Document of The World Bank

Report No: ICR00003583

IMPLEMENTATION COMPLETION AND RESULTS REPORT (IDA-H2770, IDA-H6880, IDA-49520)

ON

A GRANT

IN THE AMOUNT OF SDR 10 MILLION (US\$15.00 MILLION EQUIVALENT),

AN ADDITIONAL GRANT

IN THE AMOUNT OF SDR 7.8 MILLION (US\$12.30 MILLION EQUIVALENT)

AND AN ADDITIONAL CREDIT

IN THE AMOUNT OF SDR 9.6 MILLION (US\$15.10 MILLION EQUIVALENT)

TO THE REPUBLIC OF CHAD

FOR AN

URBAN DEVELOPMENT PROJECT

April 28, 2016

Water Global Practice Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective as of 01/06/2016)

 $\begin{array}{rcl} Currency \, Unit & = & CFA \ Francs \\ CFAF1.00 & = & US\$0.00165 \\ US\$1 & = & SDR \ 1 \end{array}$

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing			
AFD	French Development Agency (Agence Française de Développement)			
CBA	Cost-benefit Analysis			
CFAF	African Franc			
ERR	Economic Rate of Return			
FM	Financial Management			
GoC	Government of Chad			
ICR	Implementation Completion and Results Report			
ISR	Implementation Status and Results Report			
M&E	Monitoring and Evaluation			
MATUH	Ministry of Land Planning, Urbanism and Housing (Ministère de			
MATUII	l'Aménagement du Territoire, de l'Urbanisme et de l'Habitat)			
MTR	Midterm Review			
PAD	Project Appraisal Document			
PADUR	Urban Development Project (Projet d'Appui au Développement			
IADUK	Urbain)			
PCU	Project Coordination Unit			
PDO	Project Development Objective			
PPIAF	Public Private Infrastructure Advisory Facility			
PRSEEE	Chad Critical Electricity and Water Services Rehabilitation Project			
FRSEEE	(Projet de Réhabilitation des Services Essentiels Eau et Electricité)			
RF	Results Framework			
STE	Chad Water Utility (Société Tchadienne des Eaux)			
STEE	Chad Water and Electricity Company (Société Tchadienne d'Eau et			
SILL	d'Electricité)			
ТА	Technical Assistance			

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REPUBLIC OF CHAD

Urban Development Project and its Additional Financing

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REPUBLIC OF CHAD

Urban Development Project and its Additional Financing

ICR Datasheet

A. Basic Information						
Country:	Chad		Project Name:		Urban Project	Development
Project ID:	P072030		L/C/TF Number(s):		IDA-49:	520, IDA- IDA-H6880
ICR Date:	03/29/2016		ICR Type:		Core IC	R
Lending Instrument:	Specific Investment Loan		Borrower:		Govern	nent of Chad
Original Total Commitment:	SDR 10.00 mill	lion	Disbursed	Amount:	SDR 16	.67 million
Revised Amount:	SDR 17.25 mill	lion				
Environmental Categ	ory: B		1		1	
Implementing Agenci Cellule de Coordinatio						
Cofinanciers and Oth	er External Pa	rtners:				
B. Key Dates						
Process	Date	Pro	ocess	Original Date		ed / Actual Date(s)
Concept Review:	10/28/2004	Effective	ness:	05/01/2007	05	/01/2007
Appraisal:	10/30/2006	Restructu	uring(s):	_	06	/08/2011 /07/2011 /14/2015
Approval:	03/06/2007	Midterm (MTR):	Review	09/16/2013		/03/2013
		Closing:		10/30/2011	06	/30/2015
C. Ratings Summary						
C.1 Performance Rat	ing by ICR					
Outcomes:			Moderately Unsatisfactory			
Risk to Development	Outcome:		High			
Bank Performance:			Moderately Unsatisfactory			
Borrower Performance	e:		Moderately Unsatisfactory			
C.2 Detailed Ratings	of Bank and B	orrower	Performar	nce (by ICR)		
Bank	Rating	(S	Bo	orrower	F	Ratings
Quality at Entry:	Moderately Sat	tisfactory	Government:			oderately atisfactory
Quality of	Moderat	ely	Implement	ting	M	oderately
Supervision:	Unsatisfac	ctory	Agency/A	gencies:	Uns	atisfactory
Overall Bank Performance:	Moderat Unsatisfac	•	Overall Bo Performa			oderately atisfactory

C.3 Quality at Entry and	d Implementation P	erformance	Indicators	
Implementation Performance	Indicators	~	sessments any)	Rating
Potential Problem Projec any time (Yes/No):	t at Yes	Quality at (QEA):	Entry	None
Problem Project at any ti (Yes/No):	me Yes	Quality of Supervisio		None
DO rating before Closing/Inactive status:	Moderately Unsatisfactory			
D. Sector and Theme Co	odes			
		Original	Actual	
Sector Code (as % of to	tal Bank financing)			
Flood protection			36	27
General public administr	ation sector		40	30
Other social services			1	1
Rural and Inter-Urban R	oads and Highways		9	7
Water supply			14	35
Theme Code (as % of to	otal Bank financing)			
City-wide Infrastructure	and Service Delivery		13	40
Municipal finance			24	15
Municipal governance ar	nd institution building	5	25	15
Other human developme	nt		13	1
Urban services and housi	ing for the poor		25	29
E. Bank Staff				
Positions	At IC	R		At Approval
Vice President:	Makhtar Diop		Hartwig	Schafer
Country Director:	Paul Noumba Um		Marie Francoise Marie-Nelly	
Practice Manager:	Alexander E. Bakal	ian	Eustache	e Ouayoro
Project Team Leader:	Madio Fall		Franck H	Bousquet
ICR Team Leader:	Madio Fall			
ICR Primary Author:	Veronique Verdeil			
	Joseph W. B. Bredi	e		

F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document)

In the Financing Agreement, the project development objective (PDO) is to increase sustainable access to municipal services for residents in beneficiary cities.

The Project Appraisal Document specifies '... residents in targeted project cities (N'Djamena, Moundou, Sarh, Abéché, and Doba).'

Revised Project Development Objectives (as approved by original approving authority)

n.a.

(a) PDO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years	
Indicator 1:	Number of people in targe	ted cities protected	from periodic f	looding	
Value quantitative or qualitative)	203,878	275,974	366,850	470,826	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved at 370 percent of the original target (164 percent of the revised target): 266,948 additional people benefited from drainage works (Moundou, Sarh, Abéché) for an initial target of 72,096 (revised at 162,972) in addition to the baseline situation.				
Indicator 2:	Number of people in urban a 500 meter range under th		th access to all-	season roads within	
Value quantitative or qualitative)	0	10,056	10,056	23,428	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved at 233 percent 10,056 benefited from all-	0		ple for a target of	
Indicator 3:	Number of people in urban Sources under the project		th access to Imp	proved Water	
Value quantitative or qualitative)	0	63,500	216,240	72,648	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved at 34 percent o revised target of 216,240. Achieved at 114 percent		C		
Indicator 4:	Direct project beneficiarie	s (Core)			
Value quantitative or qualitative)	298,398	593,146	_	566,902	
Date achieved	05/11/2011	06/30/2015	_	05/20/2015	
Comments (including % achievement)	Achieved at 93 percent: 3 (drainage, water, roads) du 2007 baseline).	363,024 people ben			
Indicator 5:	Female beneficiaries (%, C	Core Supplement)	1		
Value quantitative or	51	51	_	51	
qualitative)					

Comments (including % achievement)	Achieved.				
Indicator 6:	Annual increase in munici	palities' own reven	ue (CFAF milli	on)	
Value quantitative or qualitative)	N'Djamena: 983 Moundou: 42 Sarh: 35 Abéché: 57 Doba: 23	10 percent increase per year	N'Djamena: 1,147 Moundou: 49 Sarh: 41 Abéché: 66 Doba: 28	N'Djamena: not available Moundou: 1,245 Sarh: 481 Abéché: 398 Doba: 64	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved. Data cleared by Ministry of Land Administration, municipal budget division, for the 2013 fiscal year (not available for N'Djamena for administrative reasons).				
Indicator 7:	Performance targets being contract (%)	achieved by the pr	rivate operator u	inder the service	
Value quantitative or qualitative)	0	85	_	not measurable	
Date achieved	05/11/2011	06/30/2015		05/20/2015	
Comments (including % achievement)	Not achieved. 2 products delivered at completion; o was set to measure manag	ther products in pro	ogress at comple	-	

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1:	Kilometers of newly const	ructed/rehabilitated	l drainage work	s (km)
Value quantitative or qualitative)	0	16.9	15	14.6
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015
Comments (including % achievement)	including % Achieved at 97 percent: works were completed in Moundou and Sarh, and only a small portion in Abeché could not be completed for technical reasons			
Indicator 2:	Roads rehabilitated, Non-r	ural (Km, Core)		
Value quantitative or qualitative)	0	6.5	6.5	4.9
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015
Comments	Achieved at 75 percent: r	nominally, 4.9 km v	vere constructed	l for a target of 6.5
(including %	in the RF. However, the w	orks contract target	ing 4.9 km was	completed at 100
achievement)	percent (contractual object	ive revised to take	into account hig	gher unit costs).
Indicator 3:	Slaughterhouse rehabilitate	ed in Abéché		
Value quantitative or	0	1	1	1

qualitative)					
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved at 100 percent:	1	1	05/20/2015	
Indicator 4:	Budget Management and a adopted by municipalities		cedures Manual	developed and	
Value quantitative or qualitative)	0	5	5	5	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved at 100 percent: management and administ		opted a manual	on budget	
Indicator 5:	Urban Development and I stakeholders in targeted ci		veloped and ad	opted by key local	
Value quantitative or qualitative)	0	16	16	15	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	% Achieved at 94 percent: 15 cities adopted their urban development and investments plans: except the city of Fava that does not exist anymore				
Indicator 6:	Service satisfaction survey	s carried out and p	ublished in targ	eted cities	
Value quantitative or qualitative)	0	10	10	8	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	
Comments (including % achievement)	Achieved at 80 percent: 2 and Doba and the reports i in N'Djamena.				
Indicator 7:	Annual budget allocation a maintenance within appro			0	
Value quantitative or qualitative)	N'Djamena: 3% Sarh: below 2%	Range 3–5%	Range 3–5%	N'Djamena: 5.80% (FY12) Sarh: 5.89% (FY12), 4.67% (FY13) Moundou: 5.23% (FY12), 5.75% (FY13) Abéché: 4.63% (FY12), 5.33% (FY13) Doba: 5.56% (FY12), 5.37% (FY13)	
Date achieved	01/03/2007	10/30/2011	06/30/2015	05/20/2015	

1			
division, for the 2012 and	2013 fiscal years (r		
,			
Kilometers of newly const	ructed/rehabilitated	l water supply n	etwork (km)
0	38.9	80	24.6
01/03/2007	10/30/2011	06/30/2015	05/20/2015
Achieved at 63 percent of	f the original targe		
Improved community wate (Core)	er points constructe	d or rehabilitate	d under the project
0	127	127	102
01/03/2007	10/30/2011	06/30/2015	05/20/2015
Moundou (100 percent), 3	8 standpipes constr	ucted in Sarh (9	
New piped household wate intervention (Core)	er connections that	are resulting fro	om the project
0	13,600	_	0
05/01/2011	06/30/2015	_	05/20/2015
		inancing (AF) w	vere cancelled
Man-days of work cumula	ted		
0	610,000	1,135,000	613,000
03/01/2007	10/30/2011	06/30/2015	05/20/2015
			opportunities took
	•		enne des Eaux,
No	Yes	_	No
05/01/2011	06/30/2015	_	05/20/2015
^	nt delays prevented	from launching	the study before
project closing.			
Meters replaced under the	project (Number)		
	division, for the 2012 and for administrative reasons) Kilometers of newly const 0 01/03/2007 Achieved at 31 percent of Achieved at 31 percent of fully achieved in Moundou Improved community wate (Core) 0 01/03/2007 Achieved at 80 percent of Moundou (100 percent), 3 standpipe constructed (24 New piped household wate intervention (Core) 0 05/01/2011 Not achieved. Works und (indicator added at the AF Man-days of work cumula 0 03/01/2007 Achieved at 54 percent: of place during the project's s Investment Plan for the 9 STE) water supply system No 05/01/2011 Not achieved: procurement	division, for the 2012 and 2013 fiscal years (not administrative reasons). Kilometers of newly constructed/rehabilitated 0 38.9 01/03/2007 10/30/2011 Achieved at 31 percent overall. Achieved at 31 percent of the original targe fully achieved in Moundou and Sarh and part Improved community water points constructed (Core) 0 127 01/03/2007 10/30/2011 Achieved at 80 percent of the original targe Moundou (100 percent), 38 standpipes constructed (Core) 0 127 01/03/2007 10/30/2011 Achieved at 80 percent of the original targe Moundou (100 percent), 38 standpipes constructed New piped household water connections that intervention (Core) 0 13,600 05/01/2011 06/30/2015 Not achieved. Works under the Additional Fi (indicator added at the AF appraisal). Man-days of work cumulated 0 610,000 03/01/2007 10/30/2011 Achieved at 54 percent: only minor works g place during the project's second period (AF) Investment Plan for the 9 Chad Water Utility STE) water supply systems approved by the S No Yes 05/01/2011 06/30/2015 Not achieved: procurement delays prevented	Kilometers of newly constructed/rehabilitated water supply n038.98001/03/200710/30/201106/30/2015Achieved at 31 percent overall. Achieved at 63 percent of the original target: works under fully achieved in Moundou and Sarh and partially in Abéché. Improved community water points constructed or rehabilitate (Core)012712701/03/200710/30/201106/30/2015Achieved at 80 percent of the original target. 64 standpipe: Moundou (100 percent), 38 standpipes constructed in Sarh (9 standpipe constructed (24 planned) in Abéché (0 percent). New piped household water connections that are resulting from intervention (Core)013,600-013,600-013,600-013,600-013,600-0610,0001,135,000003/01/200710/30/201106/30/2015Achieved at 54 percent: only minor works generating local oplace during the project's second period (AF).Investment Plan for the 9 Chad Water Utility (Société Tchadi STE) water supply systems approved by the STE (Yes/No)NoYes-

quantitative or qualitative)					
Date achieved	05/01/2011	06/30/2015	_	05/20/2015	
Comments (including % achievement)	Not achieved : procurement installed before project clo deliverable).				
Indicator 14:	Households visited under	customer census (N	umber, Custom)	
Value quantitative or qualitative)	0	70,000	_	51,540	
Date achieved	05/01/2011	06/30/2015	_	05/20/2015	
Comments (including % achievement)	Partially achieved (74 pe utility; census by the priva closing (service contract d	te operator was ong			
Indicator 15:	Mechanism for the paymer (Yes/No)	nt of the water bills	from public ins	stitutions established	
Value quantitative or qualitative)	No	Yes	_	No	
Date achieved	05/01/2011	06/30/2015	_	05/20/2015	
Comments (including % achievement) Indicator 16:	between the water utility a mechanism for automatic and implemented. Study on water tariff and c	Partially achieved : 2 studies provided recommendations that were discussed between the water utility and the Ministry of Finance and other entities; a mechanism for automatic payment of public customer bills is yet to be developed and implemented. Study on water tariff and connection fee completed and results of the study			
Value	implemented (Yes/No)				
quantitative or qualitative)	No	Yes	_	No	
Date achieved	05/01/2011	06/30/2015	_	05/20/2015	
Comments (including % achievement)	Partially achieved : a stud some recommendations or of Water, and are yet to be	the tariff structure promoted and imp	were discussed lemented.	with the Ministry	
Indicator 17:	Report card published and	discussed at the Bo	pard of STE (nu	mber)	
Value quantitative or qualitative)	0	4	_	0	
Date achieved	05/01/2011	06/30/2015	_	05/20/2015	
	Not achieved : no report card was published as the two initial customer satisfaction surveys (service contract deliverable) were cancelled due to delays. The other surveys were planned in the last year of the project.				
Comments (including % achievement)	satisfaction surveys (servio	ce contract delivera	ble) were cance	lled due to delays.	
(including %	satisfaction surveys (servio	ce contract delivera anned in the last yea ce data published a	ble) were cance ar of the project nd disseminated	lled due to delays.	
(including % achievement)	satisfaction surveys (servic The other surveys were pla Audited annual performan after the end of the calenda	ce contract delivera anned in the last yea ce data published a	ble) were cance ar of the project nd disseminated	lled due to delays.	

(1ncluiding %)	Not achieved : performance baseline and objectives (service contract deliverable) were established with delays and no audit was undertaken before project closing.
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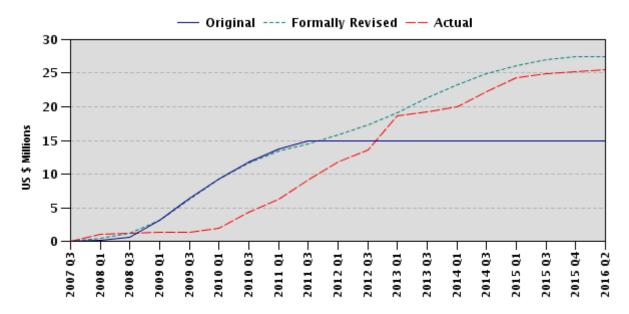
No.	Date ISR Archived	DO	IP	Actual Disbursements (US\$, million)
1	05/31/2007	Satisfactory	0.00	
2	11/20/2007	Satisfactory	Satisfactory	1.03
3	05/15/2008	Moderately Satisfactory	Satisfactory	1.23
4	05/22/2008	Moderately Satisfactory	Satisfactory	1.23
5	11/22/2008	Moderately Satisfactory	Moderately Satisfactory	1.36
6	05/22/2009	Moderately Satisfactory	Moderately Satisfactory	1.73
7	11/30/2009	Moderately Satisfactory	Moderately Unsatisfactory	3.25
8	06/12/2010	Moderately Satisfactory	Moderately Satisfactory	4.91
9	12/17/2010	Moderately Satisfactory	Moderately Satisfactory	7.54
10	07/13/2011	Moderately Satisfactory	Moderately Satisfactory	10.75
11	03/13/2012	Satisfactory	Satisfactory	13.61
12	09/24/2012	Satisfactory	Satisfactory	18.68
13	04/24/2013	Moderately Unsatisfactory	Moderately Unsatisfactory	19.29
14	11/16/2013	Moderately Satisfactory	Moderately Satisfactory	20.23
15	06/15/2014	Moderately Unsatisfactory	Moderately Unsatisfactory	22.94
16	12/31/2014	Moderately Unsatisfactory	Moderately Unsatisfactory	24.46
17	06/14/2015	Moderately Unsatisfactory	Moderately Unsatisfactory	25.27

G. Ratings of Project Performance in ISRs

H. Restructuring (if any)

Restructuring	Board Approved PDO Change	ISR Ratings at Restructuring		Amount Disbursed at	Reason for Restructuring &
Date(s)		DO	IP	Restructuring (US\$ million)	Key Changes Made
04/08/2011		MS	MS	9.02	Extension of closing date (+12 months); Reallocation of funds
06/07/2011		MS	MS	10.29	Additional financing; Extension of closing date (+32 months)
04/14/2015	Ν	MU	MU	24.91	Early, partial cancellation of funds; Reallocation of funds

I. Disbursement Profile



1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

1. In 2005, Chad was one of the poorest countries in the world with 80 percent of the population of about 9.7 million living on less than US\$1 a day and a gross national income per capita estimated at US\$400.¹ It faced enormous development challenges and was off track for the Millennium Development Goals. The capacity to plan, finance, and implement development efforts was lacking at all levels of the administration, and growing urban centers were lacking basic infrastructure and services.

2. Chad's Poverty Reduction Strategy Paper of June 2003 aimed at halving the number of people living in poverty by 2015. It focused on promoting good governance, ensuring strong and sustainable growth, improving human capital and the living conditions of vulnerable groups, and safeguarding ecosystems. The Government of Chad (GoC) wanted to foster decentralization in implementing the 1996 Constitution provisions in this matter and invest in human capital in the private and public sectors. Increased public investment in infrastructure and basic services was expected to boost growth.

3. **Because oil production started in 2003 in the Doba basin, oil revenues became a major source of funding.** By 2006, net oil revenues had grown steadily, representing over 73 percent of total revenues in the national budget, excluding foreign financing. After a difficult dialog with the World Bank, the GoC agreed to spend 70 percent of its 2007 budget on priority poverty-reduction programs and increase non-oil revenues for development priorities. The GoC also agreed with donors on steps to strengthen budget management within a comprehensive plan for the modernization of public finances.

4. **The Chadian cities concentrated 25 percent of the population and struggled to provide them with adequate services.** In 2007, 2.4 million people or one in four Chadians lived in urban centers and the urban population growth rate had been 4.5 percent annually since 1990. Cities had to accommodate over 100,000 new residents every year. Living conditions were distressing. Only 41 percent of the urban population had access to improved water sources and 30 percent to improved sanitation, much below other Sub-Saharan African urban areas at that time. Drainage of storm water and sewage and waste collection were a problem in most cities. While cities contributed substantially to economic growth, the donor community financed 95 percent of the investment projects in the urban sector, and the needs far outstripped available resources.

5. The political and fiscal decentralization process aimed to strengthen the subnational levels of government and better share the dividends of the oil boom. Municipal finance was a key issue as municipalities suffered from low and unpredictable resources, hindering the development of basic services and infrastructure. State transfers of taxes and fees were limited and often delayed. Collection effort by municipalities of their own revenues was far below resource potential. Moreover, high administrative expenses weighed on resources available for productive purposes.

¹ 2005 Human Development Report, 2006 World Development Indicators.

6. Rationale for Bank involvement. Since the early 2000s while engaging in the oil pipeline project, the Bank had strongly advocated that countries develop their natural resources to fight poverty. In line with the 2003 Poverty Reduction Strategy Paper, the Country Assistance Strategy for FY2004–2006 aimed to help Chad make the best use of revenues as it strived to attain the Millennium Development Goals, by strengthening governance, public resource management, and service delivery and by enhancing non-oil economic opportunities for inclusive growth. In this context, the proposed operation was supporting the 2006 Letter of Urban Sector Policy: the sector would benefit from the oil revenues and external donor contributions would help foster more discipline and efficiency in municipal finance and urban management. The Bank's reengagement in the urban sector was relevant considering the depth of urban poverty and the risk of social unrest that it created. In addition to financing infrastructure, the project proposed technical assistance (TA) to build capacity and practical guidance in mobilizing resources and managing urban development. The project would complement other projects financed by IDA on related topics (see section 2.1).² It would build on the Bank's regional expertise and coordination with other donors involved in the sector, in particular, the French Development Agency (Agence Française de Développement, AFD) in drainage and water provision.

1.2 Original Project Development Objectives (PDO) and Key Indicators

7. The project development objective (PDO) was to increase sustainable access to municipal services for residents in the beneficiary cities. As detailed in the Project Appraisal Document, the target cities were N'Djamena, Moundou, Sarh, Abéché, and Doba.

8. The results for the project were (PDO1) strengthened capacity of the local governments in N'Djamena, Moundou, Sarh, Abéché, and Doba to plan and manage the development and delivery of infrastructure and urban services and increase their financial resources to maintain existing and new infrastructure and (PDO2) increased availability of urban infrastructure.

9. The key indicators for monitoring progress toward the PDO were (a) the number of people in targeted cities protected from periodic flooding, (b) number of people having access to drinking water, (c) number of people having access to the city center via roads that are usable all year, and (d) the annual increase in municipalities' own revenues.

1.3 Revised PDO and Key Indicators, and Reasons/Justification

10. The PDO was not revised when an Additional Financing (AF) was approved in June 2011 (see sections 1.6 and 1.7). The outcome indicators were aligned with the Bank's

² Local Development Program Support Project (*Projet d'Appui au Développement Local*, PROADEL) was supporting decentralization in rural areas, Capacity Building for Modernization of Public Financial Management Project (*Projet d'Appui au Management des Finances Publiques*, PAMFIP) aimed at improving public finance and Chad Critical Electricity and Water Services Rehabilitation Project (*Projet de Réhabilitation des Services Essentiels Eau et Electricité*, PRSEEE) was supporting the water and electricity sectors (Chad Critical Electricity and Water Services Rehabilitation *Projet de Réhabilitation des Services Essentiels Eau et Electricité*.

core indicators. Indicators were added to reflect the performance of the private operator and the water reform under the new component (see Datasheet).

1.4 Main Beneficiaries

11. An estimated 145,000 people living in poor areas in N'Djamena, Abéché, Sarh, Moundou, and Doba would benefit from the project investments that would protect them from flooding and improve their water supply and roads to access markets. The project would develop the capacity of the municipal governments to deliver and maintain these services. It also intended to strengthen the local steering committees, neighborhood committees, standpipe managers, and local construction companies that would benefit from works contracts, as well as the central administration and their deconcentrated services in charge of assisting municipalities. The AF intended to benefit another 150,000 people and strengthen the new Chad Water Utility (*Société Tchadienne des Eaux*, STE).

1.5 Original Components

12. Component A: Strengthening Municipal and Urban Management Capacities (estimated cost: US\$4.96 million, funded by IDA) was intended to support the local governments in the beneficiary cities to plan and manage the development and delivery of infrastructure and urban services and increase their financial resources to maintain existing and new infrastructure.

13. Subcomponent A.1: Strengthening urban and municipal management capacities would finance workshops, TA, studies, training, and provision of equipment to improve (a) the internal functioning and organization of municipalities; (b) resource mobilization and financial management (FM); (c) urban management and planning; (d) transparency and accountability of city managers to urban residents; and to provide (e) support for community integration and awareness on socio-environmental aspects.

14. Subcomponent A.2: Strengthening the capacity of the central and deconcentrated administration would support the Ministry of Land Planning, Urban Development, and Housing (Ministère de l'Aménagement du Territoire, de l'Urbanisme et de l'Habitat, MATUH), the Ministry of Finance, Economy and Planning (Ministère des Finances, de l'Economie et de la Planification), the Ministry of Land Administration (Ministère de l'Administration du Territoire), and the ministry in charge of Decentralization (Ministère en charge de la décentralisation) to provide technical support to the municipalities to manage their new responsibilities. Budget was allocated under this subcomponent for the Project Coordination Unit's (PCU's) operating costs.

15. Component B: Provision of Basic Urban Infrastructure and Services (estimated cost: US\$18.42 million, works co-funded at 60 percent by counterpart funds) was intended to increase access to urban infrastructure, including (a) drainage, sanitation, and rehabilitation of roads; (b) rehabilitation and extension of the potable water distribution network; and (c) provision of economic infrastructure such as markets and slaughterhouses.

16. Subcomponent B.1: For the City of N'Djamena would finance drainage works for commercial areas in the areas surrounding the Mil Market that would complement works financed by AFD (25.8 million under its 2006 urban project).

17. *Subcomponent B.2: For the City of Moundou* would finance works for: (a) the extension of the water supply network and rehabilitation of pipelines; (b) the construction of equipped boreholes and the installation of standpipes in densely populated neighborhoods; and (c) the second phase of drainage works (AFD funded the first phase).

18. *Subcomponent B.3: For the City of Sarh* would finance: (a) the acquisition and installation of water network extension and standpipes, and construction of new equipped boreholes; and (b) the second phase of the drainage works.

19. *Subcomponent B.4: For the City of Abéché* would finance: (a) the construction of new equipped boreholes and extension of the water network to new outlying districts and the installation of standpipes on the network; (b) drainage works; and (c) construction of a slaughterhouse with sanitation facilities and waste management.

20. *Subcomponent B.5: For the City of Doba* would finance the construction of earth roads and the associated drainage to provide access to dense neighborhoods in Doba.

21. *Subcomponent B.6* would finance technical and financial assistance and studies for: (a) monitoring and evaluation (M&E); (b) environmental and social studies; (c) supervision of works; (d) periodic technical audits for works and contract management procedures; (e) project financial audits; and (f) training activities for the local private enterprises.

1.6 Revised Components

22. The AF in 2011 expanded Component B and added a new Component C that focused on urban water services and sector reform (see section 1.7).

23. **Subcomponent A.2 was granted an additional US\$0.90 million** to finance the PCU's operating costs (management and monitoring) for three additional years.

24. **Component B was granted an additional US\$15.25 million to finance** (a) priority investments in water supply infrastructure to increase access to water services under Subcomponent B.1: for the City of N'Djamena (36 percent of AF); (b) the completion of drainage and water infrastructure funded under the original project, but facing cost overruns under Subcomponents B.2, B.3, and B.4: for the cities of Moundou, Sarh, and Abéché (16 percent of AF); and (c) technical and financial assistance for (i) engineering studies, bidding documents, and environmental and social studies related to the new works and the supervision of their execution in N'Djamena; (ii) a medium-term Investment Plan covering the cities within the water utility's service area and the update of the N'Djamena Water Supply Master Plan; and (iii) financial audits of the project under Subcomponent B.6.

25. Component C: Strengthening Sustainable Access to Urban Water Services (US\$11.25 million, funded by IDA, 45 percent of AF) was intended to finance (a) TA by

a private operator under a service contract to support the new water utility STE; (b) operations improvement and rehabilitation activities for STE; (c) TA for the recruitment and supervision of the private operator; and (d) TA to improve financial sustainability and to complete the legal, financial, and organizational formation of STE.

1.7 Other significant changes

26. **AF and change in scope.** An AF of US\$27.40 million to the initial grant of US\$15 million, comprising a grant (US\$12.30 million) and a credit (US\$15.10 million), was approved by the Board of Executive Directors on June 7, 2011. The rationale for the AF was to: (a) cover unanticipated cost overruns for the initial infrastructure works, and (b) scale up the impact of the project, with a stronger focus on sustainable access to water services, including large investments in rehabilitation and new infrastructure in N'Djamena and TA through a service contract to the newly established water utility to improve its performance and governance and enhance its social accountability. This change in scope and focus was critical for project implementation and performance (see section 2.2). Because the outcome targets for water services were significantly revised, the project outcomes will be assessed using a split rating approach.

27. **Extensions of the project closing date.** The project was designed for five years. The closing date was first extended in April 2011 through a Level 2 restructuring by 12 months, from October 31, 2011 to October 31, 2012. It was extended a second time by 32 months with the AF, up to June 30, 2015, to provide sufficient time to implement all the project activities and achieve the PDO (see section 2.2).

28. **Restructuring and partial cancellation of funds.** In a letter dated December 13, 2014, the Government requested to cancel the project's uncommitted funds before the closing date of June 30, 2015. The restructuring and cancellation of US\$15 million equivalent was effective on April 14, 2015. Both the 2011 and the 2015 restructurings included funds reallocations (see annex 1).

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

29. The preparation and design of the original project built on experience and lessons from Bank-financed urban development projects in West Africa, such as the Benin and Mali urban development in decentralized cities, and from the Chad Urban Sector Strategy. During preparation, from the Concept Note review in October 2004 to the Board approval in March 2007, the team undertook a thorough analysis of the country's development priorities and the governance and financing of urban services and infrastructure and a detailed assessment of the five project cities' needs and economic potential. The lessons focused on project sustainability, such as the project should (a) be simple and easily manageable, especially in an environment with weak institutions; (b) have well-defined objectives; (c) be owned by the local governments and the stakeholders; (d) ensure capacity to maintain works; and (e) have good coordination with interventions financed by other donors.

30. The design of the original project was simple and consistent with the PDO. Conceived as a municipal development project, it included a large component (Component A accounted for one-fifth of the project costs) focusing on strengthening municipal and urban management capacities. Part of it (45 percent of the component costs) would build the five municipalities' skills in resource mobilization, planning, and procurement, directly in relation with the infrastructure financed under Component B. Another part (55 percent of the component costs) would support the administration in charge of decentralization and urban development, mostly MATUH, including broader urban studies and tools to manage urban development. In hindsight, the results framework (RF) could have better reflected this intent with indicators more directly linked to this improved capacity at both local and central levels and measuring the sustainable access to well-maintained works beyond the 'availability of urban infrastructure.'

31. In a context of political instability and weak capacity, the Implementing Unit was set up within the line ministry in charge of Urban Development. The 1994 Public Works and Capacity Building Project, an urban project that was suspended in 1997 and eventually closed in 1999 due to poor performance, showed that an external public works executing agency needed close supervision to ensure competitive and transparent processes for construction contracts. It was also not adapted to support institutional development. The decision was to set up a PCU with skilled consultants within MATUH as a means to transfer knowledge and build its internal capacity. In addition, contractual arrangements between the PCU and the beneficiary cities would help engage with citizens and local stakeholders (*Conventions de Maîtrise d'Ouvrage Déléguée, comités d'assainissement*).

32. The team worked closely with local stakeholders to increase ownership, and with other donors to avoid duplication and maximize aid impact. The projects financed by AFD, then the main actor in the sector, were instrumental in scoping the project. The Bank updated existing feasibility studies and complemented them through a preparation grant. Consultations with the Government, cities, and the population were key to collect feedback on the proposed works (February 2005) and to validate the design (November 2006). The GoC committed US\$12 million in counterpart funding for a project that (a) focused on the immediate needs of the urban population, particularly the poor, and (b) built the foundation for longer-term local development and improved service delivery.

33. **Overall, the risk was rated High, even though some of the above design features were shaped to mitigate them.** The highest risks related to the Government's commitment and the use of oil revenue as counterpart funding. The risk of not engaging was considered higher than other risks, given the current socio-economic conditions and country needs. An Adaptable Program Loan was not considered appropriate due to the Bank's recent re-engagement in the sector. A regular investment lending was selected to balance infrastructure investments and support to institutional capacities. There was no quality at entry assessment conducted at that time.

34. The preparation and design of the AF are discussed in section 2.2 and other sections of this Implementation Completion and Results Report (ICR).

2.2 Implementation

35. The Urban Development Project (*Projet d'Appui au Développement Urbain*, **PADUR**) performed relatively well in a fragile context. Its performance took a downturn from which it did not recover during the implementation of its AF focused on the urban water sector. Rated as Moderately Satisfactory or Satisfactory until 2012, the project was then downgraded to Moderately Unsatisfactory due to the increasing risks of not achieving the PDO, the deterioration of the PCU project management, and the limited performance of the water component. About 55 percent of the AF (35 percent of the IDA allocation) was cancelled before closing. At completion, the lack of responsiveness from the borrower, incomplete fiduciary diligence, and limited evidence to confirm some of the achievements affected the performance assessment (see section 3.2).

The original project progressed well despite internal and external difficulties. 36. The project became effective two months after approval. It was formally launched during a workshop in June 2007. The first bidding documents and TA recruitment were under way. In February 2008, less than a year after effectiveness, a rebel attack on the capital city led to the closing of the Bank office in N'Djamena. The suspension of supervision missions slowed down implementation in 2008 and 2009, although supervision through audio conferencing enabled some activities to continue, including the awarding of contracts for water supply in Sarh, Moundou, and Abéché. During that time, the PCU was confronted with the resignation of the administrative and financial officer and a fraud by the accountant, which later proved insignificant. Despite procurement delays, all works contracts were awarded in 2009, except roads in Doba. After start-up delays, capacity strengthening activities progressed with the preparation of urban plans for 16 cities, the acquisition of satellite image and plans for 22 cities, and services to update the Drainage Master Plan for N'Djamena. In parallel to a study on municipal resource mobilization, local governments benefited from numerous trainings and TA activities on FM and accounting, collection of municipal taxes, and transfer of competences aimed to increase their own revenues. MATUH staff were trained in public investment planning and a software was developed to help prepare a programmatic budget.

37. The project restructuring and consecutive AF in 2011 were intended to scale up PADUR. The change in scope and increased focus on water, however, made the project more complex and more difficult to manage. As discussed below, on the one hand, the PCU had to pursue the implementation of the original project, but was relatively short of funds and human resources to do so in a proactive manner. On the other hand, the new activities were challenging in relation to procurement, expertise needed, and involvement of new stakeholders. The story behind the AF (see box 1) sheds some light on the difficulties experienced by PADUR, the PCU, and STE during the post-AF period.

Box 1. From the Chad Critical Electricity and Water Services Rehabilitation Project to the Urban Development Project

The IDA-funded PRSEEE started in 2003 and aimed to support the Chad Water and Electricity Company (*Société Tchadienne d'Eau et d'Electricité*, STEE). Basic electricity and water supply services in N'Djamena and the main cities were collapsing and the utility's technical, financial, and environmental performance was very poor. The STEE was already under a concession contract since 2000 with a private consortium. During PADUR appraisal in 2006, the performance of the PRSEEE was unsatisfactory because of a persistent sector crisis, unsuccessful attempts to restructure the STEE, and the departure of the private operator in 2004. That is why PADUR included some water works to expand access to standpipes in secondary cities. When the PRSEEE closed on March 31, 2007, the Bank left the door open to a retroactive extension and restructuring, should the Government of Chad settle pending actions, including paying outstanding bills to providers of goods and services rendered before the closing date and refunding ineligible expenses. A restructuring package was initiated in September 2007 that included the proposal to discontinue IDA support to the electricity sector and to reallocate 100 percent of the project balance to the water sector.

In May 2010, the government as the sole shareholder dissolved the STEE and established two separate corporatized utilities, one for electricity and one for water, the STE. The government reiterated its request to restructure the PRSEEE and reallocate all funds to the water sector. In the context of its reengagement in Chad after the 2008 war and the dialog on the use of oil revenues, the Bank agreed to move in that direction as confirmed in the 2010–2012 Interim Strategy Note. In December 2010, it authorized a three-year retroactive extension of the PRSEEE based on exceptional country circumstances in application of OP 13.30. The remaining funds were canceled and recommitted as AF to the water component of the ongoing PADUR. The Bank confirmed this arrangement to the government in February 2011.

Sources: PRSEEE ICR June 2011 and project files.

The AF changed the focus of project implementation from urban development 38. to increasing urban water services and strengthening the water utility. In mid-2010, the GoC started updating various laws and regulations to set up the new water utility STE and requested the Bank's assistance through a grant from the Public Private Infrastructure Advisory Facility (PPIAF), to identify the best strategy for private sector participation in the reform of the water sector. The PPIAF study (2011) stood as the scoping study of the AF. It identified the service contract as the lightest form of private sector participation, and the less risky and most attractive for potential bidders given the recent experience with the private sector. The study proposed: (a) an action plan for the institutional, legal, commercial, social, and financial strengthening of the water utility and a draft for the delegation and performance contract between the Government and STE, (b) an updated investment plan for N'Djamena emergency works, and (c) the detailed scope of works and cost estimates of the proposed service contract to STE, including management services and specific deliverables (for staff training, communication plan, upgrading of the commercial system and so on, see annex 2). The service contract was the backbone of the AF. The AF paper acknowledged the serious challenges faced by STE, which had inherited the debts of the former utility and its operational, commercial, and financial inefficiencies. International expertise was deemed necessary to help STE build its management and operational capacity while undertaking major investment works to restore the quality of water services and expand access to piped water.

39. **Post-AF, the PCU's attention and resources were diverted from the original project.** The initial grant was disbursed at 60 percent at AF approval and fully disbursed by the Midterm Review (MTR) in December 2013. The capacity-building activities for the municipalities were completed in 2012. In a context of instability and turnover of municipal staff, the MTR urged the government to take action to operationalize the decentralization decrees that would further consolidate the municipalities' capacity to improve service delivery. The urban studies under MATUH's oversight progressed. The urban planning and investment studies for 15 cities were endorsed in April 2013 while the organizational

audits and administrative and accounting manuals for the project cities were finalized. A workshop was organized in June 2014 to disseminate these results. All infrastructure works were handed over to the municipalities in 2012, except in Abéché. Additional rehabilitation works were undertaken at the slaughterhouse, but the water works were stopped since 2011 (30 percent executed) due to the dispute between the authorities and the water works contractor. This issue was settled only in 2015 with the termination of the contract and the recruitment of another contractor to finalize the boreholes already drilled in Bithea. Investments to extend the water network could not be made. The satisfaction surveys in 2012 and early 2014 highlighted the overall satisfaction of beneficiaries and the need to monitor carefully how the works were used and maintained, for instance in optimizing the management of standpipes in Moundou and Sarh.

40. In addition, the coordination arrangements did not sufficiently reflect the new focus on water and the need to build ownership of the water stakeholders. Maintaining the existing PCU within MATUH was considered the best option during AF, given the weak capacity of STE in Bank procedures. STE and the private operator would however be involved in defining and reviewing the technical specifications for the large water works and services to be procured under the AF. The Ministries in Charge of Water and of Environment would join the Steering Committee. In reality, as noted by the supervision missions in 2012 and later by the MTR, the communication and sharing of information and responsibility between STE and the PCU was difficult, which added delays to the already slow processes under the Chadian procurement rules. The inter-ministerial Steering Committee did not meet regularly enough to provide the project with strong guidance. In addition, from mid-2013, the PCU suffered from the departure of the project coordinator. MATUH appointed one of the PCU staff to replace him, which was not compliant with the Financing Agreements. He acted for more than a year, but could not demonstrate the same expertise and leadership in this critical period of the project and the change did not yield acceleration in procurement and disbursement over the course of a year. A new coordinator was finally recruited to manage the project closing.

41. The delayed recruitment of the private operator weighed heavily on the feasibility and achievement of the water works. The AF included about US\$14 million of water works and goods. Preparing the feasibility studies and bidding documents and implementing those AF works in a period of 40 months (after AF effectiveness) proved challenging. The consultant to design the new water works in N'Djamena was recruited in March 2013. The selection of the private firm for the service contract, which included the design of over US\$3 million of rehabilitation works, proved more challenging due to the complaints from two competing firms and lengthy national clearances. The contract was signed in May 2013, 15 months after effectiveness, for 36 months when the remaining project duration was only 24 months. The Minutes of Negotiations mentioned this issue, as did the subsequent Implementation Status and Results Reports (ISRs) and Aide Memoires, hinting at a potential restructuring to reduce the scope of the contract or extend the project duration. The independent auditor of the service contract should have been recruited simultaneously, but it took service only 18 months later in September 2014. During this period, various issues resulting from diverging interpretation of the contract provisions slowed down the effectiveness of management services. It also slowed the deliverables expected from the private operator, including several bidding documents to launch the related works or activities (see section 3.2 and annex 2). STE was also under pressure to deliver tangible outputs (Chad intended to host an African Union Summit in N'Djamena in 2015) and pushed for ambitious investments that were beyond PADUR's scope and resources.

42. The water reform needed a more conducive environment and suffered from the prevailing institutional instability. A series of legal covenants were introduced in the AF Financing Agreements to ensure that the GoC would support STE to become a legal and financially viable utility. At closing, 6 of the 11 covenants were fully complied with. The ministers changed frequently, as did the perimeters of the ministries, and STE experienced several managerial changes in a few years. There was no champion to speak for the water reform. Several studies were funded by the project to support the reform, but STE did not have the resources or the political support to translate them into actionable decisions. The delegation and performance contracts between the Government and STE, for instance, were signed much after the dated covenants and lacked important contractual annexes such as STE's business plan. Despite two studies, it was not possible to set up a mechanism for the automatic payment of the public customers' bills to STE while the public arrears represented an estimated one-third of its potential revenues. The tariff study initiated a discussion about tariff, but implementing a tariff reform was premature before any tangible progress in the quality of service delivered. Contrary to the assumptions of the AF paper, it proved difficult to make progress in the sector's reform while STE was not yet skilled and 'equipped' to better measure its operational and commercial losses.

43. The project was rated Moderately Unsatisfactory from the MTR to closing due to the backlog in activities and disbursement. An early cancellation of funds enabled the Chadian authorities to secure those funds. Despite increased implementation support by the Bank after the MTR and several management letters, implementation progress under the AF exhibited severe shortcomings. The Bank finally received most bidding documents for the service contract products (training of STE staff, communication plan) and for works in December 2014 before the last supervision mission, six months before closing. Given the timeline and status of the project, the Bank could not grant them a 'no objection'. After 34 months of implementation of the AF, it would still have required at least 27 months to complete both the procurement and execution of those large water works. Only one-third of the AF was disbursed and most of the uncommitted funds could not be spent before the closing date of June 30, 2015, and was about to be lost for Chad. The Government requested the Bank to cancel the uncommitted funds for both PADUR and another project in a similar situation and to recommit them to urgent budgetary needs. The cancellation of US\$15 million of PADUR funds was effective on April 14, 2015. The PCU managed to finalize the pending works to operationalize two boreholes in Abéché before closing; all other activities were put on hold.

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

44. **M&E design.** The M&E framework was designed to capture progress toward the PDO and to reinforce the capacity strengthening activities of both the PCU and the municipalities. The data collection methodology was based on simple, on-site, and citizens' satisfaction surveys and review of municipal regular operating budgets, combined with

semi-annual technical audits of the infrastructure financed under the project, building on baselines established at appraisal. The PCU's social and environmental specialist was responsible for data collection and reporting. The Project Implementation Manual provided additional procurement and disbursement performance indicators to the M&E framework. The RF was modified at AF to include indicators for the new Component C, which relied on data to be provided by the STE, the private operator, or the independent auditor of the service contract.

45. **M&E implementation.** The PCU's annual reports until 2013 presented progress made for the different activities, providing details on works contracts and consultant services. They did not include, however, separate sections on M&E or updated RFs. Beneficiary satisfaction surveys were undertaken as planned in 2011–12 and 2013–14 to assess the works funded by the original project. However, no progress report was completed for the rest of the project duration and the AF activities. While the Bank's ISRs regularly updated the RF, several of them pointed out M&E issues. It remains unclear how some of the indicators were assessed and to what extent they are reliable. Despite several requests, the PCU did not prepare the borrower's Completion Report that would have enabled a fair review of the project's achievements and costs.

46. **M&E utilization.** The 2011 restructuring and subsequent AF were partly based on the PCU's 2010 report that provided estimates of the additional resources needed to cover cost overruns, complete works, and catch up with implementation delays. The M&E weaknesses noted during the MTR could have triggered a more in-depth review of actual achievements, but at that time most of the attention was put on the water component. Delays did not allow the water utility to upgrade its commercial and operational systems during the project's life. The STE's performance indicators and monitoring framework (baselines, methodology) were finalized a few months before the project closing.

2.4 Safeguard and Fiduciary Compliance

Safeguards Compliance

47. The project was approved as a Category B, with limited and site-specific adverse environmental and social impacts. The Operational Policies and Bank Procedures (OP/BP) 4.01 on Environmental Assessment and OP/BP 4.12 on Involuntary Resettlement were triggered. An Environmental and Social Management Framework and a Resettlement Policy Framework were prepared and published in 2006. Public information meetings were held in Doba, Moundou, Abéché, and Sarh. The Environmental Impact Assessments and brief Resettlement Action Plans confirmed in 2010 the limited environmental impacts of the project and the compensation measures for a few households affected by the works. The safeguards instruments were duly revised before the AF approval, leading to maintaining a Satisfactory rating. A Resettlement Action Plan was prepared for the water works planned in N'Djamena under the AF and received the Bank's 'no objection' in December 2014, just before the decision to cancel those works.

Fiduciary Compliance

48. The 2006 Country Financial Accountability Assessment highlighted numerous gaps in Chad's public FM systems and recommended actions to address fiduciary risks associated with budget preparation, formulation, and execution; weak capacities in auditing; inadequacies of some of the country procurement code's provisions against Bank guidelines and procedures; and experience of lengthy procurement processes. To mitigate such risks at the project level, a fiduciary team comprising an FM specialist and a procurement specialist trained in IDA procedures were recruited and a computerized accounting system software tailored to the project needs was developed at appraisal. The General Inspectorate of Finance of MATUH was appointed as the internal auditor of the project as a condition for negotiations. The project procedures and implementation manuals were completed and considered satisfactory by the Bank, allowing the project to become effective only two months after approval.

49. **Procurement.** The procurement risk was rated High at appraisal, for the reasons explained above. Specific training of the procurement specialist to operate the new monitoring and contract management software, reduced value thresholds for prior review contracts, and close follow-up from the Bank proved efficient. Despite initial delays, procurement was rated as Satisfactory until 2013. It was then downgraded to Moderately Satisfactory. Although a new procurement specialist was hired after nine months of vacancy, the PCU had difficulties properly updating the Procurement Plan and following-up on ongoing procurement processes. Slow progress of the bidding documents expected for many AF activities led to the decision to cancel the funds allocated for them, because their procurement and execution would have required an additional project extension of more than two years. Procurement was rated as Moderately Unsatisfactory at completion.

50. **Financial management.** At appraisal, FM arrangements were considered Satisfactory. However, FM performance suffered several setbacks during implementation. In 2008, the PCU's administrative and financial officer resigned and the accountant was fired after a fraud was discovered. A qualified audit triggered a Moderately Unsatisfactory FM rating, but the funds were refunded and the case was closed. At AF, the FM risk level was reduced to 'Medium – Low Impact, High Likelihood'. The rating was kept Moderately Satisfactory until the project closing, despite some months without an administrative and financial specialist in 2013; 14 months of vacancy for the internal auditor position; and recurrent issues identified in the annual audits. Many of them surfaced again in the final audit report issued in December 2015. The report was qualified, noting that the financial accounts did not give a faithful picture of the financial situation of the project. It pointed out various practices not compliant with international accounting standards or Bank requirements. The lack of accurate financial information and data on the actual project costs, including counterpart funding, affected the preparation of this ICR (see annex 1).

51. **Disbursement.** After a slow start, the original project progressed steadily, with no issues reported in mobilizing the counterpart financing. In contrast, six months before the project closing, the additional grant and credit disbursement rates amounted only to 33 percent and 35 percent, respectively. The early cancellation of US\$15 million of uncommitted funds enabled a final disbursement rate of 91.5 percent or SDR 16.67 million

disbursed out of the revised SDR 17.25 million allocation (61 percent of the SDR 27.4 million before cancellation). ISRs noted delays in submitting disbursement requests in 2013 and issues in providing adequate documentation. The final audit reported mistakes in charging expenses to the adequate disbursement categories or to the correct financing source and unjustified transactions between the project's bank accounts. Despite close follow-up from the Bank team before and after closing, the project did not complete its due diligence. Some funds are yet to be refunded to the Bank at the time of writing this ICR, which has negative impacts on the Chad portfolio.

2.5 Post-completion Operation/Next Phase

52. The PCU team was reduced at project closing and disbanded after the grace period. No follow-up operation could be envisaged before solving pending fiduciary issues. In addition, the perspective of another operation remains subject to the evolution of the overall situation in Chad (insecurity, budgetary constraints due to the oil crisis, economic difficulties and social unrest) and the limitations of the IDA allocation for Chad.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

Relevance of Objectives: Substantial

53. The project objective has remained relevant throughout implementation in the context of rapid urbanization, demand for improved urban services, and poor access to water supply. The World Bank Group Systematic Country Diagnostic for Chad (2015) acknowledged the low access to basic services, including water, sanitation and drainage as a constraint to poverty reduction and the inefficiencies of the water and electricity utilities as bottlenecks for economic growth. Given the incidence and depth of rural poverty, the Bank Group's FY2016–20 Country Partnership Framework for Chad did not prioritize support to urban services. However, the project objective was aligned with the Government's goals to improve governance and productivity, build human capital, and reduce inequality (National Development Plan 2013-15); it supported the Country Partnership Framework's pillars on strengthening management of public resources and reducing vulnerability. In addition, the GoC has provided signals, in the local press and budget discussions, that improving access to water remains a priority. Needs for quality water supply services remain immense and a matter of public health in the Chadian cities, and STE still needs to build its capacity to fulfil its mandate.

Relevance of Design and Implementation

54. **Pre-AF** (Substantial). The sound design of the original project resulted in smooth implementation. The original project built on lessons learned and on a thorough risk assessment that helped address fiduciary and capacity risks. It proposed a simple design that adequately balanced institutional strengthening and infrastructure development, targeting the cities with the highest potential in relation to economic and social impact, and involving stakeholders at all central and local levels. The implementation and financial arrangements, including counterpart funding through the oil revenues and a PCU with

strong leadership, enabled the progressive implementation of most planned activities despite initial disruptions due to the country context and staffing issues.

55. Post-AF (Modest). In contrast, the AF design underestimated the risks associated with challenging objectives in a low-capacity environment, which hindered implementation progress. The project risk at AF was decreased from High to 'Medium, High Impact, Low Likelihood' based on the experience of the PCU and the low level of risk of a service contract to support a small water utility. This assessment was optimistic. First, the PRSEEE ICR was completed the same month as the AF approval, but the AF paper barely discussed the lessons learned from this project, the early departure of the previous operator, and the Government's insistence to pursue the water reform through another form of private participation. Second, the new activities were presented as a scaling-up of the original project. That was relevant when considering the outcomes of rehabilitated and new water works that would eventually increase access to improved water sources. It was also overly optimistic, given the difficult implementation environment in Chad, the project period, and the serious shortcomings of STE acknowledged in the AF paper, to assume that such improvements could materialize within the additional project duration. In this respect, while the PPIAF study was a comprehensive and solid assessment of the building blocks and incremental steps needed to improve water services and support the reform, the proposed activities needed more focused preparation to ensure project readiness—it took months after AF approval to prepare the bidding documents and launch the key activities, including the service contract. Third, the operating and governance arrangements proved inadequate to ensure the political support and expertise needed to support the water reform, balance the respective roles of STE and the PCU, and mitigate increased fiduciary risks due to the volume of works and services to procure under the AF.

56. In addition, the AF shift could have justified revisiting the original PDO to highlight the new focus on 'strengthening sustainable access to urban water services.' The new focus could have been warranted the PDO for a new, stand-alone project or an addition to the original PDO. STE, a corporatized utility, was indeed mandated by law to provide water services in 10 urban centers, including the five project cities. The PDO to increase 'access to municipal services' partly lost its accuracy. This undermined the logical chain, despite new indicators that intended to monitor the performance of the service contract and STE strengthening.

3.2 Achievement of Project Development Objectives

57. **PDO1 - Strengthened capacity of the local governments in N'Djamena**, **Moundou, Sarh, Abéché, and Doba.** All five cities have largely increased their own revenues over the years, far above the targets set for the project. Other indicators supporting this part of the PDO were fully or almost achieved, and remained unchanged after the AF. Therefore, this part of the PDO is considered Substantial.

58. Cities have benefited from the oil economy, an increased population, and more taxpayers contributing to local taxes. In this favorable context, the trainings and TA (see annex 2) focusing on procurement, FM, accounting, and fiscal issues provided by the project helped the municipalities develop their capacity to collect local taxes and manage

their budgets, including expanding provisions for maintenance as part of their operational expenses. It has become easier to access municipal budget data from the competent units within the Ministry of Finance, although sometimes after delays from compiling data collected from municipalities. The standardized budget nomenclature developed under the project provides a key tool to improve budget management and transparency on the use of funds. Together with the recommendations of the organizational audits and budget manuals also supported by the project, they deserve to be further implemented in other cities to contribute to the Government's objective to improve public finance management. In addition, the project enabled the update or the preparation of urban studies: the 15 Urban and Investments Plans and the updated Drainage Master Plan for N'Djamena in particular provide a strategic framework for future investments in the main urban centers in Chad. Despite the institutional instability in central and local administrations, the project was well known and appreciated by the urban stakeholders and authorities. It has built important foundations for the urban sector in Chad.

59. **PDO2 - Increased availability of urban infrastructure.** The project has increased access to municipal services for an estimated 363,000 beneficiaries (achievement: 93 percent). Given the new focus area introduced by the AF, which substantially changed the scope of PDO2, the outcomes are assessed separately. The outcomes resulting from the activities of the original project are assessed against their original targets (drainage, roads, water supply/standpipes), and considered Substantial. The outcomes of the new water activities (under the AF) are assessed as Modest.

Drainage works to protect people from flooding: High (pre- and post-AF). 60. Drainage works in Moundou, Sarh, and Abéché have benefited 266,948 additional people, far above the original target of 72,096 (achievement: 370 percent). The achievement is still high when considering the target revised at AF (+162,972 beneficiaries), which took into account the annual population growth of 4–6 percent in the beneficiary cities. The project was strategic in constructing 14.6 km of primary and secondary drains in dense settlements with no other pre-existing drainage channels, where the impact of the works on the surrounding areas would be maximized. As confirmed in the 2014 survey undertaken by the project, people expressed their satisfaction in being less affected by flooding thanks to PADUR. In Sarh and Moundou, they noted that the works were of good quality and functioning properly. They appreciated that most of the drains were covered and had adequate depth and size to collect and evacuate storm water during the rainy season. Many walkways and small bridges allowed residents and vehicles to cross over the drains. The neighboring population was well informed about the project and maintenance issues. In Abéché, they noted some design issues in one area, but otherwise praised the drains and the gabions that prevented erosion along the water runs.

61. **Urban roads: High (pre- and post-AF).** The road sections constructed in Doba have benefited 23,428 people, which is far above the target of 10,056 (achievement: 233 percent). Thanks to the 5 km of laterite roads provided by the project, several poor communities now have better access to the rest of the city, including the market and the bus station. They are the only non-asphalted streets to be accessible all-year round. In the survey, the dissatisfaction came from other neighborhoods not included in the project that wanted to receive similar roads. People also noted that an effort was needed to maintain

the secondary drains along the roads to ensure that potential overflows during the rain or garbage would not affect the quality of the roads.

62. Water supply (original project): Substantial. About 72,648 people have gained access to improved water sources, above the original target of 63,500 (achievement: 114 percent). This outcome builds on the construction of almost 25 km of new water networks (63 percent of the target, limited by the unachieved works in Abéché); the installation of boreholes and pumping stations; and the construction of 102 standpipes (80 percent of the target, again limited by the contractual problem in Abéché that prevented the construction of 24 standpipes). However, there have been some issues with water reliability and quality aspects. For instance, the surveys reported some delays in operationalizing the standpipes constructed in Moundou and Sarh. The project delivered trainings to future standpipe managers; however, it took time after the construction to form the committees and sometimes the incentives for managers to remain in their jobs were insufficient. Electricity shortages have also affected the reliability of water supply. To address these issues of sustainability, the municipalities worked with the STE to improve the modalities of standpipe management and prioritize investments that could be financed under the AF. In Abéché, two boreholes drilled in 2011 were finally tested; they became operational before project closing, adding significant volumes of water to the supply system.

63. **Water supply (AF): Modest.** The substantial increase in access expected from the AF for an estimated 150,000 beneficiaries did not occur as all works and goods supporting this objective were cancelled before closing (additional production capacity and storage; over 50 km of water networks in N'Djamena, rehabilitation investments in secondary centers including the iron removal plant in Sarh; and acquisition of connection fittings and meters and so on for an amount close to US\$14 million).

However, it is fair to score that some progress was made toward the objective 64. of strengthening the water utility STE and the water reform. The central outcome of the AF was to establish, with the support of a private operator, a viable water utility capable of restoring a good quality of service and expanding access to piped water within the 10 cities under the delegation perimeter. The operator initiated the various deliverables of its contract (see annex 2) and STE benefited from its expert management services for almost two years. At project completion, this enabled STE to have a Manual of Procedures and a framework to start monitoring its performance indicators. After a census of customers was piloted in N'Djamena, at completion the census was deployed in secondary centers and the commercial software was being upgraded; this is likely to lead to a consolidated customer database, which is a foundation to improve the billing and collection mechanisms and the commercial performance of the utility. The private operator also established technical diagnoses with a view to better identify the operational losses, rehabilitation or metering needs, and the subsequent modules of the training program for STE staff. It prepared bidding documents for this large training program, STE's communication plan, as well as for the rehabilitation works (the other consultant also delivered the bidding documents for the new investments in N'Djamena). Other studies prepared by different consultants to support the water reform (see section 2.2) are also available for further consideration by both the Government and the STE.

3.3 Efficiency

65. At appraisal, the Cost-benefit Analysis (CBA) concluded that all sub-projects had positive results and that the overall program was expected to be economically viable. Given the diversity of proposed investments and target areas in all five cities, no overall economic rate of return (ERR) and net present value (NPV) were calculated. Instead, separate economic analyses were undertaken for the different sub-projects (see annex 3). Benefits would primarily stem from reduced loss of income and medical expenses for drainage works; health benefits, time saved, additional consumption, and lower expenses for the water works; and reduced vehicle-operating costs for the roads in Doba. In addition, most of the investments would bring economic advantages consisting of social and environmental benefits that could not be quantified.

66. The AF appraisal concluded that the efficiency for the sub-projects was Substantial. The CBA at AF took into account the cost overruns faced by the sub-project and benefits were augmented to reflect the population growth. The revised ERRs for the drainage sub-projects in Abéché, Sarh, and Moundou were slightly lower than ex ante, but still above the opportunity cost of investments at a 12 percent discount. The economic analysis for water supply investments in N'Djamena, based on the expected additional production capacity and consumer surplus benefits, estimated the ERR to be 19.2 percent.

67. At completion, the assessment of the economic efficiency or cost effectiveness is limited. In the difficult country conditions, supervision missions to Chad have been severely restricted since spring 2015, before project closing, preventing the team to do a formal ICR preparation mission. In addition, the client did not submit its Completion Report and did not share the final project costs detailed by sub-project and city and updated information such as population growth. Some qualitative assumptions can be made based on the existing information. (a) For the drainage and road works, it is likely that the expost ERRs remain in the same range as the ones estimated at AF. Despite the cost overruns, the drainage works positively affect a much higher number of beneficiaries than expected, adding to the benefit stream and increasing the cost effectiveness. In addition, it is known that improved flood management generates a large spectrum of environmental, economic, and social benefits that are difficult to quantify but should be factored in the economic assessment. The same reasoning applies in Doba where the roads constructed by the project have enabled more traffic and mobility in an expanding city. (b) For the water works in Moundou, Sarh, and Abéché, the ex post ERRs are likely to be lower than the ones estimated at AF. In addition to cost overruns, the benefits stream is likely to be affected by the lack of extensions and standpipes in Abéché, and to a lesser extent by the delayed operationalization of standpipes in Moundou and Sarh. However, with no data to confirm these assumptions, the economic efficiency pre-AF is considered Modest.

68. **The economic assessment of AF activities is also rated as Modest.** All physical investments for water were cancelled: at completion, the situation should be compared to the 'without project' scenario of the CBA at AF. The people already connected to STE water may be more affected by the deterioration of the quality of service, including the water quality that the investments were intended to mitigate. The people without access to STE connections will continue to rely on alternative solutions, potentially expensive and

risky with regard to water quality. In addition, the service contract did actually cost an amount close to the initial allocation for only two-third of the 36-month duration of the contract and all products were initiated, but only a limited number was completed.

69. In addition, the administrative efficiency of the project was reduced by its implementation issues. Despite reallocations of funds for project management, the PCU had to overdraw from other disbursement categories to cover its operating costs. The increased implementation period also increased the Bank's supervision expenses.

3.4 Justification of Overall Outcome Rating

70. **Project Outcomes: Moderately Unsatisfactory.** Given the substantial changes in the PDO targets on water (PDO2) introduced by the AF, a split evaluation was undertaken, leading to a Moderately Satisfactory rating for the original project (pre-AF period) and an Unsatisfactory rating post-AF. When weighted by the total amount of IDA funds disbursed over the two periods, the overall rating is Moderately Unsatisfactory.

Performan	ce Dimensions and Ratings	Pre-AF Period	Post-AF Period
Relevance	Objectives	Substantial	Substantial
	Design and implementation	Substantial	Modest
Efficacy	PDO1	Substantial	Substantial
	PDO2	Substantial	Modest
Efficiency		Modest	Modest
Rating		Moderately Satisfactory	Unsatisfactory
Weight		4	2
Amount disbursed (%)		36	64
Weighted rating: 2.7 (rounded = 3)		1.4	1.3
		Moderately Unsatisfactory	

3.5 Overarching Themes, Other Outcomes and Impacts

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

71. Poverty reduction was one of the overarching objectives of PADUR. Infrastructure works targeted extension areas, sometimes isolated due to the lack of access roads and water extension networks. Recent studies³ confirmed that 47 percent of the population lives below the poverty line in Chad (US\$1.4 per day) and that the decline in poverty rates has been slightly higher in urban areas since 2003. It is possible that the demand for unskilled labor in construction, trade, and transport services, fueled by oil rents, created income opportunities for poor households migrating to cities. While PADUR's contribution to this trend is likely limited, this kind of project interventions including small-scale works, local materials, and intensive labor (613,000 person-days reported in PADUR), may have played a role. Beneficiaries during supervision missions and the field visit during the ICR preparation in Sarh, Moundou, and Doba were satisfied because the project

³ INSEED (National Institute of Statistics, and Economic and Demographic Studies, *Institut National de la Statistique, des Etudes Economiques et Démographiques*), 2013, Profil de pauvreté au Tchad en 2011, ECOSIT3; World Bank Group, 2015, *Systematic Country Diagnostic for Chad*.

improved the living conditions in their neighborhood, particularly in protecting them from flooding.

72. Social development gains are limited. The local steering and neighborhood committees were established but their involvement remained modest when the works were handed over to the municipalities. As for gender, the municipalities of Moundou and Sarh adopted a gender approach for standpipe management. In Moundou, the local authorities mandated a network of women's groups (*Cellule de liaison des associations féminines*) to undertake the management of standpipes. Despite trainings, women in charge did not always feel responsible and this resulted in turnover of standpipe managers. In Sarh, the municipality and the STE opened standpipes management to individuals willing to take the job. This has proved more sustainable with regard to quality of service provided.

(b) Institutional Change/Strengthening

73. Overall, equipment and training has had some impact, given the initial low level of capacity and expertise. The institutional changes at the central and local/municipal levels were slow, however, given institutional instability, delays in the effective transfers of competencies and resources from the state, and the continuous pressure of population growth at a pace higher than investments for services and infrastructure and far beyond the limited inputs provided by the project. The institutional change in the water sector was initiated through the service contract, but the STE will need more support and a conducive environment to move forward and consolidate the urban water reform.

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

74. In the context of worsening security conditions, operational travels were severely restricted beginning in the last months of the project implementation and during the completion phase. No beneficiary survey could be undertaken to prepare this Core ICR.

4. Assessment of Risk to Development Outcome Rating: High

75. **Country risks, both political and economic, are posing a high risk to the development outcomes of the project.** In recent years, Chad has strongly increased its military and security expenses and taken a lead role in the sub-region to protect its frontiers from neighboring conflicts (Boko Haram, Central Africa Republic, and so on). This has caused an influx of refugees and increased humanitarian needs. In addition, the drastic drop in oil prices had led to severe budgetary constraints and an economic crisis. Oil revenues have been the major source of revenues for municipalities, and they are likely to face competing needs and increasing challenges in keeping services going and maintaining infrastructure.

76. In N'Djamena, the very poor situation of water supply services could add to the current social unrest fueled by the economic crisis. The ambitious investment plan to improve and expand water services in the capital city has come to a standstill. Investments under the Ministry of Infrastructure are largely on hold and the cancellation

of PADUR funds has been a major setback for the STE, postponing the likelihood of rapid improvement in water service delivery.

77. In addition to the country situation, repeated difficulties in project implementation, including procurement and fiduciary risks and low capacity, have also been a major concern for the Bank Group and other donors' portfolios. This may lead to new approaches to support the Government through budgetary support, focus on building public capacity, and for some time, on human development rather than infrastructure operations.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry Rating: Moderately Satisfactory

78. The task team that designed and appraised the original project ensured that the project component activities were relevant to the objective as well as feasible in the face of the limited capacity to implement development investments, while addressing both immediate needs of the population and longer-term capacity that would create a conducive environment to support the sustainability of municipal services. The team worked closely with other donors in the sector to build on other operations, strategically leveraging existing studies and using preparatory funds to ensure readiness. Consultations with local stakeholders and decision makers were key to build ownership, as was the counterpart funding to channel oil revenues for infrastructure targeting poverty reduction, in accordance with the Bank engagement. Minor shortcomings are the relative underestimation of costs for the infrastructure works that led to cost overruns and the RF that could have better reflected the objective of strengthening capacities. Overall, the quality at entry placed the original project on a good track to progress.

(b) Quality of Supervision Rating: Moderately Unsatisfactory

79. Despite the difficult conditions on the ground, supervision missions and internal reporting took place consistently twice a year. While supervision inputs were appropriate in the early years of the project, including when the Bank office closed, the project suffered from a lack of continuity of implementation task teams. Five different task team leaders managed the project over nine years, sometimes for relatively short periods and limited handover arrangements.

80. In 2011, the restructuring and AF substantially changed the implementation focus and activities. The 2013 MTR raised important issues but did not trigger specific corrective actions when the PCU was left without a coordinator and the STE needed support to fast track the ongoing service contract. The supervision efforts significantly increased through additional missions and audio- and video-conferences in the final period of implementation. However, they proved insufficient to turnaround the critical situation of the project.

81. ISRs and Aide Memoires described the implementation issues in some detail, clearly revealing the difficult implementation environment, and suggested ways to address them. Yet several of these issues such as the sustainability of the investments under the original project or the inadequacy between the project period and the service contract duration to ensure positive outcomes of the AF, remained unresolved. More candid ratings on some performance dimensions would have been appropriate. For instance, the FM rating was Moderately Satisfactory in the last years of the project, which contrasts with the fiduciary situation at completion.

82. The AF was insufficiently prepared and proved too ambitious compared to the original project. While the extension of the project duration was appropriate to support the achievement of the original project, the AF appears in hindsight as an easy way to respond to the Government's willingness to continue the water sector reform. The original project was progressing, but would have needed more resources to ensure stronger outcomes. Supporting the water reform, strengthening the STE, and undertaking large investments in water would have deserved a separate operation including dedicated preparation, a duration consistent with the sector challenges, a clearer M&E framework, and implementing arrangements directly involving water stakeholders.

83. Since the Bank re-engagement in Chad in 2010, the Bank management tried to balance the need to maintain the dialog with the GoC while encouraging attention be given to challenging operations. After several management letters urging the borrower to take action when the project was in a critical situation, a restructuring was agreed to with the GoC six months before the project closing date. While cancelling funds was not an easy decision for the Government and the Bank, it was timely given the rising financial difficulties linked to the oil crisis and to ensure the cancelled funds could be maintained in the Chad IDA envelop and recommitted for budget support.

(c) Justification of Rating for Overall Bank Performance Rating: Moderately Unsatisfactory

84. The quality at entry is considered Moderately Satisfactory and the quality of supervision, Moderately Unsatisfactory. As the project outcomes are on the negative range of rating, the overall Bank performance is rated Moderately Unsatisfactory.

5.2 Borrower Performance

(a) Government Performance Rating: Moderately Unsatisfactory

85. The Government was very committed to improving urban services when the project became effective in 2007 and supported this commitment through a large amount of counterpart funds to complement the IDA grant, consistently with the agreement to channel oil revenues to poverty reduction programs. It spent its share in financing 60 percent of the original project's works through annual allocations that helped implementation and enhanced the disbursement of IDA funds.

86. In a context of worsening security conditions that became a major source of concern, mobilizing the Government's attention and resources for military and humanitarian needs, decentralization reform did not progress as expected. It would have helped consolidate the municipal strengthening activities under the project. Nonetheless, under the strong leadership of MATUH as the line ministry in charge of PADUR implementation, the concerned bodies of the Government endorsed the main products developed by the original project, including a standardized budget nomenclature and the urban and investment plans for the largest 15 cities in the country.

87. The GoC was also committed to pursue the water reform despite the failure of the private sector participation and difficult experience with the previous water and electricity project. The decision to dissolve the underperforming water and electricity company was a positive step to secure the AF to support the water reform. However, the political and institutional instability was a serious constraint when more proactivity and political support would have been needed after the divestiture of the STEE to build a conducive environment and consolidate the legal and financial basis of the new water utility. In particular, while the Government payed its equity contribution, the STE faced important arrears from public customers that severely limited its cash flow for the basic operation and maintenance. The concession and performance contracts between the Government and the STE were signed much after the period agreed with the Bank, while other covenants of the project, if implemented, would have helped the project to progress. The STE and PADUR implementation would also have benefited from more coordination between the Ministries of Infrastructure and Water to lead the infrastructure and water agenda. Finally, at the date of the writing of this report, some project proceeds remain to be refunded to the Bank.

(b) Implementing Agency or Agencies Performance Rating: Moderately Unsatisfactory

88. The PCU demonstrated its dedication to the project success during the implementation of the original project and the aftermath of its extension and AF. The initial coordinator in place from 2007 to mid of 2013 ensured continuity and adequate management of staffing and fiduciary issues. Implementation of the capacity-building program and infrastructure works progressed until 2012. Despite weaknesses in the M&E framework, the PCU team complied with safeguards requirements, organized information and communication activities in the target cities, and maintained an active relation with the Bank team. Nevertheless, the AF added new challenges for the PCU, but only limited additional support or qualified staff to address them.

89. Some problems were not within the PCU's control, such as lengthy procurement processes under the national regulation, the political turnover, or the more recent degradation of the country situation and diluted attention from the borrower to resolve project-specific issues. However, the situation deteriorated when the coordinator was appointed to a senior position within a Ministry and had to leave PADUR in November 2013, after the Bank intervened, to comply with the Bank's requirements. Implementation delays became critical with an interim coordinator and a weakened team in command, while more leadership and communication efforts were needed to finalize all activities of the initial project and work with the STE to speed up the activities of the AF. The project

could not demonstrate any progress that could have supported the Government's request for an additional extension, including the recruitment of an internal auditor, updates of the Procurement Plan, progress reports, and a realistic action plan to advance the water reform and the implementation of the service contract. The lack of responsiveness from the borrower, the PCU, and the STE and incomplete fiduciary diligence at completion and weaknesses in M&E, including the absence of a Completion Report, are significant shortcomings that affect performance and negatively affects the Bank portfolio in Chad.

(c) Justification of Rating for Overall Borrower Performance Rating: Moderately Unsatisfactory

90. The overall borrower performance is rated Moderately Unsatisfactory, which is also the rating for both the Government and the implementing agency's performance.

6. Lessons Learned

91. Learning from previous operations is key to design stronger projects and sustainable outcomes. The original project built on lessons learned from Bank operations in Chad and other countries, and from other donors. It proposed a simple and manageable design and mitigation measures to address major risks that could stem from the country environment. In contrast, the AF paper did not reflect much on the lessons learned from the previous Critical Electricity and Water Services Rehabilitation Project and the failed attempt to reform the sector. It incorporated the recommendations from a sector study to improve water services and strengthen the nascent utility, but did not pay enough attention to the implementation context and risks (low capacity, lengthy procedures, and institutional instability). Instead, it packaged a very ambitious scope of work that made the project more complex and more difficult to manage in the context prevailing in Chad.

92. Additional financing is most appropriate to scale up a project's development impact rather than support a new and different objective. In view of the STE's situation in 2010 and recent experience of failed private sector participation, the aim of the AF in supporting the urban water reform was a significant undertaking. It needed a realistic implementation period, incremental steps to address both the institutional part of the reform and the urgent operational investments to restore water services, and appropriate expertise and capacity to manage the project. Another more realistic approach could have been a 'start small' design in the framework of the existing operation with sufficient time built in to thoroughly prepare a dedicated operation.

93. Sound institutional and implementation arrangements are needed to clarify responsibilities and build ownership of a project—especially in environments with low capacity. In the case of PADUR, the existing PCU performed well during the initial project, within the direct scope of its line ministry. The scope of work for the AF required strong cooperation between the PCU and the STE and effective use of their complementary skills and expertise, and balanced roles for MATUH and for the ministry in charge of Water. A clear plan for implementation and statement of roles and responsibilities, accountabilities, and incentives to boost the delivery of project activities would have strengthened project management and execution.

94. A robust results framework helps the implementing agency continuously monitor a project's progress and evaluate its results. Monitoring and reporting results are an integral part of project management. Meaningful indicators, well focused on the direct outcomes and attributable to the project, enable effective implementation. Indicators need clear definitions and realistic horizons. The M&E framework needs to include appropriate mechanisms (tools, funding, and methodology) to monitor them consistently throughout the project life to ensure that final values are comparable with baselines.

95. Water sector reform is a long-term process that require a conducive environment and clear incentives for partners to engage and perform. In Senegal, Niger, or Burkina Faso, successful water reforms have enabled the development of performing utilities and improved the quality of water services, resulting in high rates of access and financially viable sectors. The Bank has supported these processes for 10 or 20 years. In Chad, the Government initiated the reform in the 2000s. The sector dialog with the Government and water stakeholders may help revisit the previous experiences in Chad and the ongoing experiences in neighboring countries, to identify tailored mechanisms to advance sector reform.

96. **Operations in fragile, low-capacity contexts need tailored implementation support from the Bank team including specific remedies to address critical issues.** When the leadership and composition of a Bank project team changes, effective handover arrangements are needed to ensure new team members are brought up-to-date. Continuity is key in supervision effectiveness and builds on trust with the implementation unit and regular communication. Customized, just-in-time assistance to a project could take several forms, such as a dedicated position within the country office or a staff member on development assignment to facilitate close support in cases of critical deficiencies. In addition, remedy actions should be clearly spelled out, both internally and with the client, as administrative measures to salvage difficult operations, and they should be proactively identified to address critical challenges in implementation or breaches in the contract set forth in the Financing Agreement.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

(a) Borrower/implementing agencies

97. The borrower did not submit a Completion Report. The borrower thanked the Bank for sharing its draft Completion Report, but did not provide substantial comments on it (see annex 7).

(b) Cofinanciers

Not applicable.

Annex 1. Project Costs and Financing

	Appraisa	Appraisal Estimate Revised Estimate Actual / Latest		Percentage of Appraisal	Percentage of Revised	
Components	Original project	Original + AF	After cancellation	Estimate	Original + AF	After cancellation
Component I. Strengthening municipal and urban management capacities	4.96	5.86	6.04	6.49	110.8%	107.5%
Component II. Providing basic urban infrastructure and services	18.42	33.67	23.62	21.57	64.1%	91.3%
Component III. Strengthening sustainable access to urban water services	-	11.25	6.12	4.67	41.5%	76.3%
Baseline Costs	23.38	50.78	35.78	32.73		91.5%
Physical contingencies	1.80	1.80	-	-		
Price contingencies	1.82	1.82	-	-		
Total Costs	27.00	54.40	35.78	32.73	60.2%	91.5%

(a) Project Cost by Component (in USD, millions)

(b) Financing (in USD, millions equivalent)

	Appraisal	Estimate	Revised Estimate	Actual / Latest	Percentage of Appraisal	Percentage of Revised
Source of funds	Original project	Original + AF	After cancellation	Estimate	Original + AF	After cancellation
Borrower	12.00	12.00	11.70	9.47	78.9%	80.9%
International Development Association (IDA)	15.00	42.40	24.08	23.27	54.9%	96.6%
Grant – initial financing	15.00	15.00	13.96	13.96	93.1%	100%
Grant – additional fin.		12.30	4.47	4.06	33.0%	90.6%
Credit – additional fin.		15.10	5.65	5.25	34.8%	93.0%
Total Costs	27.00	54.40	35.78	32.73	60.2%	91.5%

Notes for Tables (a) and (b):

(1) The latest estimates and percentages are based on World Bank project data (Client Connection), at the exchange rate prevailing during the preparation of the ICR. Exchange rate variations over the

course of the project were important, which allowed the PCU, for instance, to overdraw funds from the initial IDA grant (in African Francs, CFAF) while it was 100 percent disbursed in SDR.

(2) In the absence of actual financial data on the project costs from the Borrower at completion,

- The amounts per component are derived from the disbursement categories, which differed between the original grant and the additional grant and credit, and do not fully overlap with the project components; as noted in the FY15 final audit, some disbursements were charged to the wrong categories, and sometimes to the wrong IDA financing source.
- The counterpart funding was supposed to be 100 percent disbursed (in FCAF) before the project closing. The amount estimated here (in US\$) is based on the amount disbursed by IDA for works under the original grant (works for Component B were financed by the Disbursement Category 1; 40% of the investments were eligible to IDA financing while 60% were to be financing by the Borrower).

Grant IDA H2770	Amount (expressed in SDR)			
Category	Current	Disbursed	Increase/	New
	allocation	amount	Decrease	Allocation
Works (component B)	4,460,000	2,424,325	640,000	5,100,000
Goods and equipment	310,000	389,216	270,000	580,000
Consultant services and training	3,300,000	1,785,442	120,000	3,420,000
Operating costs under A.2 (a)(vii)	800,000	582,428	30,000	830,000
Unallocated	1,130,000		-1,060,000	70,000
Designated Account		666,844		
TOTAL	10,000,000	5,848,255	0	10,000,000

(c) Reallocation of the disbursement categories (SDR) - 2011

Restructuring Paper of April 1, 2011.

(d) Reallocation of the AF disbursement categories (SDR) - 2015

	Credit	IDA-49520	Grant IDA-H6880		
Category	Current allocation	New Allocation	Current allocation	New Allocation	
OPERATING COSTS PART A	320,000.00	391,725.00	260,000.00	318,276.00	
GOODS PART B, C.3, C.4	140,000.00	1,355.00	110,000.00	1,101.00	
WORKS PART B, C.3, C.4	4,380,000.00	934,631.00	3,540,000.00	730,968.00	
SERVICES PART B, C.3, C.4	1,120,000.00	709,541.00	910,000.00	460,763.00	
GOODS PART C.1, C.2	270,000.00	0.00	220,000.00	0.00	
WORKS PART C.1, C.2	1,420,000.00	225,428.00	1,160,000.00	183,178.00	
SERVICES PART C.1, C.2	1,950,000.00	1,783,094.00	1,600,000.00	1,511,655.00	
Cancelled		(5,554,226.00)		(4,594,059.00)	
TOTAL	9,600,000.00	4,045,774.00	7,800,000.00	3,205,941.00	

Restructuring Paper of April 14, 2015

Annex 2: Outputs per component

Component A: Strengthening mun	Component A: Strengthening municipal and urban management capacities			
Initial financing: US\$4.96 million; Additional financing: US\$0.90 million (100% IDA)				
Subcomponent activities	Outputs			
Subcomponent A.1: Strengthening urb	an and municipal management capacities (US\$2.28 million)			
(a) Improving the internal functioning a	nd organization of municipalities			
(i) organizational audit for local municipalities and adoption of a municipal management manual	(i) Organizational audits for the 5 target cities completed. Municipal management manual produced in 2013 and validated after a workshop with the Ministry of Land Administration, MATUH, municipal staff including 10 councils in Ndjamena + representatives from 42 other municipalities through the National Association of Municipalities, held in Ndjamena in June 2014.			
(ii) strengthening municipal technical services (training and equipment)(iii) provision of office equipment and	 (ii) Municipal staff trained in procurement, delegation of public services and private sector participation, urban planning, IT, topography, cartography and GIS systems, and environmental monitoring. (iii) Desks, chairs, filing cabinets, and computers were supplied to the 			
logistics	5 municipalities, but not all software were installed.			
(b) Improving resource mobilization and	l financial management			
 (i) improving resource mobilization leveraging the actions previously carried out in N'Djamena under AFD financing (ii) improving management and yield of municipal/property taxes 	Overall, the municipalities benefited from oil revenues over the course of the project; municipal budgets increased significantly; this enabled an increased provision for maintenance on operational budgets. i and ii) A study on 'municipal resource mobilization' was completed in 2012. The CPU recruited a specialist in fiscal management to provide a technical assistance to the municipalities and trainings in fiscal matters (2012). In Sarh, this training led to the creation in 2014 of a specific unit in charge of local taxes, which has helped since them to raise more own funds.			
(iii) standardizing the budget nomenclature(iv) modernizing the accounting and financial management	 iii) A standardized budget nomenclature was developed as part of this study. However, due to a change of Minister, there was no official act to make the nomenclature mandatory in all cities nation-wide. iv) The accounting nomenclature was developed but remains incomplete. More technical assistance to the municipalities would be required, in addition to updated computers and budget, accounting and FM software 			
(c) Improving urban management and planning				
(i) strengthening technical services in management and planning (training, equipment)	 (i) See (a.ii) above. 35 municipal staff of the 5 target cities were trained in 2012 in management and planning. Few have stayed in their posts since then. (ii) The studies to prepare a Sanitation Master Plan for N'Djamena (storm drainage) were completed; they include the initial (2012) and 			

(ii) preparation of a sanitation master plan for N'Djamena	the detailed technical feasibility studies (2013) as well as bidding documents ready to use (2014). The purpose of the study is to enable the Municipality of Ndjamena to program investments in flood protection.
(d) Improving transparency and account	tability of city managers to urban residents
 (i) public reporting of municipalities' financial performance (ii) progress reports on the project and identifying bottlenecks and actions to be taken at national and local levels for delivery of urban services 	 (i) Annual budgets including provisions for road and drainage maintenance were prepared and executed; however, municipalities did not engage much in public reporting of their performance. (ii) The municipalities organized public events for the launch of the newly constructed works (2012) but did not produce specific reports on the project outputs.
 (iii) publication of cities' project performance indicators (this will done in a simplified manner and using the most appropriate means of local communication) (iv) surveys on satisfaction of the urban population to ensure that municipalities take into account specific needs expressed by urban residents; 	(iii) and (iv) Municipal authorities, technical staff and the population participated in the project's surveys carried out in 2011 and 2013 (reports in 2012 and 2014) and interviewed on various items (satisfaction on 'technical' criteria, socio-economic and environmental impacts, ownership and maintenance effort by various stakeholders, etc., see Annex 5). The 2014 survey report suggested that these items could serve metrics to pursue the monitor and evaluation of works and services provided by the municipalities.
(e) Providing support to community inte	gration and awareness on socio-environmental aspects
 (i) support to sanitation committees; (ii) support to the management of public standpipes (sanitation committees or private structures); (iii) information, education, and communication (IEC) activities in the area of environmental protection and health; and 	 (i) Sanitation committees received some tools and materials for maintenance. (ii) Standpipe operators were trained in basic organizational and financial operations. (iii) Community representatives have been sensitized in sanitation and maintenance through radio messages, signs and some 2,000 fliers in local languages. They included messages on the need to protect the environment and health – some of them are still visible at completion (not throwing garbage in the drainage systems, washing hands, etc.). However, the surveys also report that some communities were educated about the project once works were almost completed.
(iv) training for municipalities and key ministries including deconcentrated services in environment and social aspects.	(iv) Central and municipal staff as well as the local drainage committees were sensitized in environmental monitoring, social marketing and social and environmental assessment between 2010 (public consultations in the 4 cities) and 2012, when the PADUR consultant produced 4 environmental and social monitoring reports that were discussed and shared with these stakeholders.
Subcomponent A.2: Strengthening the to support the municipalities (US\$2.68	capacity of the central administration and deconcentrated ministries million)
(a) Ministry of Land Planning, Urban D	evelopment, and Housing (MATUH) and its deconcentrated services
(i) updating of urban development plans for Moundou, Sarh, Abéché, and Doba;	(i) and (ii) 15 urban development and investment plans have been developed and adopted by the National Committee of Urban Planning

 (ii) preparation of urban development plans for 12 other selected secondary cities; (iii) training and technical assistance to MATUH to complement actions already financed by the French Cooperation and AFD; (iv) project launch and mid-term 	 during a workshop held in April 2013. The plans provide options for priority investments for 5 years. The project also funded the acquisition of satellite images for 22 cities. (iii) and (vii) Some managers and staff from MATUH were trained between 2008 and 2012; the project funded desks and computers, particularly for the regional offices based in the four cities. (iv) Project launch workshop was conducted in June 2007; a
review workshops; (v) information, education, and communication (IEC) activities for the project;	workshop was planned but could not be organized for the mid-term review in Dec. 2013. (v) IEC activities: see above A.2.(e.iii) and Annex 5 (beneficiary surveys)
(vi) functioning of the Implementation Unit and transfer of knowledge to staff of the Urban Department (*); and(vii) strengthening regional departments of the Ministry.	(vi) The Implementation Unit staff have been trained in urban planning, project management, IT and procurement, as has the staff of the Urban Department where the unit was housed – 2 staff from MATUH were appointed as PADUR focal points (monitoring, engineer) and worked closely with the PIU, hence benefiting from the transfer of knowledge on various aspects of project management. This budget line also funded the operating and training costs of the PCU (*).
(*) Subcomponent A.2 – Additional Fin	ancing US\$0.90 million:
Operating costs of the PADUR Implementing Agency for three additional years.	The additional operating costs enabled the PCU to function until the closing date of $6/30/15$.
(b) <i>Ministry of Finance, Economy a</i>	nd Planning (MFEP).
 (i) support to the deconcentrated departments of MFEP General Directorate of Taxes and the Decentralized Territorial Government Division to improve tax collection and transfer of resources; and (ii) support to the Ministry's local entities in charge of financial management in the municipalities. (c) Ministry of Land Administration 	(i) and (ii) The two Departments of the Ministry of Finance in charge of supporting municipalities with fiscal management received office furniture and computers and staff training in revenue mobilization from consultants specialized in public finance recruited by PADUR.
•••	
 (i) training of staff involved with Project implementation; and (ii) support to the Regulatory Directorate of the Ministry to improve budget supervision; (d) <i>Ministry in Charge of Decentral</i> 	(i) and (ii) MAT received office equipment and computers, and participated in PADUR workshops.
· · · · ·	
Studies for preparation of decrees to support the on-going decentralization process, in collaboration with other key Ministries.	The project funded fliers and brochures on the decentralization law and a guide to inform the population about decentralization. However, the workshop dedicated to the Act 33 on Decentralization could not be held.

Component B: Provision of basic urban infrastructure and services

Initial financing: US\$18.42 million (works financed by IDA at 40%, by the Borrower at 60%); + *Additional Financing (AF): US\$15.25 million (100% IDA)*

Subcomponent B.1: For the City of N'Djamena			
(i) <i>Marché à mil (US\$0.62 million);</i> Mainly drainage works for commercial areas, specifically in the main market to allow the extension of the market to accommodate new canteens and better access by the neighboring populations, to complement €6.5 million of works financed by AFD	(i) 75% of the drainage work around the commercial area Marché à Mil was financed under another national project by the Ministry of Infrastructure. The other 25% were completed by PADUR.		
 + AF (US\$8.57 million): water works in Palais du 15 area: (i) construction of new storage tanks (4,500 m3) and pumping stations, construction and equipment of boreholes, expansion of the water primary, secondary and tertiary distribution network (53 km) (ii) procurement of connection fittings to expand piped water services to the districts of Diguel and Ndjari located in the Eastern part of the city. 	 (i) and (ii) These funds and related activities were cancelled: see B.6: The feasibility studies for these new water works and goods were prepared and are available for STE; the related bidding documents were submitted to the Bank in December 2014. At this time, STE serves mostly citizens in the central area of the city, where networks and water infrastructure are old and poorly performing. About 60% of the citizens live in extension areas that have very limited distribution networks and rely on private vendors selling groundwater of very low quality. 		
Subcomponent B.2: For the City of Moundou.			
 Original: US\$3.74 million + AF (cost overruns): US\$1.33 million: (i) extension of the water supply network and rehabilitation of water pipelines; construction of two equipped boreholes and installation of 64 standpipes in densely populated neighborhoods 	(i) Two equipped boreholes were drilled. About 9.5 km of newly constructed or rehabilitated water supply network were constructed as well as 64 standpipes.		
(ii) second phase of drainage works (1 st phase in 2002-2003 under AFD financing)	(ii) 5 km of drainage work completed as well as foot bridges and vehicle passages		
Subcomponent B.3: For the City of Sarh			
 Original: US\$5.16 million + AF (cost overruns): US\$1.60 million: (i) acquisition and installation of 7.4 km of network extension, installation of 39 standpipes and construction of three new equipped boreholes; (ii) second phase of the drainage works (1st phase carried out in 2002-2003 under AFD financing) 	 (i) Three equipped boreholes were drilled. 15.2 km of newly constructed or rehabilitated water supply network were constructed as well as 38 standpipes were constructed. (ii) 5 km of drainage work completed as well as foot bridges and vehicle passages 		

Subcomponent B.4: For the City of Abéché				
 Original: US\$5.31 million + AF (cost overruns): US\$1.37 million: (i) construction of two new equipped boreholes and extension on 18,500 meters of the water network to new outlying districts, reinforcement of the water 	 (i) Two equipped boreholes were drilled in 2011 and equipped and connected to the network in 2015. Only 30% of the water network extensions was completed. The 24 standpipes could not be constructed due to a problem with the contractor. 			
pipeline in the extension zones and installation of 24 standpipes on the network;	(ii) 4.3 km of drains completed as well as footbridges and vehicle passages and 12,000 m2 of erosion protection.			
(ii) drainage works; and(iii) construction of a slaughterhouse with sanitation facilities and waste management.	(iii) The expansion and rehabilitation of the slaughterhouse was completed in 2015.			
Subcomponent B.5: For the City of Doba				
Original: US\$1.95 million				
Construction of earth roads and the associated drainage to provide access to dense neighborhoods in Doba: construction of 5.4 km of primary urban roads, 1.1 km of secondary urban roads, and 7.5 km of drains.	About 4.9 km of the targeted 6.5 km of road rehabilitation/construction have been completed including drains.			
Subcomponent B.6: M&E, Studies, Supervision of Works	s, and Audits			
Original: US\$1.64 million				
(i) monitoring and evaluation activities;	(i) the PCU produced semi-annual progress reports			
(ii) environmental and social impact studies that may be required during implementation of project	with assessments of component activities and action plans until 2013.			
component B; (iii) supervision of works;	(ii) environmental impact studies were produced and received by the ministry and municipalities.			
(iv) periodic technical audits for works and contract management procedures;	(iii) and (iv) the PCU supervised works regularly and technical audits were produced.			
(v) project financial audits; and	(v) Annual financial audit were produced.			
(vi) training activities for the local private sector (SMEs) to strengthen their capacities in works management.	(vi) Small trainings were provided as part as Component A, with limited targeting to the local private sector.			
AF: US\$2.38 million	(i) The feasibility studies for the water works in			
> For additional works – component B	N'Djamena (Palais du 15) were prepared; the bidding documents were submitted to the Bank for no-			
(i) preparation of engineering studies and bidding documents;	objection in December 2014;			
(ii) preparation of environmental / social studies;	(ii) The environmental and social study was submitted to the Bank; the RAP was approved by the			
(iii) supervision of the works;	Bank in Dec. 2014.			
> For Component C and project management	(iii) the funds for these works were cancelled, so the supervision did not happen.			
(iv) the preparation of a medium-term investment plan covering the provincial cities where the STE operates;	(iv) The recruitment of the firm in charge of preparing the medium term investment plan for			

(v) the update of the Master Plan for N'Djamena water supply; and(vi) financial audit of the project.	provincial cities where STE operates in addition to N'Djamena, was delayed and the contract was therefore not awarded after the decision to cancel the uncommitted funds.
	(v) The Master Plan for N'Djamena water supply was updated (based on the 2006 version) and approved by STE in 2014.
	(vi) The annual financial audits 2013-2015 were completed.

Component C: Strengthening sustainable access to urban water services		
Additional Financing: US\$11.25 million		
Subcomponent activities	Outputs	
Subcomponent C.1: Service Contract (US	\$5.00 million).	
Under this component, the project will finance a 3-year performance-based Service Contract with a private operator to improve the technical, commercial, financial performance and accountability of the STE and build capacity of the new public utility.	The service contract with an international firm was signed in May 2013 for a duration of 36 months. 2 full-time resident experts started working in July 2013 (Deputy Commercial Director and Deputy Technical Director). Several short-term missions took place, involving experts specialized in the different areas covered by the 11 products to deliver or management	
	services. The 11 products were defined in the Service Contract. Some would be financed under the operations fund under Component C2, some would be financed directly by the operator through its fee, some would be a mix of both (see list below).	
Component C.2 – Operations improvement	nt and rehabilitation (US\$5.45 million).	
Under this component, the project will finance:	The operator visited STE water installations in N'Djamena and other cities, drafted a diagnostic report and initiated the various products.	
the procurement and replacement of meters, the rehabilitation of networks, connections and boreholes, a customer census and update of the customer database, the set-up of a Geographical Information System, and improved customer service and consumer accountability tools.	 Diagnostic established. Meters not procured (Product 5b). Technical studies completed, bidding documents approved by STE submitted to the Bank in Dec. 2014 (Product 2: rehabilitation of boreholes and production metering; Product 3: rehabilitation of distribution networks; Product 5a: rehabilitation of domestic connections and metering. Customer census and customer database (Product 4): pilot developed and tested by STE in N'Djamena; methodology fine-tuned and deployed by the private operator in the other centers – was ongoing at completion. Update of the customer database: diagnostic established to ensure a consistent system between N'Djamena and the centers and renewed commercial practices (billing, collecting); 	

	- GIS system in N'Djamena (Product 9): diagnostic initiated.
	- Call center and integrated system for complaint management (Product 6): diagnostic initiated.
	Other products included in the Service Contract:
	- Training of STE staff (Product 1): detailed diagnostic and framework of proposed modules established; bidding documents for consultant services submitted to the Bank in Dec. 2014.
	- STE Communication Plan (Product 7): bidding documents for consultant services submitted to the Bank in Dec. 2014.
	- 2 Customer Satisfaction Surveys (Product 8): surveys were supposed to be implemented once the works had started. Bidding documents for consultant services submitted to the Bank in Dec. 2014.
	- Establishment and publication of STE's performance indicators (Product 10): list, baselines, objectives and methodology of calculation and monitoring agreed with STE in early 2015; due to the late date, STE could not publish any of the indicators during the project duration.
	- Production of a Manual of Procedures (Product 11): the Manual was completed and approved by STE in early 2015.
Component C.3 – Technical assistance fo	or the recruitment and supervision of the private operator (US\$0.30

Component C.3 – Technical assistance for the recruitment and supervision of the private operator (US\$0.30 million).

Under this component, the project will	TA supported STE to prepare the bidding documents and data room
fund technical assistance for the	for the service contract, and to manage the recruitment process.
preparation of bidding documents and	Bidding to recruit the private operator was completed in 2012;
data room for the service contract, for	negotiations took place in December 2012; the contract with the
the management of the recruitment	private operator was signed in May 2013.
process of the private operator and for	The contract for the independent auditor of the service contract was
the technical audit of the performance of	signed in August 2014.
the private operator.	signed in August 2014.

Component C.4 – Technical assistance for the financial sustainability and formation of the STE (US0.50 million).

Under this component, the project will fund TA for	
(i) a comprehensive study on water consumption tariff and connection fees;	(i) A tariff study focused on N'Djamena, including discussions on connection fees, was completed and approved by STE.
(ii) the design and implementation of a mechanism of payment of public institutions bills; and	(ii) Two studies on payment of bills from public institutions were prepared; the second one was approved by STE.
(iii) the completion of the legal, financial and organizational formation of the STE.	(iii) The delegation contract between STE and the Government was signed in 2014; some STE staff benefited from training in Bank procurement procedures.

Annex 3. Economic and Financial Analysis

At appraisal (2006), given the diversity of proposed investments and target areas in all five cities, no overall economic rate of return (ERR) and net present value (NPV) were calculated. Instead, separate economic analyses were undertaken for the different sub-projects. Costs included capital costs, operation and maintenance costs, and rehabilitation costs. Benefits would stem primarily from:

- reduced loss of income and medical expenses for drainage works protecting from flooding;
- health benefits (water quality), time saved (water accessibility), additional consumption (water quantity) and lower expenses (affordability) for the water works; and
- reduced vehicle operating costs for the roads in Doba.

Cash flows were discounted using a discount rate of 12 percent. The Project Appraisal Document (PAD) noted that most of the investments (drainage works, road works to improve access to poor neighborhoods, slaughterhouse, water provision, etc.) included in the project would bring economic advantages consisting of social and environmental benefits that could not be quantified.

	Abéché	Sarh	Moundou	Doba	N'Djamena	Total cost
Drainage	1,800	1,950	1,450		315	5,515
ERR	15.60%	12.10%	26.10%		21.30%	
Water supply	725	681	460			1,866
ERR	12.60%	13.30%	12.20%			
Roads				994		994
ERR				13.60%		
Slaughterhouse	182					182
ERR	14.50%					
Total	2,707	2,631	1,910	994	315	8,557

Project investment costs (CFAF, millions) and corresponding ERR at appraisal (PAD)

The ex-ante Cost Benefit Analysis (CBA) concluded that all sub-projects had positive results and that the overall program was therefore expected to be economically viable. In addition, at a more macro level, the project would enhance economic growth in the target cities and generate a large amount of short-term employment for unskilled labor. The PAD noted that the ERRs for two potential sub-projects, for a market in Moundou and another one in Sarh, were too low (respectively 5 and 6 percent) and would therefore not be financed by IDA under PADUR. It also noted for the other sub-projects that the ERRs were very sensitive to cost variations, and much less to benefits.

The AF paper (2011) included an economic appraisal summary. It included an update of the economic efficiency of the drainage sub-projects, and the results of the CBA prepared for the additional water activities.

The updated assessment for drainage works was based on (a) the increased costs of each drainage sub-project, due to cost overruns (variations in the exchange rate and evolution of unit costs between the feasibility studies in 2005 and the actual implementation time from 2010 on); (b) a revised cash flow stream over an investment period increased by one year and benefits also postponed by one year (one year delay was a minimum given the reality of works on the ground; in fact, contracts had been awarded in the end of 2009, two years after effectiveness); (c) estimated benefits augmented to take into account the increase of population overtime. Given the pace of population growth in the target areas, this was a relatively important distortion compared to the ex-ante analysis, which was likely to be balance the increased costs of the projects. However, and similar to the ex-ante analysis, the lack of calculation spreadsheets made it difficult for the ICR team to review the assumptions and sensitivity to the different factors affecting the ERRs.

In fine, the revised ERRs for the drainage sub-projects in Abéché, Sarh and Moundou were slightly lower than the ex-ante ERRs, but still above the opportunity cost of investments at a 12 percent discount.

Drainage	Abéché	Sarh	Moundou	N'Djamena
Updated cost	2,373	2,403	1,903	(design was downsized as ³ /4 of the works were financed by
(% increase)	(+31%)	(+23%)	(+31%)	the Ministry of Infrastructure)
ERR	13.30%	11.90%	16.10%	

Project drainage costs (CFAF, millions) and corresponding ERR at AF

The economic analysis for water supply investments focused on the physical investments financed under the AF, mainly in N'Djamena. They were expected to increase treated water production by approximately 21,000 m³/day. Assuming an average household consumption of 6 m³/month, this was expected to serve approximately 100,000 households. Total capital investments proposed for N'Djamena were approximately US\$12.9 million (CFAF 5.9 billion equivalent). Taking into account an economic benefit to consumers of approximately CFAF 630 per m³, which was based on an average price consumers were willing to pay for tanked water, the ERR is estimated to be 19.2 percent (at a 12 percent discount rate).

Ex-post (2015/16), the assessment of the economic efficiency or cost effectiveness is limited. It was not possible to conduct a sound CBA and calculate the ERRs/NPVs of the sub-projects during the preparation of the ICR. In the difficult country conditions, supervision missions to Chad have been severely restricted since spring 2015, before project closing, preventing the team to do a formal ICR preparation mission. In addition, the client did not submit its Completion Report and did not share the final project costs

detailed by sub-project and city and updated information such as population growth. Some qualitative assumptions, however, can be made based on the existing information.

Drainage and road works in Moundou, Sarh, Abéché. It is likely that at completion, the ERRs remain in the same range as the one estimated at AF appraisal. Despite the cost overruns, the drainage works positively affect a much higher number of beneficiaries than expected, adding to the benefit stream and increasing the cost effectiveness. In addition, it is known that improved flood management generates a large spectrum of environmental, economic, and social benefits that are difficult to quantify but should be factored in the economic assessment. The same reasoning applies in Doba where the roads constructed by the project have enabled more traffic and mobility in an expanding city.

Water supply in Moundou, Sarh, Abéché. It is likely that at completion, the ex post ERRs are lower than the ones estimated at AF. In addition to cost overruns, the benefits stream is likely to be affected by the lack of extensions and standpipes in Abéché, and to a lesser extent by the delayed operationalization of standpipes in Moundou and Sarh. However, with no data to confirm these assumptions, the economic efficiency pre-AF is considered Modest.

Water supply in N'Djamena and service contract. The economic assessment at AF focused on the physical water investments. All the physical investments were cancelled in April 2015 before the planned closing date:

- The contractor in charge of designing the new (emergency) water works in N'Djamena in the 'Palais du 15' area took service in March 2013 and the Bank received the final version of the bidding documents in November 2015, for works that would take an additional 27 months to complete;
- Similarly, the private operator who was tasked to design a series of rehabilitation works (in N'Djamena and other centers) was recruited in May 2013, started working in July 2013, and 15 months after AF effectiveness, and the Bank received the final version of the bidding documents in December 2015;
- In total, most of those works would have needed a duration to procure and execute the works from 12 months to 27 months, in the best scenarios.

The situation at completion should therefore be compared to the 'without project' scenario of the CBA at AF. In this "without project" scenario, all the expected benefits have not / will not materialize until another financier decides to use the existing bidding documents to relaunch the investments. The situation could possibly worsen for the targeted beneficiaries. On the one hand, people already connected to STE water may be more affected by the deterioration of the quality of service, including the water quality that the investments were intended to mitigate. The quality of service of existing customers was very poor and even degrading in recent years. On the other hand, people without access to STE connections will continue to rely on alternative solutions, potentially expensive and risky with regard to water quality. The water coverage remains very unbalanced in the

capital city, in many un- or underserved areas (districts 7 to 10), the population is increasingly relying on private vendors selling water from their motorized boreholes. The quality of water is poor and degrading, according to health data. Some people used to give water from their well or borehole, or to sell it at very low cost; in view of the 'market' and acute needs, some have increased their tariffs; in some cases, households also decide to pay an additional fee to have their buckets delivered at home and eventually pay relatively high expenses for water.

The ERR at AF was only including the physical investments. As regards the cost of the service contract, It should be noted that:

- The budget allocation was of US\$5 million
- The contract was signed in May 2013 for 36 months for an equivalent of US\$7.35 million (+47%)
- Management services was charged on experts' time and mission during; deliverables had different milestones for progress and payment; taking into account the contractual milestones and payment schedule, it is estimated that overall, the service contract did cost 65% of the signed amount (under IDA financing, ie for services rendered before the closing date of June 30, 2015) or close to the initial envelop of US\$5 million;

Overall, the non-physical investments of Component C under the AF were only modestly efficient. At completion, STE had:

- Received bidding documents for the physical investments (rehabilitation of boreholes and production metering; network rehabilitation; rehabilitation of domestic connections and distribution metering) – instead of the expected works;
- Agreed with the private operator on a methodology for a census of all customers throughout the concession area the census itself was just initiated in secondary centers before completion and still needed to upgrade its commercial system;
- Received bidding documents for the Communication Plan, for the Training of STE staff and for the Customer Satisfaction Surveys to be undertaken;
- Agreed on the list of performance indicators, the baselines and methodology to collect the data only once, in some cases, the upfront requirements would be completed (for instance, buy and install production meters to better measure production losses);
- Agreed on a Manual of Procedures;
- Received 22 months of expert management support from the private operator resident experts and other experts.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

Names	Title	Unit	Responsibility/ Specialty
ending			
Hugues Agossou	Sr Financial Management Spec	GGODR	FM
Franck Bousquet	Regional Programs and Partners	MNARS	TTL – urban
Alison C. N. Cave	Manager	HRDDI	
Mahine Diop	Senior Municipal Engineer	GSURR	Urban
Ningayo Charles Donang	Senior Procurement Spec	GGODR	Procurement
Christian Vang Eghoff	Consultant	GSURR	Urban
Martha Jarosewich-Holder	Consultant	GWA03	Social
Sung Heng C. Kok Shun	Senior Program Assistant	GSURR	
Africa Eshogba Olojoba	Lead Environmental Specialist	GENDR	Safeguards
Fridolin Ondobo	Financial Management Spec	AFTME - HIS	FM
Abdoul Wahabi Seini	Senior Social Development Spec	GSURR	Safeguards
upervision/ICR			
Franck Bousquet	Regional Programs and Partners	MNARS	TTL – urban
Mahine Diop	Senior Municipal Engineer	GSURR	Urban
Chantal Reliquet	Sr Urban Spec.	GSURR	TTL - urban
Ningayo Charles Donang	Senior Procurement Spec	GGODR	Procurement
Lancine Dosso	Financial Management Spec	AFTME - HIS	FM
Jan Drozdz	Sr Water & Sanitation Spec.	AFTU2 - HIS	TTL - water
Charles Delfieux	Sr Water & Sanitation Spec.	GWA04	Water
Christian Vang Eghoff	Consultant	GSURR	Urban
Sekou Keita	E T Consultant	AFTME - HIS	
Sung Heng C. Kok Shun	Senior Program Assistant	GSURR	
Lucienne M. M'Baipor	Senior Social Development Spec	GSURR	Safeguards
Nathalie S. Munzberg	Senior Counsel	LEGEN	Legal
Etienne NKoa	Sr Financial Management Spec	AFTME - HIS	FM
Paulette C.E. Aida Thioun Zoua	Program Assistant	AFMTD	
Berthe Tayelim	Program Assistant	AFMTD	
Edmond Badge Dingamhoudou	Communications Spec	AFREC	

(a) Task Team members

Miguel Vargas-Ramirez	Sr Water & Sanitation Spec.	GWASL	TTL - water
Emeran Serge M. Menang Evouna	Sr Environmental Spec	GEN07	Safeguards
Beth Wanjeri Mwangi	Resource Management Analyst	BPSGP	FM
Josua Akre	Financial Management Spec	GGO13	FM
Veronique Verdeil	Water & Sanitation Spec.	GWA07	Water, ICR co-author
Jean Koua	Program Assistant	GWA07	
Madio Fall	Sr Water & Sanitation Spec.	GWA07	TTL – water
Joseph Bredie	ICR Consultant		ICR co-author
Aboudaye Younous	ICR Consultant		
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(b) Staff Time and Cost

	Staff Time and Cost (Bank Budget Only)			
Stage of Project Cycle	No. of staff weeks	USD Thousands (including travel and consultant costs)		
Lending	138.74	616.84		
FY01	6.71	37.96		
FY02	0.2	0.60		
FY03	1.4	4.55		
FY04	8.35	51.73		
FY05	44.68	181.51		
FY06	27.63	125.03		
FY07	38.19	176.39		
FY08	11.58	39.09		
Supervision/ICR	148.62	770.34		
FY07	0	15.81		
FY08	4.97	8.09		
FY09	23.46	101.99		
FY10	14.45	96.75		
FY11	25.03	132.01		
FY12	33.86	163.10		
FY13	19.03	103.31		
FY14	16.74	78.36		
FY15	9.28	54.25		
FY16	1.8	16.76		

Annex 5. Beneficiary Survey Results

Not applicable

Annex 6. Stakeholder Workshop Report and Results

Not applicable

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

In the message copied below, dated May 16, 2016, the General Secretariat of MATUH indicated that, after internal review, MATUH did not have any substantial comments on the Bank's draft Completion Report on the PADUR project. The Ministry, however, said it took good note of the shortcomings that appeared during project implementation, on both the borrower's and the Bank's sides. Lessons learned from the Completion Report would benefit positively to other operations.

In addition, the Ministry wanted to thank the World Bank for its support in the implementation of PADUR and in potential future operations. The Ministry underscored in particular the 'last mile' efforts provided by the Bank team to ensure the completion of the water works in Abéché, Bithéa, initiated in the first part of PADUR and completed just before its closing date, which enabled the population in this city to have better water services.

16 mai 2016

Cher Monsieur,

Après revue interne, le Ministère de l'Aménagement du Territoire, de l'Urbanisme et de l'Habitat n'a pas de commentaires substantiels sur le Rapport d'Achèvement du PADUR.

Nous prenons bonne note des insuffisances notées de part et d'autre dans la mise en oeuvre de ce projet et espérons que toutes les leçons seront tirées de manière positive pour bénéficier à d'autres opérations.

Nous tenons à remercier la Banque Mondiale pour son soutien apporté dans la mise en oeuvre du PADUR et comptons sur son assistance pour des opérations à venir.

Nous ne pourrons terminer sans exprimer notre reconnaissance particulière à l'équipe que vous dirigez qui est allée au-delà de la mission habituelle et fait "l'extra mile" pour

permettre aux populations d'Abéché et de Biteha d'avoir des adductions d'eau fonctionnelles.

Nos sincères considérations.

Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders

Not applicable

Annex 9. List of Supporting Documents

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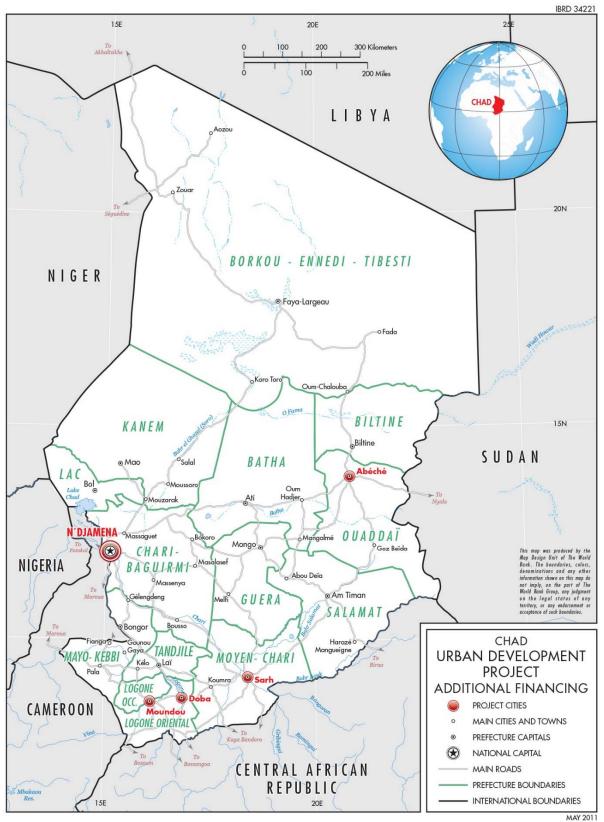
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