologies in cereals (maize and sorghum in particular), small ruminants (sheep), local poultry, market gardening (onions and tomatoes in particular). The adoption of these technologies (or financial models) required new skills and additional costs. Despite this, the financial results of the investments made in the project at sub-project, micro-project and AGR level are financially encouraging.
4. Indeed, these investments generated substantial additional and greater benefits compared to situation without project. For all financial models promoted, the IRR and NPV after funding (after grant) are higher than those before financing as shown in the graphs below.

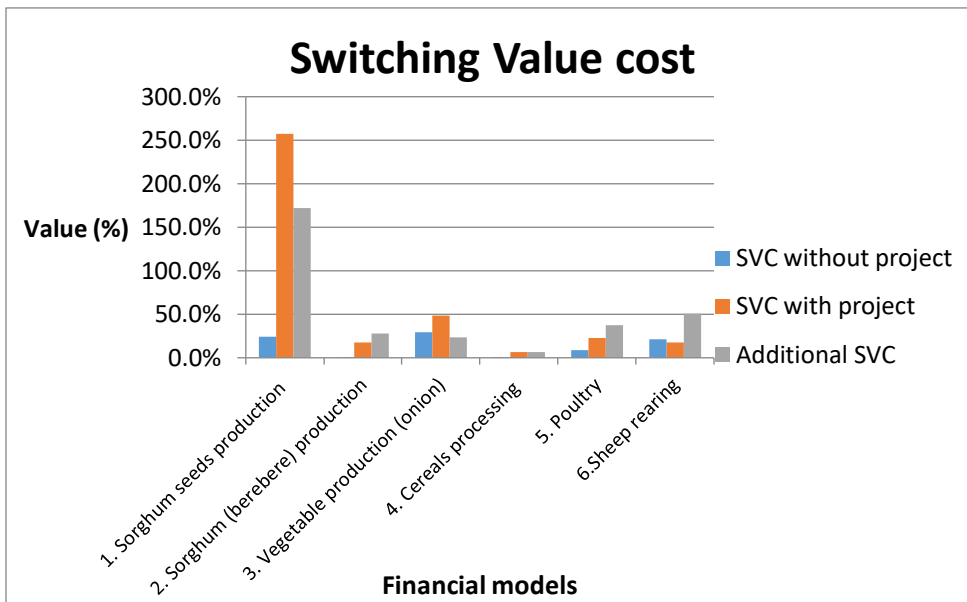
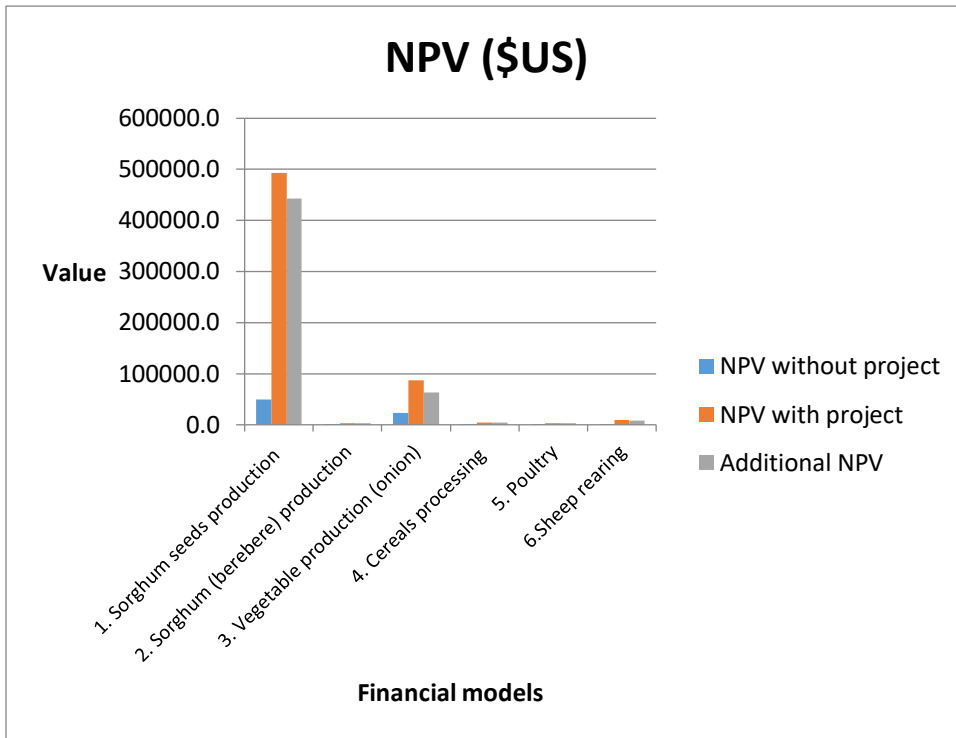


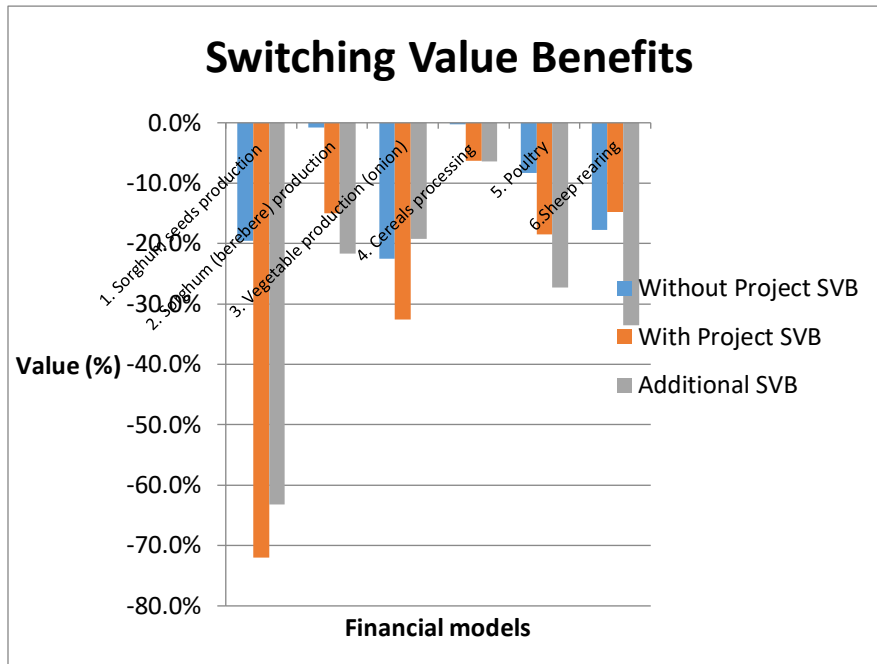


5. The analysis of the above graphs also reveals that the financing mechanism, (matching grant mechanism) implemented under the PAPAT, has proven to be an effective instrument for improving the level of cash flow. It led to the increase in revenues (gross margin) of the actors (producers / processors) supported by the project. This type of financing has enabled these actors, in particular, to better meet the cash flow requirements at the sub-projects, micro-projects and income-generating activities start-up phase, as the promoters may be, in an environment where access to bank credit and microfinance institutions is limited and more particularly to the benefit of agricultural activities. Measures to make the selection of sub-projects and micro-projects rigorous have been instrumental in ensuring their financial and economic profitability.

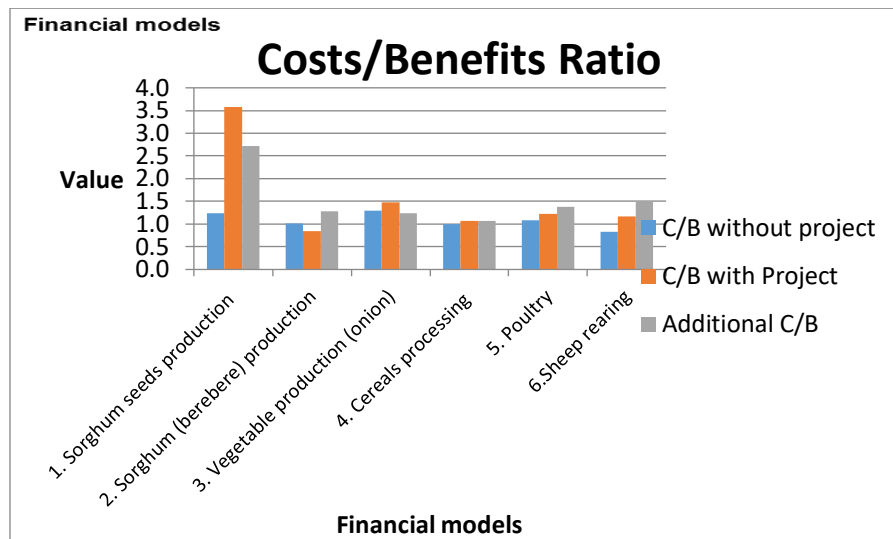
5. For all supported financial models, Gross Margins (GM), Internal Rate of Return (IRR), Net Present Values (NPV), Switching Value Cost, Switching Value Benefits, and Benefit / Cost Ratio in additional situation are more interesting in situation with project than in situation without project as illustrated in the following graphics.







6. The Switching value analysis shows that the Project has contributed to strengthening the farms resilience with respect to costs and benefits variation. In an additional situation, the level of cost increase or loss of benefits borne by the companies benefiting from the program is higher than in a situation without a project.



7. For the economic analysis, the assumptions made are as follows: (i) the economic costs were generated using Costab, (ii) the economic benefits were estimated at 90 percent of the financial benefits because of sales are those of ex-works sales, without transport and taxes, and of taking into account certain transfers between agents, (iii) the economic cost of labor was considered, corresponding to about 50 percent of the financial cost of labor, (iv) the 12 percent discount rate used in the ex-ante financial and economic valuation, corresponding to the long-term capital interest rate, has been retained, (v) the analysis period is 15 years as also in the financial and



economic analysis Ex ante, the total financial cost has been retained for the economic analysis minus the amounts of the category of expenditure "subsidy" already taken into account. account in the financial models, (vi) all the quantifiable benefits of the project, those of structuring and capacity building investments that are difficult to quantify have not been taken into account. On the basis of these assumptions, the Net Present Value (NPV) is approximately 2.6346 compared to US \$ 11.650 million calculated ex ante. The Economic Rate of Return (ERR) of the project is about 15.9 percent. This result is encouraging, but it remains below the estimated ex-ante EIRR of 19 percent). This counter performance is mainly due to the delay of three (3) years in the generation of benefits.

8. Sensitivity analysis based on 10%, 20% and 30% increases in project costs shows Economic Internal Rate of Return (ERR) of 14.7%, 13.5% and 12.5% respectively, which indicates the strength of the results in the face of the risk of increasing the costs of micro-projects / sub-projects / IGAs. The corresponding NPVs are US \$ 1.890 million, US \$ 11.47 million and US \$ 0.4 million, respectively. Sensitivity analysis based on decreases of 10%, 20% and 30% in additional gross margins yields Economic Internal Rates of Return (ERRs) of 14.5%, 13.0% and 11.3%, respectively. The corresponding NPVs are US \$ 1.627 million, US \$ 0.62 million and US \$ 0.4 million, respectively. This confirms the solidity of the project results in terms of the risk of a decrease in the gross margin of the farms. The sensitivity analysis based on the one-year or two-year lag in the realization of benefits shows economic internal rates of return (ERRs) of 13.4 percent and 11.1 percent, respectively. The corresponding NPVs are US \$ 0.9 million and -0.6 million US dollars respectively.

Table 1: Sensitivity tests

Assumption	ERR	NPV (12%)	
		thousand US\$	F CFA Million
Base (NPV = 0)	15.9%	2,634.6	1,317,275.3
Costs increase by 10%	14.7%	1,890.9	945,429.2
Costs increase by 20%	13.5%	1,147.2	573,583.1
Costs increase by 30%	12.5%	403.5	201,736.9
Gross margin decrease by 10%	14.5%	1,627.4	813,701.7
Gross margin decrease by 20%	13.0%	620.3	310,128.0
Gross margin decrease by 30%	11.3%	-386.9	-193,445.6
Benefits delayed by one year	13.4%	922.7	461,372.4
Benefits delayed by two years	11.1%	-604.4	-302,192.0

9. The analysis also reveals that the matching grant mechanism combined with credit has emerged as an effective instrument for improving the level of cash flow to the creation / development of the farms (acquisition of high-performance technologies) and led to the increase in revenues (gross margin) of companies. However, the cash flow analysis also shows that the subsidies granted by the project did not absorb the liquidity needs of companies at the beginning of their activities.



ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

In spite of the long implementation delays and the steeper learning curve especially for the the adoption of LDPs and the timely implementation of the micro-and sub-projects of the communities, the reported feedback from the beneficiaries was that the returns to the investments in these subproject-types completely transformed their lives, in terms of the impact on their household incomes, the overall welfare of their families and the quality of life in their communities. The reports also show that the profits realized from most of the income-generating and productive investments were good, varying from 40-60 per cent, especially for subprojects with simple production processes and low exposure to market risks (e.g. rice, and other coarse grains and oil processing mills, retailing of food, etc. The high returns on investments also allowed the beneficiaries to meet their counterpart funding obligations in a timely manner. The results of the economic analysis also demonstrated the efficiency of the investments in the micro-and sub-projects even though these did not begin to generate an income stream until the final year of the project.